Queensland Competition Authority

Final report

Seqwater Bulk Water Price Review 2022–26

March 2022

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EXECUTIVE SUMMARY

We have been directed by the Queensland Government to investigate Seqwater's bulk water pricing practices, with the objective of recommending bulk water prices for the period 1 July 2022 to 30 June 2026.

The bulk water prices are charged by Seqwater to five water retailers operating in the following 11 council areas in south east Queensland: Brisbane, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Noosa, Redland City, Scenic Rim, Somerset and Sunshine Coast. Retailers pass on bulk water prices to households and businesses as a separate charge on water bills.

In this report we set out our recommendations on Seqwater's bulk water prices and explain how we arrived at these recommendations.

Bulk water prices

Our recommendation on bulk water prices to apply from 1 July 2022 to 30 June 2026 is provided in Table 1. Based on our recommendation, bulk water prices would increase by 2.14 per cent for each of the next four years, which is below forecast inflation, providing a real bulk water price decrease to customers.

Table 1 Bulk water prices

	2022–23	***2023–24***	***2024–25***	***2025–26***
QCA recommendation ($/kL)	**3.301**	**3.371**	**3.444**	**3.517**
Seqwater June 2021 submission ($/kL) [a]	3.431	3.642	3.867	4.105
Difference ($/kL)	(0.13)	(0.27)	(0.42)	(0.59)
Difference (%)	(3.8%)	(7.4%)	(10.9%)	(14.3%)

a *These are the prices resulting from Seqwater's June 2021 submission.*

Source: QCA analysis; Seqwater's June 2021 pricing model.

The bulk water prices we recommend reflect our assessment of Seqwater's prudent and efficient costs of supplying bulk water under normal conditions and an allowance for the recovery of price path debt, so that the debt is repaid by 2028. The total revenue requirement is converted into prices using a demand forecast.

Total revenue requirement

We consider that Seqwater should be allowed to recover $7,739.8 million through prices between 2022–23 and 2027–28, which is $988.5 million (or 11.3 per cent) lower than what Seqwater proposed in its June 2021 submission.[1] This reflects our position on key cost drivers:

- Operating expenditure over the period 2022–23 to 2027–28 should be set at $1,929.5 million (Chapter 4). This is broadly consistent with Seqwater's revised opex proposal submitted in January 2022 after excluding costs that we recommend be recovered through review events.[2]
- Actual capital expenditure over the period 2017–18 to 2021–22 should be set at $532.8 million (Chapter 5). This is consistent with Seqwater's revised actual capital expenditure information submitted in January 2022.

[1] Unless otherwise stated, all costs and prices presented in this report are in nominal terms.

[2] Specifically, we recommend costs to operate part of the recycled water scheme be recovered though a new review event and costs associated with additional staff for drought management activities be recovered through a revised drought response review event.

- Forecast capital expenditure over the period 2022–23 to 2027–28 of $1,342.8 million[3] is a reasonable overall estimate of prudent and efficient capital expenditure (Chapter 5). This is consistent with Seqwater's revised forecast capital expenditure submitted in January 2022.
- The rate of return should be set to 5.53 per cent in 2022–23 (Chapter 7). This is 16 basis points lower than the rate of return Seqwater proposed in its June 2021 submission. Our rate of return reflects a benchmark gearing of 60 per cent, a cost of equity of 6.86 per cent and a cost of debt advised by Queensland Treasury Corporation.
- The tax allowance over the period 2022–23 to 2027–28 should be set at $13.4 million, which is significantly lower than Seqwater's revised tax allowance of $494.6 million. We adjusted Seqwater's proposed allowance because it ignores certain tax losses, resulting in a windfall gain to Seqwater (Chapter 7).

Additional recommendations

We have been asked to recommend a drought allowance that could be applied in addition to prices under normal operating conditions[4] and to make recommendations about the appropriateness of the review event mechanism to guide future reviews.

We recommend that:

- a drought allowance of $0.405 per kilolitre apply in 2022–23, increasing to $0.435 per kilolitre in 2025–26, which will only apply where the government decides to implement the allowance, to deal with the higher costs of operating in drought conditions (Chapter 11)
- except for cost of debt events and feedwater quality events, the current list of review events should be retained, but the definition of each event should be amended. We also recommend introducing a new review event relating to the operation of the Luggage Point advanced water treatment plant under normal operating conditions (Chapter 12).

Setting of prices

We expect the government to determine Seqwater's prices after considering our recommendations.[5] New prices are expected to take effect from 1 July 2022.

Timetable

Step	***Date***
The final report is provided to the government	31 March 2022
The final report is published	Early April 2022
The government is expected to determine prices	May/June 2022
New prices are expected to take effect	1 July 2022

[3] Capital expenditure is presented on an as-commissioned basis assuming Seqwater's proposed interest during construction. Values are subject to further modelling adjustments to reflect our position on the weighted average cost of capital in the estimation of interest during construction (Chapters 6 and 7).
[4] The drought allowance is independent of current conditions. It would only apply if the government decided this should occur.
[5] The government has 90 days to accept or reject our recommendations (QCA Act, s. 36(2)).

1 INTRODUCTION

In accordance with section 23 of the *Queensland Competition Authority Act 1997* (QCA Act), the Queensland Government (the government) has directed us to investigate Seqwater's bulk water pricing practices, with the objective of recommending bulk water prices for the period 1 July 2022 to 30 June 2026.

In this chapter, we provide context for our review of Seqwater's bulk water prices.

1.1 Overview of Seqwater's services

Seqwater is a government-owned statutory authority and monopoly supplier of bulk water to more than three million people in south east Queensland.[6]

Seqwater manages and maintains water supply assets, including dams, weirs, conventional water treatment plants, reservoirs, pumps and pipelines, the Gold Coast Desalination Plant (GCDP) and the Western Corridor Recycled Water Scheme (WCRWS).

Seqwater supplies treated bulk water to bulk supply points in eleven local government areas. The water is then delivered to households and businesses by the retailer or council servicing each area:

- Urban Utilities supplies the Brisbane, Ipswich, Lockyer Valley, Scenic Rim, and Somerset local government areas.
- Unitywater supplies the Moreton Bay, Sunshine Coast and Noosa local government areas.
- The water businesses of Logan, Redland and Gold Coast councils each supply their local government area.

While Seqwater is involved in other activities and provides other services, including supplying water to power stations, irrigation customers, and Toowoomba and Gympie regional councils[7], the pricing practices relating to these activities are not the subject of this review.[8]

1.2 How Seqwater's prices are determined

Seqwater charges retailers and councils for supplying bulk water, and these charges are passed on to households and businesses in their water bills.[9] A single bulk water price applies to all customers in south east Queensland. Water bills also include charges for the other services retailers provide, which include transporting water from bulk supply points to customers' properties, removing and treating sewage, providing billing services, and dealing with enquiries.

[6] Seqwater was established in 2008, alongside three other state-owned bulk water businesses—Linkwater, WaterSecure and the SEQ Water Grid Manager. Seqwater became the sole provider of bulk water services in 2013, after merging with the other three suppliers.

[7] Seqwater, *Annual Report 2020–21*, September 2021, p. 4.

[8] We have previously been asked to review irrigation prices—our most recent review was completed in January 2020.

[9] Bulk water prices must be displayed separately in a water bill (*South-East Queensland Water (Distribution and Retail) Restructuring Act 2009,* s. 99AV(4)).

The government determines bulk water prices.[10] However, as the supply of bulk water by Seqwater has been declared a monopoly business activity[11], the government can ask us to investigate Seqwater's bulk water pricing practices and to recommend prices.[12]

Price path

After the Queensland Government took over bulk water supply responsibilities from local councils in 2008, a 20-year price path was established to moderate the customer impacts of recovering the costs associated with a major investment program to increase water supply and security. This program was implemented in response to the Millennium Drought[13] and included investments in new supply sources, such as the GCDP and the WCRWS, and an interconnected pipeline network to transport water around south east Queensland.[14]

The price path has two key features:

- gradual price increases—prices were initially set to recover less than the cost of supply, followed by gradual increases to enable the accumulated under-recovery, known as the price path debt, to be repaid by 2028
- transition to a common price—as each council area had a different starting price, they had different paths to reach the common price. Customers in all council areas were paying the common price by July 2020.

Just over six years remain until the end of the price path, and price path debt is repaid.

1.3 History of QCA reviews

We have previously completed two reviews of Seqwater's bulk water prices, in 2015 and 2018.[15] The government determined prices that were consistent with the recommendations from our reviews in both cases.

Our last review recommended prices for a three-year period to 30 June 2021. We did not recommend prices for the current year (2021–22), because the government deferred our review for a year to enable Seqwater to focus on its covid-19 response.[16] This resulted in our recommended bulk water price for 2020–21 being rolled forward for one additional year and escalated by 3.5 per cent, consistent with the increase that was applied in 2020–21, as determined by the Minister.[17]

[10] *Water Act 2000* (Qld), s. 360W.
[11] The declaration was made by gazette notice in May 2014 (Queensland Government, *Gazette*, vol. 366, no. 6, 5 May 2014, p. 23) and continues in operation until it is revoked (QCA Act, s. 19(8)).
[12] The responsible Minister has this power under the QCA Act, pt. 3, div. 3.
[13] The Millennium Drought severely depleted water storages. Dam levels fell to below 20 per cent at their lowest point (Seqwater, *Water for life, South East Queensland's Water Security Program 2016–2046*, version 2, March 2017, p. 92).
[14] Seqwater, Water Security Program, March 2017, p. 19.
[15] Before the 2015 review, we were asked to recommend bulk water grid service charges for two years (2011–12 and 2012–13). These were the charges paid by the SEQ Water Grid Manager to purchase bulk water services from Seqwater, LinkWater and WaterSecure. See *Seqwater bulk water investigations*, QCA website, 2021.
[16] Seqwater, sub. 1, p. 17; A Lynham MP, letter to the QCA, 24 April 2020.
[17] Seqwater, sub. 1, p. 2.

1.4 Current review

This is our third review of Seqwater's bulk water prices. We conducted our review in accordance with the referral notice issued by the Treasurer and Minister for Investment under section 23 of the QCA Act.

The objective of our review is to recommend bulk water prices for the period 1 July 2022 to 30 June 2026, which provide Seqwater with sufficient revenue to recover the prudent and efficient costs of providing bulk water supply services and to repay 'price path debt' by 2027–28 under normal operating conditions.

We have also been asked to recommend a drought allowance that could be applied in addition to prices under normal operating conditions[18] and the appropriateness of the review event mechanism to guide future reviews.

Throughout our review we have sought submissions from stakeholders and interested parties, including Seqwater. We have also sought additional information from Seqwater through our request for information process.

In this final report we set out our recommendations and explain how we arrived at these recommendations. All recommendations are set out in Appendix A.

In February/March 2022, late in our review process, a significant flooding event occurred on the eastern coast of Australia. While we had already received submissions and concluded our analysis prior to this flood event, we have noted potential implications of this event throughout our report, where relevant.

The timeline of our review is provided in Table 2.

Table 2 Review timeline

Step	*Date*
Referral notice issued by government	16 June 2021
Notice of investigation & information notice published	18 June 2021
Seqwater's submission received	30 June 2021
Initial stakeholder submissions due	13 August 2021
Draft report provided to government	30 November 2021
Draft report published	7 December 2021
Submissions on draft report due	31 January 2022
Final report provided to government	31 March 2022
Final report published	Early April 2022

For more information about our review, visit our website or contact us on 07 3222 0555.

[18] The drought allowance is independent of current conditions. It would only apply if the government decided this should occur.

2 APPROACH TO THE REVIEW

In this chapter, we explain the framework guiding our review, which reflects the terms of the referral notice and the matters in section 26 of the QCA Act. We also explain the approach we followed to reach our recommendations on the bulk water price and drought allowance for each year of the regulatory period (1 July 2022 to 30 June 2026).

We would like to thank stakeholders and interested parties for participating in our review and providing submissions. We reached our recommendations after carefully considering and having regard to all submissions received, even though we may not have directly referred to every issue raised.[19]

2.1 The referral notice and legislative requirements

We made our recommendations in accordance with the terms of the referral notice, and by having regard to each of the matters in section 26 of the QCA Act.

Terms of the referral notice

We were asked to recommend bulk water prices that would provide Seqwater with sufficient revenue to recover the prudent and efficient costs of providing bulk water supply services under normal (non-drought) conditions and to repay price path debt by 2028. Other key parameters in the referral notice are:

- assessment period—we are to recommend prices for the four-year period from 1 July 2022 to 30 June 2026, but costs and prices are to be assessed for the six-year period to 30 June 2028. This is to maintain the approach of smoothing price increases over time with the intent of repaying price path debt by 2028
- relevant costs—prices should recover the costs of providing bulk water supply services, including catchment management, and the costs of flood mitigation and recreation management
- approach to estimating certain cost components—we should use specific methods to determine some cost components, including forecast inflation using inflation swaps; and the cost of debt component of the rate of return and the interest rate on price path debt, using the rates advised by Queensland Treasury Corporation (QTC)
- risk-sharing—the revenue requirement should be adjusted to reconcile certain differences between forecast and actual costs and revenue over the preceding pricing period
- cost allocation—the costs of supplying declared irrigation services, and the revenue received from other sources, should offset Seqwater's bulk water costs, which then leaves the costs to be recovered from bulk water customers
- demand forecasts—the appropriateness of Seqwater's proposed demand forecasts under normal and drought conditions are to be assessed within some constraints

[19] We have addressed submissions throughout the report and in Appendix E.

- prices—a single volumetric price should apply to all customers. Price changes are to be smoothed over the four-year regulatory period. Prices are then to remain constant in real terms (i.e. increase by forecast inflation) for the remaining two years of the price path.

We were also asked to recommend a 'drought allowance' that could be added to the prices that would apply under normal conditions. The allowance is to remain constant in real terms for the duration of the four-year regulatory period, and provide for Seqwater to recover the additional prudent and efficient costs of operating under drought conditions and account for the impact of reduced demand.

Consideration of section 26 matters

In conducting our review, we are also required to consider the matters in section 26 of the QCA Act (Box 1). The list of matters is extensive, diverse and potentially conflicting—for example, the need for efficient resource allocation, the effect of inflation, demand management considerations, the protection of consumers from abuses of monopoly power, and social welfare and equity considerations. We explain how we have had regard to each of the section 26 matters in Appendix D.

Box 1 Section 26 of the QCA Act

(1) In conducting an investigation under [division 3, Part 3], the [QCA] must have regard to the following matters—

- (a) the need for efficient resource allocation;
- (b) the need to promote competition;
- (c) the protection of consumers from abuses of monopoly power;
- (d) in relation to the goods or services to which the monopoly business activity relates—
  - (i) the cost of providing the goods or services in an efficient way, having regard to relevant interstate and international benchmarks; and
  - (ii) the actual cost of providing the goods or services; and
  - (iii) the standard of the goods or services, including quality, reliability and safety;
- (e) the appropriate rate of return on assets;
- (f) the effect of inflation;
- (g) the impact on the environment of prices charged by the government agency or other person carrying on the monopoly business activity;
- (h) considerations of demand management;
- (i) social welfare and equity considerations including community service obligations, the availability of goods and services to consumers and the social impact of pricing practices;
- (j) the need for pricing practices not to discourage socially desirable investment or innovation by government agencies and persons carrying on non-government business activities;
- (k) legislation and government policies relating to ecologically sustainable development;
- (l) legislation and government policies relating to occupational health and safety and industrial relations;
- (m) economic and regional development issues, including employment and investment growth;
- (n) if the monopoly business activity is a government business activity—any directions given by the government to the government agency by which the monopoly business activity is carried on.

(2) If the investigation relates to a monopoly business activity involving the supply of water, the [QCA] must have regard to water pricing determinations.

(3) Subsections (1) and (2) do not limit the matters to which the [QCA] may have regard in conducting an investigation.

2.2 How we made our recommendations

The key objectives for our review were to make recommendations about:

- bulk water prices for each year of the four-year regulatory period, based on the assumption that Seqwater is operating under normal or non-drought conditions

- a 'drought allowance' that could be applied to the prices that would apply under normal operating conditions.

Unless otherwise stated, all costs and prices presented in this report are in nominal terms.

2.2.1 Prices assuming normal (non-drought) conditions

To determine prices under normal or non-drought conditions, we established a revenue requirement and converted that revenue requirement into prices using a demand forecast.

Establishing the revenue requirement

The total revenue requirement reflects our assessment of Seqwater's prudent and efficient costs of supplying bulk water under normal conditions and an allowance for the recovery of price path debt, so that the debt is repaid by 2028.[20]

Prudent and efficient costs

We used a building block approach to establish the prudency and efficiency of costs over the period 1 July 2022 to 30 June 2028.[21] This involved calculating an allowance for each of the following cost components:

- operating expenditure (opex)—the ongoing costs of supplying bulk water and maintaining bulk water assets (Chapter 4)
- a return on assets—an appropriate return on investments made in assets to provide bulk water services, reflecting our assessment of capital expenditure (capex), the value of Seqwater's regulatory asset base (RAB), and a rate of return taking into account matters specified in the referral notice (Chapters 5 to 7)
- a return of assets (depreciation)—the cost of capital investments over the useful life of the assets (Chapter 6)
- a return on working capital—the cost of holding capital to allow Seqwater to manage the timing difference between the outflow of cash associated with current liabilities and the receipt of cash associated with current assets (Chapter 7)
- tax—an allowance to enable Seqwater to meet its tax equivalence obligations (Chapter 7).

So that Seqwater does not recover its costs twice, we then deducted the revenue Seqwater expects to earn from other sources and the costs of providing irrigation services (Chapter 8).

After making these deductions, this left the costs of providing bulk water services to be recovered from bulk water customers, which we refer to in this report as 'adjusted building block costs'.

Price path debt repayment

Price path debt is the revenue under-recovery that has accumulated because of the difference between the costs of supplying bulk water and the revenue earned from selling bulk water. Seqwater has accumulated this debt because prices were set to recover less than the costs of supply for several years. This reflected a government decision to moderate the impact on

[20] Referral notice, sections A(1), A(2).
[21] The term 'maximum allowable revenue' in the referral notice is equivalent to the term 'building block costs' in this report.

customers of recovering the costs associated with significant investments made to secure south east Queensland's water supply in response to the Millennium Drought (see Chapter 1).[22]

In addition to smoothing the price impact of drought investments, price path debt also operates as a true-up mechanism to capture certain differences between forecast and actual costs and revenue over the previous regulatory period.

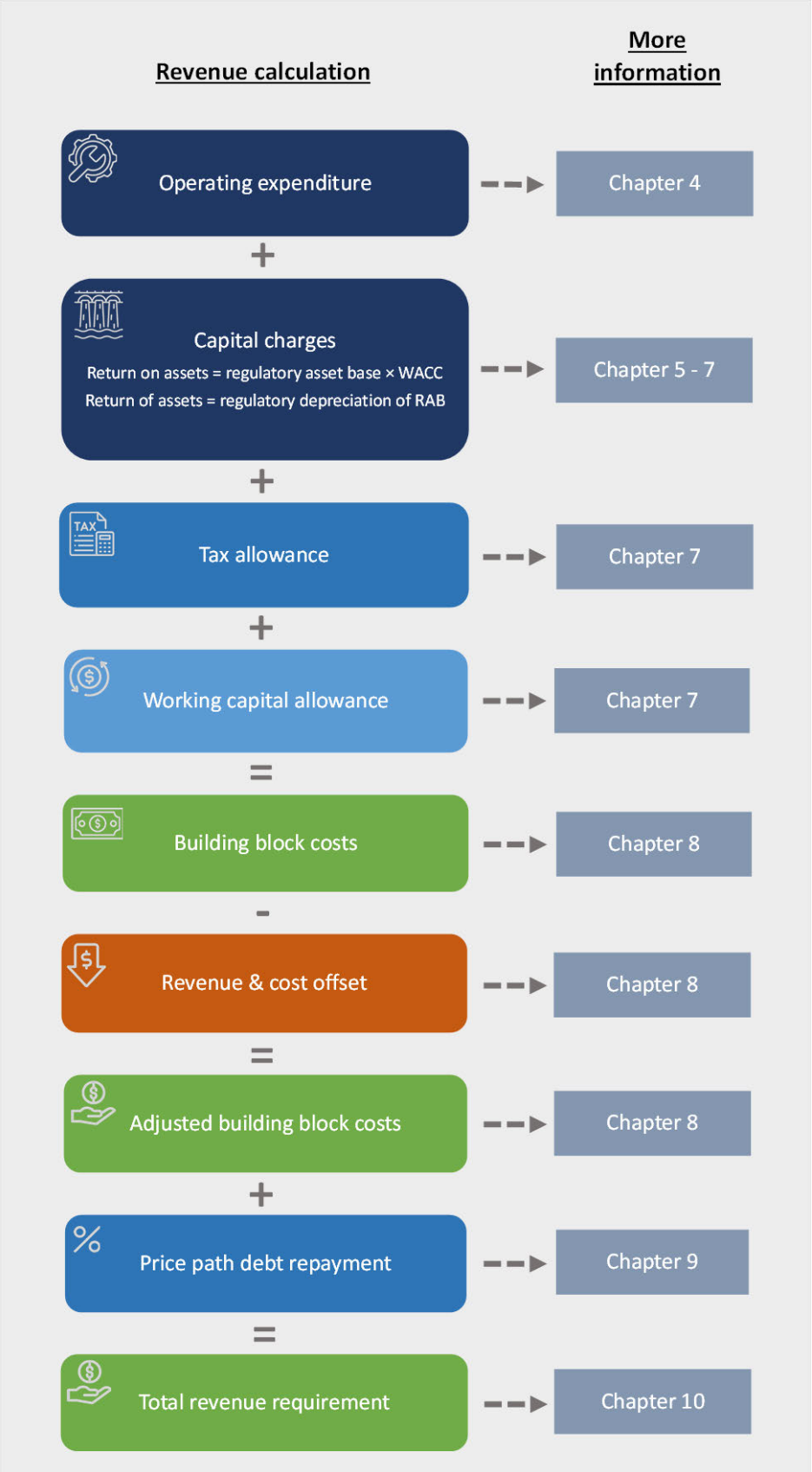
For the purposes of this report, we refer to revenue from bulk water prices that exceeds building block costs as 'price path debt repayment' (see Chapter 9).[23]

Total revenue requirement

The sum of building block costs and price path debt repayment is the revenue to be recovered through bulk water prices. We refer to this as the 'total revenue requirement'.

[22] Seqwater, sub. 1, pp. 17–18; Seqwater, *Water for life, South East Queensland's Water Security Program 2016–2046*, version 2, March 2017, p. 19.
[23] The price path debt repayment component includes interest on price path debt.

Figure 1 Approach to calculating the total revenue requirement—normal conditions



Converting the total revenue requirement into prices

We determined prices for each year of the four-year regulatory period by converting the annual total revenue requirement into a single volumetric price using forecast water demand (see Chapters 3 and 10).[24] In accordance with the referral notice, we also smoothed price increases so that prices increase by the same percentage each year of the regulatory period.

2.2.2 Drought allowance

To establish the drought allowance, we estimated the incremental costs of Seqwater operating under drought conditions. The additional costs are largely due to greater utilisation of existing assets, such as recommissioning and supplying water from the Western Corridor Recycled Water Scheme and maximising production from the Gold Coast Desalination Plant. As dam levels drop, the cost of supplying water increases, because these higher cost sources of water are needed to provide water security.

The drought allowance also provides for the recovery of foregone bulk water revenue resulting from demand being lower under drought conditions than normal conditions, and is offset by the additional revenue expected to be received from other sources.

Figure 2 Approach to calculating the total revenue requirement—drought allowance

We determine the drought allowance by converting the revenue requirement into an annual drought allowance per kilolitre of water. We do this by dividing the revenue by forecast demand under drought conditions and smoothing the allowance so that it remains constant in real terms (i.e. only increases by forecast inflation) over the regulatory period (see Chapter 11).

[24] Demand forecasts are also relevant to the assessment of Seqwater's proposed operating and capital expenditure.

3 DEMAND

A forecast of water demand is used to assess Seqwater's expenditure forecasts (see Chapters 4 and 5) and to calculate bulk water prices (see Chapter 10). Demand forecasts should be as accurate as possible, particularly given that Seqwater's bulk water prices are fully volumetric. Accurate demand forecasts minimise the likelihood of Seqwater under- or over-recovering its revenue requirement for the regulatory period. Large variations from forecasts can cause price instability in future periods through the end-of-period adjustment mechanism.

The referral notice requests us to consider Seqwater's proposed demand forecasts for normal and drought operating conditions and adjust those forecasts if needed to ensure they are reasonable for regulatory pricing purposes.[25]

We reviewed Seqwater's demand forecast for normal operating conditions and consider it to be appropriate for the purposes of setting bulk water prices for the 2022–26 period.

We engaged WS Atkins International (Atkins) to provide independent technical advice to support our review.

Our consideration of Seqwater's demand forecast for drought operating conditions is set out in Chapter 11.

3.1 Seqwater's proposal

Seqwater's proposed demand forecast for normal operating conditions is based on the medium demand profile in its 2019 demand forecast assessment. Seqwater said this forecast has been formally endorsed by its retailer customers as part of its 'Demand Forecasting Network' consultation group and was peer reviewed by an external expert.[26] Seqwater expected this forecast to be reflected in the next version of the Water Security Program (WSP), which it expects to be published in 2022.[27]

Seqwater said its latest forecasts incorporate a number of improvements over previous methods, including extending the planning horizon to 50 years, incorporating the most recent Queensland Government population growth projections and a new sector-based demand model to better reflect regional demand growth.[28]

In recent years, actual demand has been below the 2017 WSP medium demand profile. However, the difference has remained within 3 per cent over the past four years, which Seqwater said is not significant.[29] Seqwater said its proposed forecast is 3.8 per cent lower than the 2017 WSP medium forecast initially, before beginning to converge with that forecast from 2026–27. Seqwater said this supports its view that the forecast is appropriate for the 2022–26 regulatory period.[30]

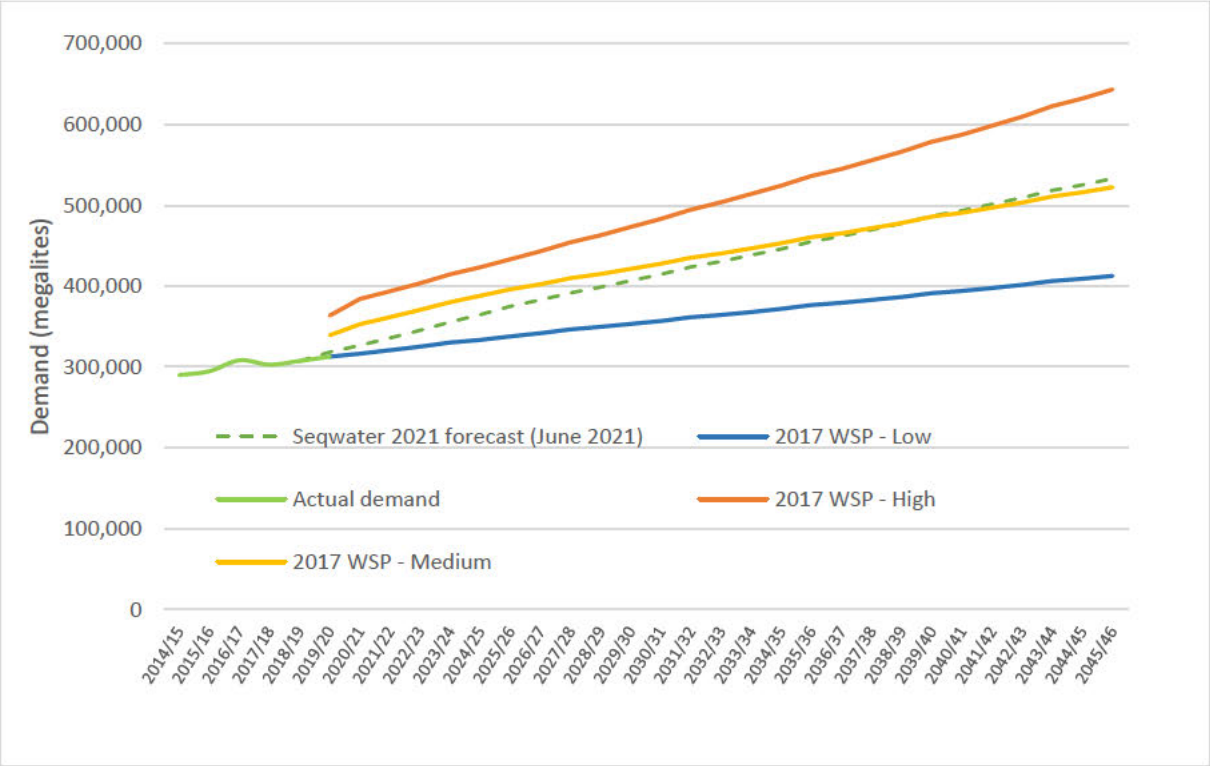
[25] Referral notice, sections C(2), C(3), C(17)(b).
[26] Seqwater, sub. 1, p. 38; Seqwater, response to RFI 58.
[27] Seqwater, sub. 1, p. 38. The WSP is developed by Seqwater with input from government, as set out in sections 354–358 of the *Water Act 2000*.
[28] Seqwater, sub. 1, p. 38; Seqwater, *Seqwater pricing submission QCA interview: Demand presentation*, September 2021, p. 6.
[29] Seqwater, sub. 1, p. 39.
[30] Seqwater, sub. 1, p. 39.

In our draft report, we found that Seqwater's demand forecast for normal operating conditions was appropriate for the purpose of setting bulk water prices for the 2022–26 period. Seqwater accepted our findings and did not submit any further updates to the forecast provided in its June 2021 submission. Urban Utilities supported Seqwater's demand projections and the QCA's draft position.[31]

3.2 QCA analysis and findings

The referral notice requests Seqwater to provide a demand forecast for normal operating conditions that is within the range published in the WSP.[32] We can make adjustments to Seqwater's demand forecast for normal operating conditions to ensure it is appropriate for regulatory pricing purposes, as long as the adjusted forecast remains within the range published in the WSP.[33] The WSP contains three demand forecasts (low, medium and high), which combine forecasts of per capita residential and non-residential consumption with forecasts of the service-connected population.

Figure 3 Seqwater's proposed demand forecast for normal operating conditions



Note: All demand profiles exclude power stations and Toowoomba Regional Council demand.

Source: QCA analysis; Seqwater, response to RFI 192; Seqwater June 2021 bulk water pricing model.

Atkins noted there is inherent uncertainty in demand forecasting but found Seqwater's demand forecasts are reasonable.[34] Atkins made the following observations as areas for potential improvement in Seqwater's demand forecasting:

[31] Urban Utilities, sub. 25, p. 3.

[32] Referral notice, section C(2); Seqwater, *Water for life: South East Queensland's Water Security Program 2016–46*, March 2017.

[33] Referral notice, section C(3).

[34] Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26*, draft report, November 2021, p. 42 (Atkins draft report).

- The concept of 'normal operating conditions' could be more clearly defined.
- Seqwater could investigate and consider potential impacts of climate change on demand for longer-term planning and develop a more robust understanding of the relationship between weather and demand.
- The potential for persistent effects of covid-19 on demand has not yet been considered.
- There appears to be no direct consultation with large industrial customers.
- There appears to be limited consideration of current levels or changes in losses over time.[35]

Notwithstanding these observations, on balance, we consider Seqwater's proposed demand forecast for normal operating conditions is appropriate for regulatory pricing purposes for the following reasons:

- The forecast is within the high to low range of the 2017 WSP, in accordance with the referral notice (Figure 3).[36]
- The forecast has been developed in consultation with, and is endorsed by, retailer customers.[37]
- Seqwater has made progress to improve the robustness of its modelling since the previous review.
- Using an updated 'medium' scenario forecast is reasonable—recent outturn demand has remained within 3 per cent of the corresponding medium scenario forecast in the 2017 WSP.

Relevantly, it is our expectation that variances in demand from the forecast will be considered in the end-of-period adjustment at the time of the next price review. This process would ensure that any over- or under-recovered revenues due to demand forecasting error are appropriately reflected in future bulk water prices.

We encourage Seqwater to consider the opportunities for further improvement in its demand forecasting that Atkins suggested.

[35] Atkins draft report, pp. 41–42.
[36] Seqwater submitted that the relevant WSP for assessing the demand forecast should be the 2022 WSP, which is expected to be published in 2022. We do not agree with this interpretation and consider the 2017 WSP is the relevant published WSP as at the time of preparing this report.
[37] Seqwater, response to RFI 58.

4 OPERATING EXPENDITURE

Seqwater's operating expenditure (opex) is the ongoing cost of providing bulk water supply services and includes costs associated with the operation and maintenance of water storage, treatment and transport assets, as well as corporate costs. Opex that we assess to be prudent and efficient is included in Seqwater's building block costs to be recovered through bulk water prices.

The referral notice requests us to assess Seqwater's opex for the period 1 July 2022 to 30 June 2028. We need to form a view on the prudency and efficiency of opex (including costs associated with catchment management, recreational management and flood mitigation) and, in doing so, focus on cost areas that are material to price changes.[38]

4.1 Overview of QCA findings and Seqwater's proposed opex

In our draft report, we raised several concerns with Seqwater's initial submission and requested further information for us to be able to form a view on whether the proposed operating costs were reasonably prudent and efficient.

In response to our draft report, Seqwater submitted a fundamentally revised opex proposal for our consideration.[39] In doing so, Seqwater has addressed a number of key concerns raised in our draft report and outlined a credible approach to forecasting and revealing prudent and efficient opex. In particular, Seqwater has proposed, and we have accepted:

- the application of a base step trend approach to forecast its overall opex allowance, rather than fixed and variable costs in isolation
- setting base year opex to reflect the previously approved opex allowances. Seqwater has provided new information that demonstrates its commitment to align its opex within the overall approved allowance
- proposed step changes where the justification and/or new information provided by Seqwater addresses the concerns raised in our draft report.

No efficiency target has been applied to forecast opex, as Seqwater has commenced a credible efficiency program setting out a pathway to reveal efficient costs over the regulatory period, including an ongoing process to identify and implement 'spend to save' initiatives (section 4.6).

We welcome Seqwater's revised opex proposal, as it provides for greater accountability for Seqwater's financial performance and promotes greater incentives for the business to reveal efficient costs at the overall level. As such, our final report responds to Seqwater's revised opex proposal.

There is only one proposed step change in Seqwater's revised opex proposal that we do not endorse being recovered from bulk water prices, through a review event or opex allowance. That step change relates to maintenance costs. While we have been able to verify that a portion of this new maintenance claim is necessary to fulfil a new regulatory obligation, and expect that maintenance costs associated with increased asset growth can be funded from within Seqwater's planned efficiencies, we have not approved costs associated with existing obligations.

[38] Referral notice, section C(5)(a).
[39] Seqwater, sub. 15, pp. 15–42.

We recommend that the costs of operating the Luggage Point advanced water treatment plant (AWTP) should be recovered though a new review event (see section 4.4). This review event will provide Seqwater with certainty to recover the prudent and efficient costs it incurs with the benefit of the revised Water Security Program (WSP) and time to consider the future operation given dam levels have now reached full water storage capacity. We have also recommended amendments to the drought response review event definition, that permit additional drought management costs to be recovered.

We assessed Seqwater's proposed opex and found the prudent and efficient total opex that Seqwater should recover from bulk water prices is $1,929.5 million, which is $21.2 million less than Seqwater's revised opex proposal after updating it for our approved input cost escalators and excluding items recommended to be recovered through review events (Table 3).

Table 3 QCA position on opex, 2022–23 to 2027–28 ($m, nominal)

Cost category	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027-28*	*Total*
Seqwater's revised opex proposal[a]	300.2	307.8	316.3	326.6	333.4	342.2	1,926.6
Seqwater's revised opex proposal updated to reflect correct input cost escalators[b]	303.8	311.5	320.3	330.8	337.6	346.6	1,950.7
QCA position on opex allowance	300.7	308.3	316.9	327.1	333.8	342.7	1,929.5
Variance from Seqwater's revised opex proposal	(3.1)	(3.3)	(3.4)	(3.7)	(3.8)	(3.9)	(21.2)
Variance from Seqwater's revised opex proposal (%)	(1.0)	(1.0)	(1.0)	(1.1)	(1.1)	(1.1)	(1.1)
Other items recommended to be recovered through review events							
Luggage Point AWTP	New review event						
Additional drought management staff	Revised drought response review event						

a *Excluding items recommended to be recovered through review events.* ***b*** *Seqwater confirmed computational errors in revised opex proposal for input cost escalators, which we have corrected.*

Source: QCA calculations; Seqwater January 2022 bulk water pricing model.

4.2 Assessment approach

The referral notice asks us to form a view on the prudency and efficiency of forecast opex for the period 1 July 2022 to 30 June 2028.[40]

We first compared Seqwater's actual costs of providing the service with allowances we approved in our 2015 and 2018 reviews[41], to understand Seqwater's financial performance. We then used a base-step-trend approach to develop a prudent and efficient opex forecast to be included in bulk water prices.

[40] Referral notice, section C(5)(a).

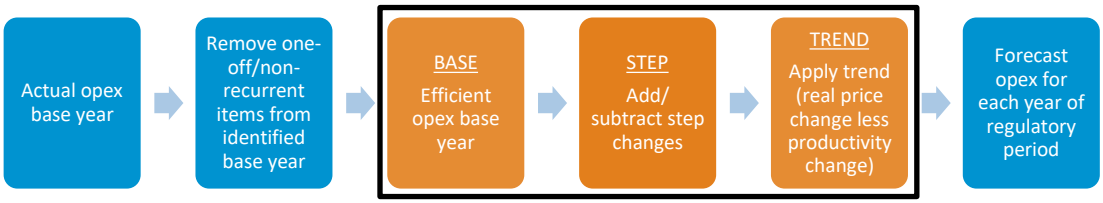
[41] QCA, *Seqwater bulk water price review 2018–21*, final report, 2018; QCA, *Seqwater bulk water price review 2015–18*, final report, 2015.

Base-step-change approach

The base-step-trend approach (Figure 4) involves determining an appropriate base-year level of efficient recurrent costs, applying escalations, incorporating material step changes in efficient costs, and recognising expected productivity improvements where appropriate.

We consider that the total opex allowance should be set at a broad level, allowing Seqwater to manage its costs within that allowance. This recognises that some 'cost savings' could be redirected to new initiatives or mitigating unexpected cost escalations (say due to pandemics), and not always passed onto consumers.

Figure 4 Base-step-trend approach



In accordance with the referral notice, we focused on areas that are material, specifically examining the proposed base year, step changes and escalation.

Under the referral notice, we must have regard to any strategic and operational plans approved by the responsible Ministers under the *South East Queensland Water (Restructuring) Act 2007*.[42] Seqwater provided copies of its 2021–25 strategic plan and operational plans from 2017–18 to 2021–22.[43] We have considered these and refer to them where relevant.

We engaged WS Atkins International (Atkins) to provide independent technical advice to support our review. Whilst we have had regard to that advice, we are not bound by it.

Prudency and efficiency

We have undertaken a detailed review of certain areas of Seqwater's opex, examining the base year, step changes and escalation to test for efficiency and prudency. We are ultimately guided by whether the overall level of expenditure is appropriate in this context.[44]

We consider opex is prudent and efficient within a base-step-trend approach if:

- a base year reflects total opex with one-off costs removed. If the proposed base year represents a typical year for the forecast regulatory period (that is, there are no fundamental changes to the business operating environment), we consider actual opex as a starting point. If actual opex is:
  - lower than the approved allowance, we accept this as the prudent and efficient revealed opex and use the most recently completed financial year to establish the base year
  - higher than the approved allowance, we assess the reasons provided by Seqwater for this outcome to understand the outcomes. Where sufficient justification is not provided, we determine an appropriate base year amount using available information

[42] Referral notice, section C(5)(c).
[43] Seqwater, response to RFI 25.
[44] We have not developed detailed bottom-up estimates of prudent and efficient opex by individual cost categories.

- step changes are included for future prudent and efficient incremental costs that:
  - are necessary to fulfil new, or changed, binding statutory or regulatory obligations
  - are reasonably required to achieve an outcome that is explicitly endorsed by customers (for example, specific reliability outcomes) or broadly accepted changes in community expectations in relation to corporate responsibility (such as commitment to climate change mitigation)
  - are not already funded through other components of other approved allowances (to avoid double counting of costs)
  - represent cyclical activities that are not within annual business-as-usual budgets
  - are of sufficient materiality such that the costs could not reasonably be met by an efficient entity operating within business-as-usual budget constraints, through prudent prioritisation of expenditures, or be otherwise mitigated
- trends reflect future cost escalation and changes in demand.

In addition, we may need to consider how to incentivise the regulated entity to achieve ongoing efficiency savings. We could, for example, apply an annual continuing efficiency factor to controllable costs, or support the development of an efficiency plan to be progressed over the regulatory period. Ultimately, our intent is for the business to be able to reveal efficient costs, such as when undertaking spend to save initiatives to reduce costs or otherwise improve productivity.

Materiality

We do not define materiality in a prescriptive way. Rather, we use judgement to form a view on prudency and efficiency based on the overall proposal before us. In general, we are not minded to make adjustments to opex forecasts in a base-step-trend approach where:

- the adjustment is small and/or has only a small impact on customers
- the adjustment largely reflects a difference of opinion, rather than an identified error or invalid reasoning
- the proposal represents a genuine attempt at estimating efficient costs
- the regulated entity has been forthcoming with supporting justification and information.

Importantly, when considering the materiality of potential adjustments to opex forecasts, we take the view that Seqwater is best placed to reveal efficient costs when it responds to the incentives in place to reduce actual costs over time.

Intent

In making this assessment, we consider whether the proposed opex allowance is sufficient for Seqwater to recover prudent and efficient costs of providing bulk water services.[45]

Rather than striving for precision when estimating prudent and efficient opex, we consider the forecast should represent a reasonable overall allowance that enables Seqwater to manage its business. We also consider Seqwater is best placed to identify efficiency opportunities and implement them. We would expect Seqwater to prudently allocate resources within this funding

[45] Referral notice, section A(1).

allowance as required to deliver on its priorities and obligations at any given time. In this way we are not approving opex at an individual category level. For example, we do not prescribe Seqwater's maintenance expenditure, we provide an opex allowance at the overall level with which the business can undertake its activities in an efficient and prudent manner.

4.3 Base year

Our review has found Seqwater's base year should be set at $257.8 million. This is based on our acceptance of Seqwater's revised opex proposal to use the 2019–20 approved allowance from our 2018 review ($253.7 million), with increases for the following adjustments to provide for a typical base year:

- $2.2 million of administrative expenditure associated with its newly formed major projects group
- $1.0 million of insurance expenditure associated with escalation in premiums
- $0.9 million of maintenance expenditure associated with meeting new obligations and asset growth.

Table 4 QCA position—Seqwater's opex, 2019–20

	QCA position 2019–20 ($m, nominal)
Approved opex allowance from our 2018 review	253.7
Administrative expenditure associated with Seqwater's newly formed major projects group	2.2
Insurance expenditure associated with escalation in premiums	1.0
Maintenance expenditure associated with meeting new obligations and asset growth	0.9
Seqwater's prudent and efficient base year opex	257.8

Source: QCA analysis.

Seqwater's revised proposal

In response to our draft report, Seqwater provided new information to highlight that it manages its opex at an overall level, as opposed to budgeting within separate fixed and variable components. Seqwater highlighted that in managing its business within a total approved opex allowance, savings made in one area may be applied to fund additional costs emerging in other areas, irrespective of fixed and variable cost categories.[46]

Seqwater did not anticipate its approach of allocating efficiency targets between fixed and variable cost categories would have implications for any ex post review of its actual expenditure against our approved allowance, including for the purpose of assessing base year expenditure. Seqwater now recognise that it should have considered this.[47]

[46] Seqwater, sub. 15, pp. 15–20.
[47] Seqwater, sub. 15, pp. 15–20.

Seqwater proposed using our approved opex allowance for 2019–20 as its base year for the pricing period. Seqwater submitted that a recast of our 2019–20 approved allowance was required to account for the following adjustments (Table 5):[48]

- $2.5 million in manufactured water costs have been reclassified from variable to fixed opex base year, given these costs are fixed in nature.
- $2 million of internal efficiency targets applied to fixed opex has been shifted to variable opex, given these efficiencies were realised in variable opex as opposed to fixed opex.

Table 5 Seqwater's proposed recast of QCA's approved opex allowance for 2019–20 ($m, nominal)

	QCA's approved allowance 2019–20	***Seqwater's proposed recast of QCA's approved opex allowance 2019–20***
Fixed base year opex	215.4	215.4
• Add back: recategorised manufactured water costs	–	2.5
• Add back: efficiencies realised in variable opex	–	2.0
Total: fixed base year opex	**215.4**	**220.0**
Variable base year opex	38.3	38.3
• Remove: re-categorised manufactured water costs	–	(2.5)
• Remove: efficiencies realised in variable opex which were allocated to fixed opex	–	(2.0)
Total: variable base year opex	**38.3**	**33.7**
Total: opex	**253.7**	**253.7**

Source: Seqwater, sub. 15, pp. 19–20.

Note: Totals may not add due to rounding.

Seqwater also proposed adjustments to its recast base year expenditure for 2019–20 (Table 6), for insurance increases and major projects costs that we proposed to accept in our draft report, along with $1.1 million for maintenance expenditure.

Table 6 Seqwater's proposed adjustments to fixed base year opex for 2019–20 ($m, nominal)

Seqwater's proposed recast of QCA's approved opex allowance for 2019–20	220.0
• Plus: insurance costs adjustment	1.0
• Plus: major projects costs adjustment	2.2
• Plus: maintenance costs adjustment	1.1
Total: fixed base year opex	**224.3**

Source: Seqwater, sub. 15, p. 20.

[48] Seqwater, sub. 15, p. 20.

QCA findings

We accept that Seqwater's opex should be assessed at the level of total opex, as opposed to fixed and variable categories as proposed in its initial submission.

We agree with Seqwater that assessing opex at a total level is appropriate, because it:

- removes contention as to where efficiency targets are realised – the key issue is that the regulated business is accountable to at least meet (but ideally exceed) those targets
- avoids the situation where Seqwater must 'lock in' the categorisation of savings (as fixed or variable) at the start of each regulatory period, which could distort their incentives to pursue initiatives
- is reasonable to have commercial discretion and flexibility regarding realising efficiencies recognising that the business will remain accountable in demonstrating the efficiencies that they realised at the end of each regulatory period
- recognises that the classification of savings as fixed or variable costs has no implications for the realisation of those savings or how they will ultimately flow through to prices
- removes unnecessary complexity when realised efficiencies differ from forecast allocations at the start of the regulatory period.

We accept Seqwater's revised submission to use the 2019–20 overall approved allowance from our 2018 review. This provides a base year allowance of $253.7 million.

This base year funding envelope should enable Seqwater to manage its assets and deliver bulk water services by prioritising expenditures based on its own management decisions and encourage accountability for its financial performance.

Seqwater also proposed additional adjustments to our approved opex allowance for 2019–20, including additional expenditure for insurance, maintenance, and administration costs associated with its newly formed major projects group.

We accept that Seqwater has been able to justify as prudent and efficient, an additional:

- $2.2 million of administrative expenditure associated with its newly formed major projects group
- $1.0 million of expenditure associated with escalation in insurance premiums.

In response to our draft report Seqwater submitted it had two key drivers for increased base year maintenance expenditure:

- deteriorating asset condition—an increasing degradation of its asset base in recent years has caused growth in its corrective and breakdown maintenance programs
- asset growth—when augmenting or replacing assets Seqwater has installed assets of different sizes and configurations to ensure they continue to meet changing demand. Seqwater also highlighted that standards/regulatory requirements applying to modern equivalent assets (such as electricity safety) can impact the feasibility of a 'like for like' replacement, as well as increase maintenance costs.

In its June 2021 submission, Seqwater submitted that around $5 million of its proposed adjustment to its base year opex was attributable to additional maintenance costs. In its January 2022 submission, Seqwater advised that part of this proposed adjustment would be more appropriately categorised as a step change (section 4.4). On this basis, Seqwater proposed a

revised base year maintenance adjustment of $1.1 million.[49] This is comprised of adjustments for maintenance expenditure driven by asset growth, costs of meeting new obligations and costs of satisfying existing obligations that are not being met. Our findings in relation to Seqwater's proposed adjustment to base year maintenance expenditure are outlined in Table 7.

Table 7 QCA findings on Seqwater's revised base year maintenance adjustment ($m, nominal)

Maintenance expenditure	*Seqwater proposed*	*QCA comments*	*QCA position*
To meet new obligations	0.04	We consider additional expenditure is justified in the event of needing to meet a new, or changed, obligation.	0.04
To meet asset growth	0.8	We consider maintenance expenditure associated with asset growth (excluding material augmentations) should be funded through Seqwater's efficiency envelope. However, as we are setting a typical base year that included forecast efficiencies, some not realised, it is prudent in this instance to include these costs within the base year. In future reviews, we expect Seqwater to allocate expenses and savings to areas of need which should promote a least-intrusive regulatory approach.	0.9
To meet existing obligations	0.3	We do not consider it appropriate to allow Seqwater additional expenditure to meet its existing obligations. Seqwater should be prioritising expenditures based on its own management decisions and should be meeting all its existing obligations within its overall opex funding envelope.	–
Total	**1.1**		**0.9**

Source: QCA analysis, Seqwater, responses to RFI 16, 17 (post draft report).

Note: Values do not reconcile due to updates to escalation rates.

We also note the following in relation to Seqwater's maintenance expenditure claim:

- During 2019–20, Seqwater actively reported and tracked expenditures associated with the recently established major projects group and insurance premium escalation, but not for its maintenance activities.[50] We are encouraged by Seqwater's new control measures, which should promote greater accountability in budget performance, as well as redirecting expenditure to meet business priorities.
- Seqwater consistently outperformed its approved opex allowances from 2015–16 to 2018–19, totalling $73.6 million. It is unclear whether Seqwater's operational or financial performance in this period impacted on its 2019–20 financial performance.

We consider a base year opex of $257.8 million is appropriate to set an efficient and prudent allowance (Table 8).

[49] Seqwater, sub. 15, p. 16.

[50] Seqwater, provision of information: evidence of management oversight of QCA allowance, variations and FTEs.

Table 8 QCA position—Seqwater's fixed opex, 2019–20 ($m, nominal)

	QCA position 2019–20
Approved opex allowance from our 2018 review	253.7
Administrative expenditure associated with Seqwater's newly formed major projects group	2.2
Insurance expenditure associated with escalation in premiums	1.0
Maintenance expenditure associated with meeting new obligations and asset growth	0.9
Seqwater's prudent and efficient base year opex	257.8

Sources: Seqwater, Opex forecast summary model, January 2022; QCA analysis.

4.4 Step changes

Seqwater's revised proposal

In its June 2021 submission Seqwater submitted step changes to opex amounting to an additional $279.0 million in opex from 2022–23 to 2027–28. In our draft report we considered $89.1 million of Seqwater's submitted claim as appropriate to approve.

In response to our draft report Seqwater submitted step changes to opex amounting to an additional $180.7 million in opex from 2022–23 to 2027–28[51], $91.6 million higher than our draft report allowance.

QCA findings

We consider $99.8 million of Seqwater's submitted opex step changes as appropriate. Our findings are discussed below (Table 9).

Table 9 Seqwater's revised opex step changes and QCA findings, 2022–23 to 2027–28 ($m, nominal)

Seqwater adjustment	*Amount claimed*	*QCA comment*	*QCA position*
Luggage Point AWTP operation–operating three trains to provide 6 ML of flow	58.6	It is appropriate for such costs to be recovered through bulk water prices, but not opex. It is uncertain exactly how the next version of the WSP will address the ongoing operation of the recycled water scheme under normal operating conditions.	A new review event should be defined to enable Seqwater to recover the prudent and efficient costs associated with Luggage Point AWTP.
Natural assets reclassifying from capex to opex and environmental offsets	54.7	We accept Seqwater's revised proposal. Seqwater was able to demonstrate historical expenditure was	54.7

[51] Seqwater, sub. 15, pp. 20–42.

Seqwater adjustment	*Amount claimed*	*QCA comment*	*QCA position*
		representative of future expenditure.	
Greenhouse gas emissions abatement	n/a	Seqwater intends to undertake more work in this area.	n/a
Capital planning costs associated with several upcoming large capital projects	n/a	Seqwater accepts that capital planning costs associated with large projects should be capitalised. We note that where projects do not proceed to capitalisation, these costs should be capitalised in the RAB, where determined as prudent and efficient.	n/a
Major projects group overheads – time not allocated to actual capital projects (administrative/training)	5.9	We accept Seqwater's proposal.	5.9
Software as a service reclassifying from capex to opex	8.5	We accept Seqwater's revised proposal and verified that adjustments to forecast capex have been considered.	8.5
Maintenance expenditure	20.4	We partially accept Seqwater's revised proposal. We have been able to verify that a portion of this new maintenance claim is necessary to fulfil changed regulatory obligations, and we expect that maintenance costs associated with increased asset growth can be funded from within Seqwater's forecast efficiency plan.	6.3
Insurance premium increases	31.2[52]	We accept Seqwater's revised proposal and validated the forecast costs.	26.6
Drought management - additional staff	4.8	It is appropriate for such costs to be recovered through bulk water prices, but not opex. In light of current dam levels, we consider these costs should be recovered from our recommended drought response review event.	Seqwater should be able to recover the prudent and efficient costs through a drought response review event.
Energy efficiency savings	(10.1)	We accept Seqwater's revised proposal.	(10.1)
Feedwater events	3.4	We accept Seqwater's proposal.	3.4
QCA regulatory fee	2.2	We accept Seqwater's proposal.	2.2

[52] Seqwater has subsequently confirmed the correct application of the insurance escalation and we have applied this approach.

Seqwater adjustment	*Amount claimed*	*QCA comment*	*QCA position*
Negotiating employee agreements	0.6	We accept Seqwater's proposal.	0.6
Water for SEQ planning project	0.5	We accept Seqwater's proposal.	0.5
Total (excluding proposed review events)	**117.2**		**99.8**

Sources: Seqwater, Opex inputs - response to QCA draft, model, January 2022; QCA analysis.

Note: Totals may not add due to rounding and application of different escalation approaches.

Luggage Point advanced water treatment plant

We find that Luggage Point AWTP costs should be recovered through a new review event (Chapter 12).

In its June 2021 submission, Seqwater proposed to recover an additional $49.7 million over 2022–28 for operating costs associated with Luggage Point AWTP. In January 2022, Seqwater submitted a revised opex proposal for $58.6 million over 2022–28.[53]

In our draft report, we considered Seqwater should have an opportunity to recover these costs if they are prudent and efficient. However, at that stage Seqwater had provided limited justification for recovering these costs under normal (non-drought) conditions. We therefore sought greater clarity from Seqwater about the best means for it to recover the prudent and efficient costs associated with the Luggage Point AWTP under normal (non-drought) conditions. Seqwater's revised opex proposal maintained that these costs should be included within its overall opex allowance.

We are unable to form a reasonable view as to the prudency and efficiency of forecast operating costs associated with operating the Luggage Point AWTP under normal operating conditions. We have recommended the addition of a new review event relating to the costs of operating the Luggage Point AWTP (Luggage Point review event) under normal operating conditions. The review event would capture costs associated with the recommissioning and operating, or decommissioning (back to care and maintenance) of the plant. This new review event is required, because we are unable to form a reasonable view as to the prudency and efficiency of forecast operating costs associated with the Luggage Point AWTP, without knowing the future water security planning requirements for the plant.

It is not uncommon for water security planning processes to not align with regulatory processes.[54] Providing a new review event presents the best interim solution until greater certainty can be achieved.

It is important to note that opex associated with running the Luggage Point AWTP in care and maintenance mode is already included in Seqwater's fixed opex base year 2019–20 ($11.0 million per annum).

[53] Seqwater, sub. 15, pp. 20–21.

[54] For instance, IPART's next price review for the Sydney Desalination Plant has been delayed because the plant's operating rules are being reviewed (IPART, *Sydney Desalination Plant prices from 1 July 2023*, IPART website, accessed 25 November 2021).

Natural assets reclassifying from capex to opex and environmental offsets

Seqwater has been able to justify the prudency and efficiency of natural assets and environmental offset expenditure worth $54.7 million over 2022–28.

In its June 2021 submission, Seqwater proposed to reclassify natural assets expenditure from capex to opex resulting in a claim of additional opex of $65.6 million over 2022–28. In January 2022, Seqwater provided a revised claim to instead recover $54.7 million over 2022–28.

In our draft report, we accepted Seqwater's proposed reclassification of natural assets expenditure from capex to opex. We considered it was prudent for Seqwater to incur these costs, but Seqwater had not provided sufficient justification as to why natural assets expenditure as opex should be increasing more than what it was investing as capex.

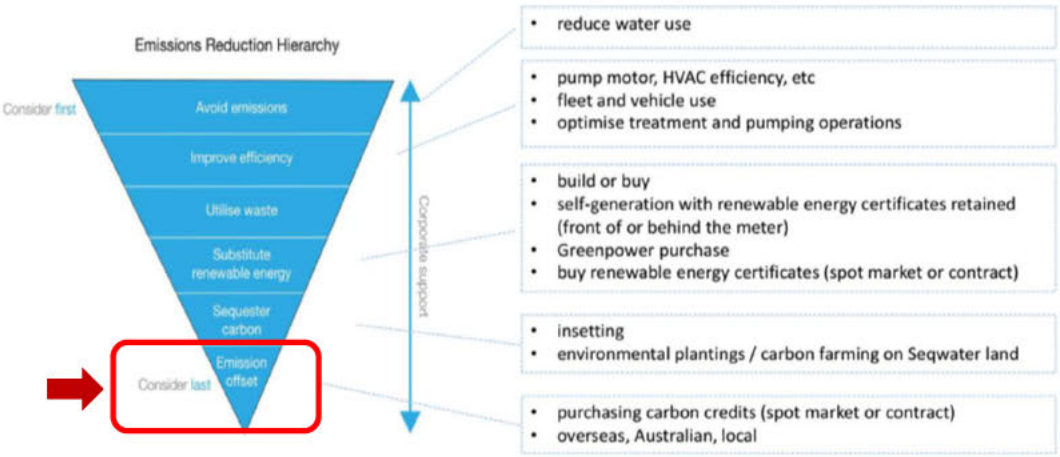
In its revised opex proposal, Seqwater submitted that actual expenditure in 2019–20 and 2020–21 was not representative of an efficient level of natural assets expenditure for the 2022–26 regulatory period. Seqwater said that its forecast natural assets expenditure should be based on an average level of expenditure incurred in years 2017–18, 2018–19 and planned in 2021–22.[55] This results in natural assets expenditure of $54.7 million over 2022–28. Seqwater submitted that removing the two anomalous years would ensure a more representative reflection of the efficient level of historical expenditure.

Greenhouse gas emissions abatement

In its revised opex proposal, Seqwater did not seek a step change for operating costs associated greenhouse gas emissions abatement and noted that it was focused on the development of appropriate capital initiatives.[56]

In our draft report, we considered that step changes should be included for future prudent and efficient incremental costs reasonably required to achieve broadly accepted changes in community expectations in relation to corporate responsibility (such as commitment to climate change mitigation).

Figure 5 Seqwater emissions reduction hierarchy



Source: Seqwater presentation, 8 September 2021; QCA annotation.

In its revised opex proposal, Seqwater agreed that direct initiatives should take precedence over indirect measures consistent with their emissions reduction hierarchy (Figure 5). Seqwater

[55] Seqwater, sub. 15, pp. 21–28.
[56] Seqwater, sub. 15, pp. 28–32.

explained it is working towards this approach. It noted that identifying, assessing and developing the most prudent and efficient means of direct action will take time, cost and resources to implement. Seqwater anticipated it will be well advanced in this journey by the end of the upcoming regulatory period.

Capital planning costs associated with several upcoming large capital projects

Seqwater accepted that capital planning costs associated with large projects should be capitalised and has not requested additional opex for planning costs associated with several upcoming large capital projects.[57]

We note that where projects do not proceed to capitalisation, these costs should be capitalised in the RAB, where they are determined to be prudent and efficient.

Major projects group overheads—time not allocated to actual capital projects

We accept Seqwater's proposed $5.9 million over 2022–28 for the 'major projects group' overheads for time not allocated to actual capital projects such as administration and training costs.

In this way, Seqwater will be able to recover all prudent and efficient costs for the time of the major projects group staff that is not allocated to individual capital projects.

Software as a service—reclassification from capex

We accept Seqwater's revised opex proposal to recover costs of $8.5 million over 2022–28 associated with software as a service in opex and have verified that adjustments to forecast capex have also been considered.[58]

Maintenance cost claim

Consistent with our considerations to determine base-year adjustments for claimed maintenance costs (section 4.3), we have provided for $6.3 million over 2022–28 where Seqwater has been able to demonstrate the additional expenditure is required to meet a new maintenance obligation.[59] Our findings are outlined in Table 10.

Table 10 QCA findings on Seqwater's revised step change for maintenance ($m, nominal)

Maintenance expenditure	*Seqwater proposal*	*QCA comments*	*QCA position*
To meet new obligations	0.9	We consider additional expenditure is justified to meet a new, or changed, obligation.	0.9
To meet asset growth	1.4	We consider maintenance expenditure associated with asset growth (excluding material augmentations) should be funded through Seqwater's efficiency envelope. This will enable Seqwater to allocate expenses and savings to areas of need in a least-intrusive regulatory approach. Seqwater has outlined a credible efficiency plan and updated budget prioritisation process that in combination should be capable of meeting growth related asset maintenance expenditure.	–
To meet existing obligations	1.0	We do not consider it appropriate to allow Seqwater additional expenditure to meet its existing obligations. Seqwater should be prioritising expenditures based on its own management	–

[57] Seqwater, sub. 15, pp. 33–35.
[58] Seqwater, sub. 15, pp. 35–37.
[59] Seqwater, response to RFIs 16, 17 (post draft report).

Maintenance expenditure	*Seqwater proposal*	*QCA comments*	*QCA position*
		decisions and should be meeting all its existing obligations within its overall opex funding envelope.	
Total	**3.3**		**0.9**

Source: QCA analysis; Seqwater, responses to RFI 16, 17 (post draft report).

Insurance premium increases

We consider an increase in insurance premiums is more likely an escalation issue as opposed to a step change. We acknowledge that there is clear evidence of substantial increases and that there may be further such increases arising from the February-March floods on the eastern coast of Australia.

We note that submissions and our analysis were concluded prior to recent floods. Despite this, we acknowledge they may have an impact on the costs of Seqwater over the regulatory period, in particular on insurance. Therefore, if insurance costs do increase substantially above current projections in the future these may need to be revisited in future reviews.

We accept Seqwater's revised opex proposal and have validated the forecast increases to be applied to Seqwater's latest actual insurance expenditure for 2021–22 as being prudent and efficient.

Drought management—additional staff

We note that Seqwater's revised opex proposal was received before the significant increase to its dam storage levels. Given Seqwater's adaptive approach to drought management we consider that costs are best recovered on an ex post basis.

We consider that these costs should be recovered through the review event mechanism (Chapter 12). We have broadened our drought response review event definition, which is not based on dam trigger levels, but rather extends to drought readiness activities and provides a more flexible and holistic assessment approach to determining eligibility for drought management responses.

Seqwater proposed to recover an additional $4.8 million over 2022–28 for proactive drought management. Our draft report considered that Seqwater's proposed expenditure to be prudent and efficient because this expenditure is required to meet an existing but only recently triggered regulatory obligation to prepare for drought.[60]

Cyclical activities that are not within business-as-usual budget constraints

We accept that there are costs businesses incur on a cyclical rather than annual basis and that transparency is enhanced by these costs being revealed in the businesses opex forecasts. Often these costs relate to industrial, regulatory or statutory planning obligations.

On this basis, we consider Seqwater's proposal to recover the following costs is appropriate:

- $2.2 million in 2025–26 to cover QCA fees for the next bulk water price investigation
- $0.3 million in 2022–23 and 2025–26 for the costs of enterprise agreement renegotiations
- $0.5 million in 2022–23 to cover the costs of the Water for SEQ Plan.

[60] Over the previous two years, the drought response triggers in the WSP have been triggered on numerous occasions after a period of not being triggered.

Energy efficiency savings

In its revised opex proposal, Seqwater included savings of $10.1 million over 2022–28 associated with energy efficiency.[61] Forecast variable costs have been adjusted to reflect the energy cost reductions emanating from these projects.

Feedwater quality events

We accept Seqwater's proposed $3.4 million over 2022–28 for an allowance for feedwater quality events. Providing an allowance for feedwater quality events would encourage efficiencies in the way they are managed by Seqwater.

4.5 Input price escalators

Our position on input price escalators is summarised in Table 11.

Table 11 QCA position—input cost escalation factors (%)

Cost category	*2020–21*	*2021–22*	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*QCA comment*
Employee and contract labour expenses	0.20	4.44	4.42	2.50	2.75	2.36	2.36	2.36	Accepted; forecast updated to reflect latest available data
Contractors (service delivery)	4.93	2.16	2.62	2.28	2.41	2.42	2.40	2.38	
Chemicals	4.93	2.16	2.62	2.28	2.41	2.42	2.40	2.38	
Other materials and services	4.93	2.16	2.62	2.28	2.41	2.42	2.40	2.38	
Electricity	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	Accepted with no adjustment

Source: QCA analysis.

Table 12 QCA position—annual escalation rate, fixed opex (%)

	2020–21	*2021–22*	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Employee and contract labour expenses (43%)	0.20	4.44	4.42	2.50	2.75	2.36	2.36	2.36
Other materials and services (57%)	4.93	2.16	2.62	2.28	2.41	2.42	2.40	2.38
Weighted average	2.89	3.14	3.39	2.37	2.55	2.39	2.38	2.37

Source: QCA analysis.

[61] Seqwater, sub. 15, p. 38.

Seqwater's revised proposal

In its response to our draft report, Seqwater updated its escalators to reflect the most recent data, whilst using the same methodologies and assumptions adopted for its June 2021 submission. [62]

Seqwater proposed to escalate fixed opex using a weighted average escalation rate. The weighted average is based on two escalation categories—employee and contract labour expenses (43 per cent) and other materials and services (57 per cent). The sources of the escalators are summarised in Table 13.

Table 13 Seqwater's proposed source for cost escalators, fixed opex

Cost category	*Escalation source*
Employee and contract labour expenses	• Enterprise agreement (to the end of 2022–23) • Queensland Treasury estimates of WPI (2023–24 to 2024–25) • 10-year historical average of the ABS WPI for Queensland (2025–26 to 2027–28)
Other materials and services	• Actual CPI • Forecast inflation using inflation swaps

Source: Seqwater, sub. 15, pp. 40–41.

Seqwater proposed to escalate electricity, chemical and other variable costs over the period 2020–21 to 2027–28 using the escalation factors in Table 14. The sources of the escalators are summarised in Table 15.

Table 14 Seqwater's proposed annual escalation rates, variable opex (%)

Cost category	*2020–21*	*2021–22*	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Electricity	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
Chemicals	4.93	2.16	2.62	2.28	2.41	2.42	2.40	2.38
Other materials and services	4.93	2.16	2.62	2.28	2.41	2.42	2.40	2.38

Source: Seqwater January 2022 bulk water pricing model.

Table 15 Seqwater's proposed source for cost escalators, variable opex

Cost category	*Escalation source*
Electricity	• Contracted cost
Chemicals	• Actual CPI • Forecast inflation using inflation swaps
Other materials and services	• Actual CPI • Forecast inflation using inflation swaps

Source: Seqwater, sub. 15, pp. 40–41.

[62] Seqwater subsequently advised its escalation rate for fixed opex in its revised opex proposal understated forecast costs due to computational errors.

Seqwater proposed to multiply escalated WTP-specific variable costs (per ML) by WTP-specific forecast annual production volumes, to determine forecast variable costs. Seqwater's proposed forecast production volumes (assuming normal operating conditions) are based on the medium demand profile in its 2019 demand forecast assessment.

QCA findings

Seqwater proposed to escalate the base year for the following categories by CPI inflation:

- contractors (service delivery)
- chemicals
- other materials and services (including insurance).

We consider Seqwater's proposed approach is expected to result in prudent and efficient escalation. We have escalated these categories by forecast inflation (Table 29). We have updated these forecasts of inflation to reflect the latest available data at the time of our final report.

Seqwater proposed to escalate its base year employee and contract labour expenses using:

- the enterprise agreement to the end of 2022–23
- Queensland Treasury estimates of WPI for 2023–24 and 2024–25
- the 10-year historical average of the ABS WPI for Queensland for years 2025–26 to 2027–28.

We consider Seqwater's proposed approach is expected to result in prudent and efficient escalation. We have updated WPI forecasts to reflect the latest available data at the time of publishing our final report.[63]

Seqwater proposed to escalate its base year variable electricity costs by averaging its long-term contracted rates for wholesale energy costs, and for network and other costs an assumed escalation.[64]

Seqwater's proposed escalation rate for electricity costs is marginally lower than our inflation forecast, on average, over the 2022–28 period (Table 29).

We note that Seqwater's recent variable opex financial performance has revealed reductions to efficient variable electricity costs. We consider the proposed escalation rate marginally lower than inflation is reasonable.

4.6 Efficiency target

We consider no efficiency target should be applied to forecast opex as Seqwater has commenced a credible efficiency program setting out a pathway to reveal efficient costs over the regulatory period, including an ongoing process to identify and implement spend to save initiatives. We consider this approach is superior to imposing an ongoing efficiency target to controllable operating expenditure.

[63] This includes using Queensland Treasury's WPI forecast for 2024–25.
[64] Seqwater, response to RFI 196.

5 CAPITAL EXPENDITURE

Capital expenditure (capex) includes expenditure to upgrade or replace an existing asset or build a new asset. Capex that we assess to be prudent and efficient is included in Seqwater's regulatory asset base (RAB), and Seqwater earns a return on, and of, the RAB as part of its building block costs.

The referral notice asks us to form a view on prudent and efficient capex, including costs associated with catchment management, recreational management and flood mitigation.

We assessed Seqwater's capital governance frameworks, policies and procedures, along with Seqwater's proposed historical capex for 2018–22 and forecast capex for 2022–28. In summary, we found:

- While there are some potential areas for improvement, Seqwater's capital planning and delivery frameworks are sound and likely to support prudent investment decisions when applied appropriately and consistently. We have seen evidence of ongoing review and improvement of these frameworks since we last reviewed them (section 5.2).
- Seqwater's actual capex during 2018–22 of $532.8 million is prudent and efficient. Importantly, we have seen evidence of Seqwater applying lessons learned to improve future asset management and maintenance processes (section 5.3.1). Our final position on prudent and efficient actual capex is $42.5 million lower than our draft position due to updated actual capex data provided by Seqwater in January 2022.
- Seqwater is proposing a significant capital program for 2022–28 that is driven largely by the completion of previously deferred projects, and an increase in high value projects, including dam safety upgrades. We have found Seqwater's proposed capex forecast of $1,342.8 million is a reasonable overall estimate of prudent and efficient expenditure (section 5.4.2). Our final prudent and efficient forecast capex allowance is $8.5 million less than our draft position due to our approval of Seqwater's proposal to reclassify some software costs from capex to opex after the release of our draft report (section 5.4).

From our investigation, we also note:

- Seqwater should investigate means of embedding processes for robust efficiency challenges in its capital planning and cost estimation processes (section 5.2).
- Seqwater should, subject to any governance and commercial confidentiality issues, commence transparent and regular reporting of actual capital spend against forecast, detailing drivers and sub-drivers of investment, as well as providing detailed reasons for divergences in both cost and delivery timeframes (section 5.4.2). We suggest this be subject to endorsement by Seqwater's board.
- There are opportunities to improve the assessment and incentive frameworks for capex to support ongoing prudent and efficient investment. We would welcome the opportunity to work with Seqwater, government and other stakeholders to progress this matter (section 5.4.2).

Table 16 QCA findings—capex, 2018–22 and 2022–28 ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22(f)*	*Total*
Actual capex	97.6	106.8	107.7	85.8	134.9	532.8

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027-28*	*Total*
Indicative forecast capex	297.5	138.0	286.1	163.6	175.2	282.4	1,342.8

Note: Values are as commissioned subject to further modelling adjustments to reflect our position on the weighted average cost of capital in the estimation of interest during construction (Chapter 6). These values reflect updated modelling provided by Seqwater in support of its January 2022 submission on our draft report.

5.1 QCA assessment approach

The referral notice asks us to form a view on the prudence and efficiency of forecast capital expenditure from 1 July 2022 to 30 June 2028 and actual capital expenditure incurred from 1 July 2017 to 30 June 2022.[65]

We began by reviewing Seqwater's capital planning and delivery, asset management, and governance frameworks. In accordance with the referral notice, we then reviewed a sample of forecast and historical capital projects and programs, focussing on areas that are material. Reviewing a sample of projects allowed us to test the prudency and efficiency of Seqwater's capital investments, and to verify the appropriate and consistent application of its processes and frameworks in practice.

Under the referral notice, we must have regard to any strategic and operational plans approved by the responsible Ministers under the *South East Queensland Water (Restructuring) Act 2007*.[66] Seqwater provided copies of its 2021–25 strategic plan, and operational plans from 2017–18 to 2021–22.[67] We have considered these and referred to them where relevant.

We engaged WS Atkins International (Atkins) to provide independent technical advice to support our review. Whilst we have had regard to that advice, we are not bound by it.

Prudency and efficiency

We consider capex is prudent if it:

- can be justified by reference to an identified need or cost driver—for example, investment required as a result of a legal or regulatory obligation (compliance), growth, replacement or renewal of existing infrastructure, or
- achieves an outcome that is explicitly endorsed or desired by customers, external agencies, or participating councils—for example, improved reliability or quality of supply of services.

We consider capex is efficient if:

[65] Referral notice, sections C(5), (7)(a).
[66] Referral notice, section C(5)(c).
[67] Seqwater, response to RFI 25.

- 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 operating expenditure (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 relevant markets.

Establishing prudent and efficient capex

We have not developed detailed bottom-up estimates of prudent and efficient forecast capex at the project or cost driver level. While we have undertaken a detailed review of certain elements of Seqwater's capex proposal to test for efficiency and prudency, we are ultimately guided by whether the overall level of expenditure is appropriate.

In making this assessment, we have considered whether the proposed allowance is sufficient for Seqwater to recover prudent and efficient costs of providing bulk water services.[68] Our approach involves the following steps:

(1) Review Seqwater's proposed expenditure based on a sample of projects, considering governance processes, capital planning and asset management frameworks, forecasting methods, underlying assumptions, investment drivers, and other relevant factors.

(2) Develop an alternative estimate of an appropriate capex allowance, based on the findings of the review.

(3) Assess Seqwater's proposed capex against our alternative estimate, in aggregate, and:

  (a) if the difference is not material, approve the proposed allowance (subject to any modelling adjustments, error correction and other updates that are reasonably required)

  (b) if the difference is material, reject the proposed allowance and substitute it with our alternative estimate.

Materiality

We do not define materiality in a prescriptive way. Rather, we use judgement to form a view on prudency and efficiency based on the overall proposal before us. In general, we are not minded to make adjustments to capex where:

- the adjustment is small and/or has only a small impact on customers
- the adjustment largely reflects a difference of opinion, rather than an identified error or invalid reasoning
- the proposal represents a genuine attempt at estimating efficient costs
- the regulated entity has been forthcoming with supporting justification and information.

Importantly, when considering the materiality of potential adjustments, we take the view that the capex forecast is an estimate only. While we expect Seqwater to put forward a genuine and well-reasoned attempt to estimate prudent and efficient investment, actual costs and activities undertaken will vary from forecasts. Lumpy, multi-year capital spends mean changes in scope and

[68] Referral notice, section A(1).

delivery timing can result in significant departures from the forecast. It is also normal for some costs to be higher or lower than expected, and for investment priorities to change during the period of the forecast. This is not necessarily a cause for concern, providing the drivers of change are explainable and the business' response was prudent, with no degradation of service standards.

Rather than striving for precision when estimating prudent and efficient capex, we consider the forecast should represent a reasonable overall allowance that provides flexibility for Seqwater to respond to changing circumstances. Seqwater is best placed to define its capital program and manage its delivery. We would expect the business to prudently reallocate resources within this funding envelope as required to deliver on its priorities and obligations at any given time.

In contrast, the ex post assessment of actual historical capex lends itself to more decisive findings on prudency and efficiency. This is because actual costs are known with certainty, and investment decision-making and project delivery can be assessed with the benefit of hindsight and complete information. Nevertheless, the materiality principles set out above remain relevant when we decide if an adjustment to actual historical capex is appropriate.

5.2 Governance, capital planning and asset management frameworks

When applied appropriately and consistently, sound corporate governance frameworks, along with best practice processes for procurement, capital planning, delivery and asset management, provide some confidence in the likelihood of prudent and efficient expenditure decisions.

During the 2018 review, we assessed Seqwater's asset planning and governance frameworks and found them to be generally sound and consistent with good industry practice.

For this investigation, we revisited these frameworks, focusing on changes implemented since our last review. Our detailed review of the sampled capex projects informs our assessment of how Seqwater applies those frameworks in practice, and whether those processes are supporting prudent and efficient outcomes.

2018 review

For the 2018 review[69], KPMG reviewed Seqwater's corporate governance arrangements for capital expenditure planning and delivery. KPMG considered Seqwater's risk management, compliance, investment governance and procurement processes.[70]

KPMG found that Seqwater had made progress in its corporate governance arrangements since the 2015 review. While KPMG identified some aspects that it considered could be improved, overall it found that Seqwater's:

- corporate governance and procurement framework provided an effective approach to managing key asset and investment risks and compliance obligations
- procurement procedures appeared robust
- capital planning framework was commendable and consistent with its legislative requirements and good industry practice.[71]

[69] QCA, *Seqwater Bulk Water Price Review 2018–21*, final report, March 2018.
[70] KPMG, *Seqwater expenditure review prudency and efficiency assessment*, March 2018, pp. 43–65.
[71] QCA, *Seqwater Bulk Water Price Review 2018–21*, final report, March 2018, p. 39; KPMG, *Seqwater expenditure review prudency and efficiency assessment*, March 2018, pp. 50, 49, 65.

2021 review

Seqwater submitted that it has implemented a range of further improvements in its governance and capital frameworks since the 2018 review, including addressing areas of potential improvement identified by KPMG. These incremental changes include:

- replacing the subjective capital prioritisation procedure with a more objective, data-driven, risk-based framework
- improved internal monitoring and oversight of the capital program, including through a Capital Portfolio Governance Group and Executive Fiscal Review Committee
- implementing the Asset Management Improvement Plan, which includes moving toward an integrated asset management framework, aligned with the International Organization for Standardization ISO 55001 standard[72]
- greater emphasis on bundling of projects to achieve efficiencies in procurement, delivery and contract management
- improved cost estimation processes and development of internal guidelines
- increased engagement with retailer customers.[73]

Atkins review

Atkins undertook a further review of Seqwater's frameworks, focusing on incremental changes from the previous review.[74] Atkins observed the following improvements:

- notable improvements to **asset management processes**, including new frameworks for assessing asset criticality and condition, producing better quality data. Atkins also found that Seqwater demonstrates the ability to learn from experience and implement change to improve processes, for example through the collapse of the Sparkes Hill reservoir roof[75]
- **ongoing development of Asset Class Plans** (ACPs)—Seqwater has developed a broad suite of over 100 ACPs and is seeking to obtain ISO 55001 certification in the future. Atkins observed that there is a strong focus on process within the organisation.[76]
- **asset management functions and systems have been consolidated** and responsibilities better defined. Atkins observed better alignment and integration of planning for growth, sustaining capital and maintenance, which were previously independently run sections of the business[77]
- **development of cost estimation guidelines**, which provides staff, contractors and external consultants with structured guidance for developing cost estimates for projects. Atkins said

[72] International Organization for Standardization, *ISO 55001:2014 Asset Management – Management systems – Requirements*, 2014. This standard specifies requirements for an asset management system within the context of the organisation.
[73] Seqwater, sub. 1, pp. 64–75.
[74] Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26*, draft report, November 2021 (Atkins draft report).
[75] Atkins draft report, p. 10.
[76] Atkins draft report, p. 23.
[77] Atkins draft report, p. 30.

these guidelines appear appropriate and provide a consistent basis to develop cost estimates.[78]

- **a recent review of the Capital Investment Lifecycle Framework**, with a view to improving the Gateway framework, governance process and decision-making requirements, and establishing support tools for consistent application.[79]

Overall, Atkins found that Seqwater's capital governance processes are appropriate in the context of the volume of capital projects and expenditure Seqwater has been able to deliver. It added that these processes have probably not been 'stress-tested', due to the relatively low volume of capital projects delivered in the current period. However, that will likely happen in future years as the forward program places competing demands on resources. Atkins noted that Seqwater's improvements to the capital investment lifecycle framework should strengthen processes and support more efficient and optimal outcomes in future.[80]

Atkins also identified some areas for potential process improvement, which we encourage Seqwater to consider.[81]

QCA findings

Based on our review, we consider that Seqwater broadly maintains sound policies, procedures and frameworks that are likely to support prudent investment decisions when applied appropriately and consistently.

Importantly, Seqwater has been demonstrating progress and a focus on continued improvement in these areas. Seqwater has shown awareness of the need for further improvement, which is evidenced by the initiatives it is progressing, as well as the strategic objectives and key priorities embedded in its strategic plan.[82]

Seqwater's ongoing improvements should also support its capacity to deliver the substantial forward capital program. We would expect to see these improvements embedded in Seqwater's processes at the next pricing review, along with efficiency benefits being realised and reflected in future capital forecasts.

We encourage Seqwater to consider the opportunities for further improvement noted by Atkins as it continues to refine its processes.

5.3 Seqwater's historical capex 2017–18 to 2021–22

The referral notice requests us to review the prudency and efficiency of actual capex for the period 1 July 2017 to 30 June 2022. In rolling forward the RAB from 1 July 2017 to 30 June 2022, we are to use actual capex, and forecast capex where actual values are not available, adjusted for any findings of our review of prudency and efficiency.[83]

In its June 2021 submission, Seqwater indicated it expected to incur $575.2 million in capex during 2017–18 to 2021–22. Expenditure for the 2020–21 year was based on actual and estimated

[78] Atkins draft report, p. 36.
[79] Atkins draft report, p. 34.
[80] Atkins draft report, p. 34.
[81] Atkins draft report, pp. 10–11, 23–38.
[82] Atkins draft report, p. 10; Seqwater, *Strategic plan 2021–25*, n.d., p. 2.
[83] Referral notice, section C(7)(b).

expenditure, and 2021–22 represented forecast expenditure.[84] In January 2022, Seqwater provided updated information reflecting actual capex during 2020–21. In total, the updated current period capex estimate is $532.8 million. This is $205.9 million (28%) less than our 2018 review estimate of prudent and efficient capex for this period (Table 17).[85]

At the time of preparing its June 2021 submission, actual capitalised expenditure for 2020–21 was not available and Seqwater's estimate was based on budgeted capex expected to be incurred. The revised value provided in January 2022 reflects actual audited capex that was commissioned during the year.[86] While the difference is significant, updating this value for actual capitalised expenditure accords with our approach to rolling forward actual capex.

Table 17 Seqwater's actual capex, compared to QCA 2018 review, 2017–18 to 2021–22 ($m, nominal)

	2017–18	***2018–19***	***2019–20***	***2020–21***	***2021–22 (forecast)[b]***	***Total***
QCA allowance—2018 review	125.1	110.2	87.0	168.4	248.0	**738.7**
Seqwater actual/budget [a]	97.6	106.8	107.7	85.8	134.9	**532.8**
Difference	(27.4)	(3.4)	20.7	(82.6)	(113.1)	**(205.9)**

a *Derived from Seqwater's January 2022 bulk water pricing model. Includes interest during construction. Seqwater's proposed values from the model include grid support costs that Seqwater proposed to capitalise. Excluding these capitalised grid support costs, the total capex underspend increases to $214 million over the period.*

b *The pricing period is the three years from 2018–19 to 2020–21. However, the referral notice asks us to examine actual capex for the 5-year period from 2017–18 to 2021–22.*

Note: Totals may not add due to rounding.

Sources: Seqwater January 2022 bulk water pricing model; QCA 2018 bulk water pricing model.

Seqwater attributed its capital underspend to 'rephasing' (deferral) of some projects and re-evaluation of options. It also realised savings through changes in asset management and delivery frameworks, and cost efficiencies achieved from improved project management.[87] Our understanding of key contributors to the capital underspend is summarised in Table 18.

Table 18 Key contributors to capital underspend, 2017–18 to 2021–22

Project	***Reason for underspend***	***Total cost saving ($m nominal) [a]***
Leslie Harrison Dam upgrade stage 1	Cost savings are attributed to improved procurement practices, contract management and project management.	8.0
Sideling Creek Dam upgrade stage 1	Cost savings are attributed to improved procurement practices, contract management and project management.	6.9

[84] It is expected that actual expenditures incurred during 2021–22 will be considered at the subsequent pricing investigation, should the referral notice prescribe an ex post prudency and efficiency assessment. As such, we have not assessed the prudency or efficiency of these costs.

[85] We note Seqwater made some additional revisions to actual capex in 2019–20 and estimated capex in 2021–22 of less than $5,000, which we have not investigated further as they are immaterial.

[86] Seqwater, responses to RFI 11, 224.

[87] Seqwater, sub. 1, p. 56.

Project	*Reason for underspend*	*Total cost saving ($m nominal) [a]*
Lake MacDonald Dam upgrade	Deferred from 2022 to 2025. A detailed business case was approved by Seqwater's Board in December 2018 and subsequently issued to the Ministers for approval in early 2019. As part of the Ministers' considerations, an external project review was requested and undertaken in mid-2019. During the procurement stage it became evident that the project costs would be significantly higher than the approved budget. Seqwater considered it prudent to re-evaluate the options available to resolve the safety risks at Lake Macdonald Dam.	94.7
Mt Crosby East Bank water treatment plant filtration upgrade	Deferred from 2021 to 2023. It was identified during 2018-21 that other works had to be performed before the filtration upgrade could commence. These works included the replacement of valves providing the necessary isolation means to perform the filter upgrades safely. This was addressed, and this project has progressed. It is expected to be completed in 2023.	35.3

a *Cost savings are based on total capitalised cost estimated at the time of the 2018 review. Some deferred projects have revised cost estimates for the 2022–26 period.*

Sources: Seqwater, sub. 1, pp. 57–61; QCA 2018 bulk water pricing model.

Expenditures that were not included at the time of the 2018 review partly offset these savings. These expenditures include the replacement of the Sparkes Hill reservoir roof ($13.5m in 2019–20) and the Beaudesert water treatment plant storage upgrade ($7.1m during 2018–21).[88]

Including the impact of the above unforeseen costs, the net capitalised value of savings and deferrals during 2018 to 2022 is around $124.3 million. This accounts for 58 per cent of the observed underspend of $214.2 million for the same period, when Seqwater's proposed capitalisation of grid support costs are excluded (section 5.3.1).

Unitywater expressed concern at the underspend, noting that the expenditure was included in the price path over the 2018–21 period. It suggested that future bulk water prices should be offset for the funding already provided through a 'true-up' process, or that funding for projects that were not delivered should be excluded from the future capex forecast.[89]

We acknowledge Unitywater's concerns; however, capital expenditure is only added to the RAB at the end of a pricing period if the investment was actually undertaken and the asset commissioned. The end-of-period adjustment process ensures that there is no windfall revenue gain to Seqwater of underspending against its forecast capex budget through the return on capital (weighted average cost of capital) and return of capital (depreciation), as these are reconciled with actual capex at the end of the period. Under the referral notice parameters, if Seqwater has underspent its capex allowance, revenues and bulk water prices in future periods are reduced by any amount of revenue over-recovery associated with the return on capital and return of capital for forecast capex not actually delivered in the preceding regulatory period. In this way, any over-recoveries are returned to customers through a commensurate reduction in future bulk water prices.

We note Seqwater's recent history of capital underspends and offer some suggestions to support greater transparency and accountability on Seqwater's part (section 5.4.2). Our considerations

[88] Seqwater, sub. 1, pp. 59–60.
[89] Unitywater, sub. 14, p. 3 and sub. 23, p. 2.

on Seqwater's capacity to deliver the forecast capex program for the 2022–28 period are set out in section 5.4.2.

5.3.1 QCA analysis

We selected three projects that were commissioned during the 2018 to 2022 period for detailed review (Table 19).

Table 19 Sample projects reviewed: historical capex, 2017–18 to 2021–22

Project	*Description*	*Total capitalised cost ($m, nominal)*
Leslie Harrison Dam safety upgrade stage 1	Stage 1 works to satisfy mandated Acceptable Flood Capacity Guidelines. Commissioned in 2020–21.	21.2
Ewen Maddock Dam safety upgrade 2A construction	Stage 2A works to satisfy mandated Acceptable Flood Capacity Guidelines. Commissioned in 2021–22.	17.2
Sparkes Hill reservoir roof replacement	Works to repair a concrete reservoir roof following an unforeseen collapse in 2019. Commissioned in 2019–20	13.5

Sources: Seqwater, sub. 1, pp. 59–61; Seqwater, response to RFI 104; Seqwater June 2021 bulk water pricing model.

Leslie Harrison and Ewen Maddock dam safety upgrades

Under the *Water Act 2000* and the *Water Supply (Safety and Reliability) Act 2008*, Seqwater is responsible for the safety of its dams under a range of guidelines, including:

- Queensland Dam Safety Management Guidelines[90]
- Guidelines for Failure Impact Assessment of Water Dams[91]
- Guidelines on Safety Assessments for Referable Dams[92]
- Emergency Action Plan for Referable Dam Guideline.[93]

As a general principle, where a dam failure would cause substantial damage or the loss of many lives, the dam should be designed to a higher standard than a dam whose failure would result in less damage or fewer lives lost. The risk associated with failure of dams can change over time—for example, due to downstream population growth. Dam owners need to periodically undertake risk assessments of each dam to determine compliance with safety guidelines and may need to undertake upgrades to existing dams to ensure risks of failure remain within tolerable levels.

In 2013, Seqwater undertook a risk assessment of dam assets to determine priority assets for upgrades to meet dam safety guidelines. From this review, Leslie Harrison and Ewen Maddock dams were found to have an unacceptable risk of failure and were prioritised for upgrades. The capital projects we reviewed were designed to reduce the identified risks to a tolerable level.[94]

[90] Department of Natural Resources, Mines and Energy (DNRME), *Dam safety management guideline*, Queensland Government, October 2020.
[91] DNRME, *Guideline for failure impact assessment of water dams*, Queensland Government, November 2018.
[92] Department of Regional Development, Manufacturing and Water, *Guidelines on Safety Assessments for Referable Dams*, Queensland Government, November 2021. This document superseded the DNRME *Guidelines on Acceptable Flood Capacity for Water Dams* (December 2019).
[93] Department of Regional Development, Manufacturing and Water, *Emergency Action Plan for Referable Dam Guideline*, June 2021.
[94] Seqwater, responses to RFI 103, 104.

Leslie Harrison Dam—stage 1

The Leslie Harrison Dam is located on Tingalpa Creek, approximately 18 kilometres south-east of Brisbane. The dam is the sole raw water source for the Capalaba water treatment plant, which provides drinking water to the Redlands region.

The project reviewed represents the first part of a staged dam safety upgrade. The works undertaken included partial upgrades of the main dam embankment, anchoring of the spillway, removal of the spillway gates and associated civil works.[95] This project was reviewed by the QCA and KPMG for the 2018 review and found to be prudent and efficient, based on information at the time. During that review, Seqwater provided robust supporting documentation justifying the need for the project, as well as the scope, standard and cost of the proposed works.[96]

The project was completed in 2020–21 at a cost of $21.2 million, which is around $8 million less than forecast.[97]

We understand the underspend was attributed to benefits realised from the competitive tender process and the inherent efficiencies of the preferred option. Contingencies for risks of unfavourable weather and latent ground conditions were also not realised, which contributed to lower costs.[98] Atkins found the project to be prudent and efficient.[99]

Ewen Maddock Dam—stage 2A

Ewen Maddock Dam is located in the Sunshine Coast region, near Landsborough. The dam is built across the Addlington Creek and is connected to the south east Queensland water grid by the Northern Pipeline Interconnector. The stage 2A upgrade project involved strengthening of the embankment.[100]

The project was delivered three months ahead of schedule and was capitalised in 2021–22 at a cost of $17.2 million, which is $8.7 million less than the forecast budget.[101] We understand that Seqwater realised efficiencies in delivery by:

- using a local contractor, resulting in lower overheads and costs
- using siphons to lower the lake level, reducing the construction schedule and maximising the dry season for the embankment earthworks while avoiding a cofferdam
- non-realisation of contingency risks (ground conditions and weather were less onerous than allowed for)
- renegotiating rates for imported materials.[102]

Atkins found the project to be prudent and efficient.[103]

Based on our review of the supporting information, and having regard to Atkins' technical advice, we consider that the delivery of Leslie Harrison Dam and Ewen Maddock Dam upgrade projects

[95] Seqwater, response to RFI 103.
[96] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 56.
[97] Based on values Seqwater provided (sub. 1, p. 61, table 5.5).
[98] Atkins draft report, p. 104.
[99] Atkins draft report, p. 104.
[100] Seqwater, response to RFI 104.
[101] Seqwater's capex allowance for 2018–21 included this project at a forecast cost of $9.8m, capitalising in 2020–21. The project was not selected for sample review at the time and we did not form a view on its prudency or efficiency. We understand costs were revised as the project progressed through the planning process.
[102] Atkins draft report, p. 104.
[103] Atkins draft report, p. 104.

was prudent and efficient. Therefore, it is reasonable to include the full capitalised cost of these projects in the opening asset base for 1 July 2022.

Sparkes Hill reservoir roof replacement

Sparkes Hill reservoir is a 92 ML reservoir that is connected to the grid via the Northern Pipeline Interconnector. It represents around 18 per cent of the Seqwater supply system storage capacity. The asset was one of many reservoirs inherited from Linkwater in 2013 as part of the amalgamation that formed Seqwater.[104]

In December 2018, the concrete roof of one reservoir at Sparkes Hill collapsed. The reservoir was taken offline. In January 2019, Seqwater engaged SMEC Australia to undertake a detailed engineering assessment and identify options to address the failure.[105]

Seqwater said there was a need to replace the section of the roof as quickly as possible, as the upgrade of the Mount Crosby East Bank filters was contingent on the reservoir being returned to service.[106]

Given the criticality of the repair work, Seqwater procured design and construction services for the repair on a sole-source basis. The contractor chosen had previous experience and knowledge of the reservoir from a previous project. Work started on 24 July 2019 and was completed on 26 June 2020.[107] The total cost of the project was $13.5 million, capitalising in 2019–20.

Seqwater said it had undertaken regular maintenance, testing and inspections in line with the relevant asset class plan at the time, although it was subsequently identified that the roof did not appear to have been constructed in accordance with the as-built plans that Seqwater had received at the time of amalgamation.[108] Following the failure, Seqwater implemented improved inspection processes for similar assets, including routine use of remote operating vehicles inside reservoirs.

Atkins reviewed the findings of three-monthly asset inspections that were undertaken leading up to the collapse. It found that there was no record of a structural defect from inspections prior to the roof failure.

Atkins concluded that the investment was prudent given the criticality of the asset. However, it identified some potential for inefficiency due to the sole-sourced procurement.

Atkins noted the findings of SMEC that the impending failure could have been identified based on aerial imagery taken in September 2017. Atkins acknowledged that this was identified after the fact but formed the view that earlier identification of the impending failure could have avoided the reactive work and being able to plan the project in advance could have yielded a more efficient outcome in terms of procurement and expenditure.[109]

Atkins considered that savings of 5 to 15 per cent can be achieved from value-based procurement for early involvement. On this basis it recommended a 10 per cent reduction to the proposed

[104] Seqwater, response to RFI 102.
[105] Seqwater, sub. 1, p. 59.
[106] Seqwater, response to RFI 102.
[107] Seqwater, sub. 1, pp. 59–60.
[108] Seqwater, response to RFI 102.
[109] Atkins draft report, p. 101.

capitalised cost for the project.[110] Atkins acknowledged the adjustment is unlikely to be material to prices.[111]

Based on our review of the supporting documentation, and interviews with Seqwater representatives, we understand there may have been an opportunity to identify the impending roof failure earlier than it was; however, this is not conclusive in our view.

During interviews with Seqwater engineers and management, we were advised that this incident triggered an immediate review of its other reservoirs. Seqwater has demonstrated it has applied the lessons learnt from this experience to further improve its asset management practices, including inspection regimes and condition assessments.

Moreover, we consider that making an adjustment is not material in the context of the broader capital program delivered in the 2017–18 to 2021–22 period.

Other issues

Capitalisation of grid support costs

Seqwater identified additional costs incurred during the 2018–21 period relating to incremental pumping costs and operation of the Gold Coast Desalination Plant (GCDP). It submitted these were required to support the delivery of its upgrade to the Mt Crosby WTP filtration units.[112] We understand that capacity of the Mt Crosby WTP was reduced during the capital works, and this required demand to be met by taking more costly supply from the GCDP and pumping of water in a northerly direction using the Southern Regional Water Pipeline.[113]

Seqwater sought to recover a total of $8.3 million during 2017–18 to 2021–22 in incremental costs associated with using these sources, to meet demand while the capacity of the Mt Crosby WTP was constrained.[114]

While acknowledging these costs are operational in nature, Seqwater claimed they should be capitalised in this instance, as they:

- are prudent and efficient costs that could not be accurately forecast, and cannot be recovered through the review event provisions
- were necessarily incurred to deliver the Mt Crosby WTP filtration upgrade, which is a capital project.[115]

We note that these costs would usually be classified as opex under Seqwater's own capitalisation policy.[116] However, in this instance we have decided to allow these costs to be added to the RAB, as they were prudently incurred and are incremental to business-as-usual grid support activities. In our view, the proposed costs appear reasonable.

Natural assets

Seqwater incurs costs in managing catchments to protect the quality of source water. These costs have historically included both expensed and capitalised items, depending on the nature of the

[110] Atkins draft report, p. 101.
[111] Atkins draft report, p. 102.
[112] Seqwater, sub. 1, pp. 60–61.
[113] Interviews with Seqwater staff, September 2021.
[114] Based on Seqwater January 2022 bulk water pricing model.
[115] Seqwater, *Capitalisation of grid support costs–Rationale*, presentation to QCA and Atkins, 7 September 2021; Seqwater, response to RFI 167.
[116] Seqwater, *Capitalisation of grid support costs–Rationale*, presentation to the QCA and Atkins, 7 September 2021.

activities and whether the activities are undertaken on land owned by Seqwater, or by a third-party.

Seqwater recently reviewed these costs against accounting standards and found that some natural assets costs that have historically been capitalised would be more appropriately recognised as opex in its statutory accounts. Seqwater proposed to commence reclassifying these costs as opex for regulatory purposes also from the start of the 2022–26 pricing period.

We consider the basis for reclassifying these costs is reasonable and have seen no evidence of double counting through the reclassification. We note that the reclassification does not apply to all natural asset expenditures. Seqwater's capex forecast for 2022–26 includes around $10 million in remediation, rehabilitation and vegetation management on Seqwater-owned catchment lands.[117]

We address the prudency and efficiency of forecast natural assets opex for the 2022–28 period in Chapter 4.

5.3.2 QCA findings

Based on our review, and considering Atkins' technical advice, we have determined an estimate of prudent and efficient capex of $532.8 million for the 2017–18 to 2021–22 period, as set out in Table 20. This is around $42 million lower than in our draft report findings, primarily due to updated capex values for 2020–21 that reflect actual capitalised projects rather than forecast estimates.

Actual capex values for the current period are further adjusted for actual inflation to establish the opening RAB for the 2022–23 to 2025–26 pricing period (Chapter 6).

It is expected that costs in 2021–22, which are based on budgeted values, will be revisited at the next review and the RAB will be adjusted to reflect prudent and efficient actual capex.

Table 20 QCA findings—estimated prudent and efficient capex for 2018 to 2022 ($m, nominal)

	2017–18	***2018–19***	***2019–20***	***2020–21***	***2021–22***	***Total***
QCA recommendation—2018 review	125.1	110.2	87.0	168.4	248.0	738.7
Seqwater proposed/budget	97.6	106.8	107.7	85.8	134.9	532.8
QCA capex	**97.6**	**106.8**	**107.7**	**85.8**	**134.9**	**532.8**

Sources: QCA analysis; Seqwater January 2022 bulk water pricing model; QCA 2018 bulk water pricing model.

During our review, it was identified that Seqwater does not routinely record actual historical capex by cost driver.[118] We encourage Seqwater to develop robust time series data of this nature to enhance its own capital planning and budgeting processes.

In future, reporting historical expenditure by asset class, and reporting primary and secondary investment drivers, would also allow expenditure allowances to be reviewed at a higher level, by

[117] Seqwater, sub. 1, p. 83.
[118] Seqwater, response to RFI 30.

considering trends in expenditure categories. This could potentially support less intrusive cost review processes in future.

5.4 Seqwater's forecast capex 2022–23 to 2027–28

In its June 2021 submission, Seqwater proposed a total capex forecast of $1,351.3 million over the remainder of the price path period from 2022–2028.

In January 2022, Seqwater provided a revised capex forecast of $1,342.8 million which reflected a deduction of $8.2 million in recognition of its proposal to reclassify some previously capitalised costs for 'software as a service' as opex (see Chapter 4).[119] We consider this reclassification is reasonable and have based our final analysis on this revised total capex forecast. Of the total forecast capex, $885.2 million is forecast for the 2022–23 to 2025–26 pricing period. This is 44 per cent more than our 2018 recommended expenditure of $613.6 million for the preceding four-year period from 2018–19 to 2021–22. Seqwater's forecast capex is 103 per cent higher than its projected actual spend over the same period (Figure 6).

Table 21 Seqwater's proposed capex 2022–28 ($m, nominal, as-commissioned)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027-28***	***Total***
Forecast capex	297.5	138.0	286.1	163.6	175.2	282.4	1,342.8

Source: Seqwater January 2022 bulk water pricing model.

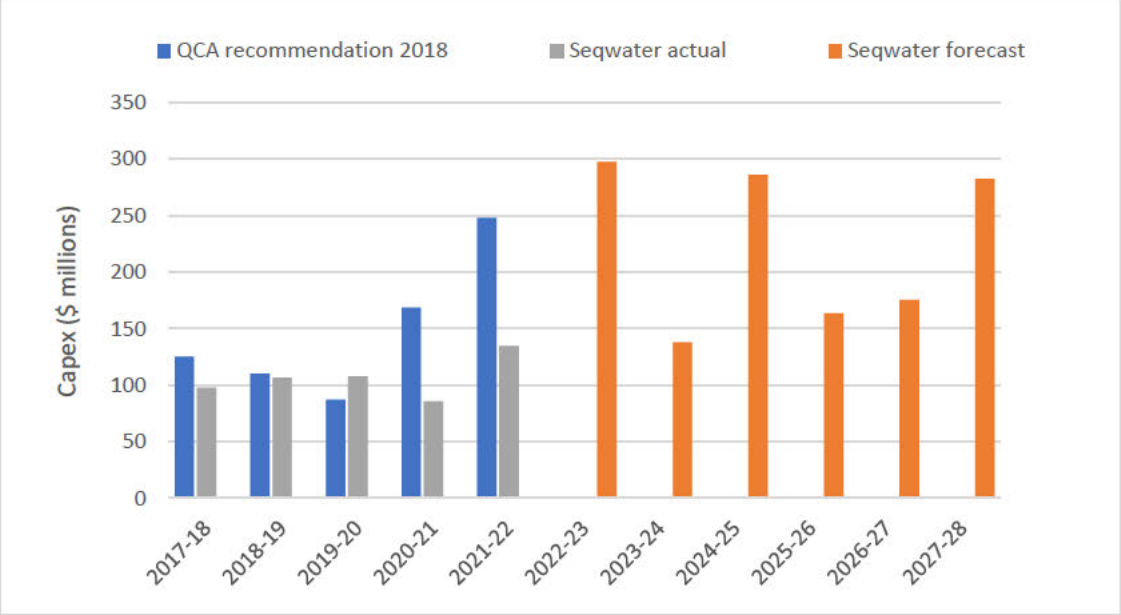
Peaks in capitalised expenditure partly reflect the forecast commissioning of key projects:

- 2022–23: South West Pipeline ($108m), Mt Crosby flood resilience substation works ($38m) and Mt Crosby filter upgrades ($42m)
- 2024–25: Lake Macdonald Dam safety upgrade ($140m)
- 2027–28: Landers Shute storage expansion ($80m), Mt Crosby WTP sedimentation upgrades ($39m) and, Northern Pipeline Interconnector upgrade ($34m).[120]

[119] The overall difference also reflects a reduction of $0.3 million in interest during construction due to a lower proposed WACC. The capex allowance used to derive our final recommended bulk water prices is adjusted to reflect our estimated WACC.

[120] QCA analysis; Seqwater January 2022 bulk water pricing model.

Figure 6 Seqwater's 2018–22 capex and forecast 2022–28 capex ($m, nominal, as commissioned)

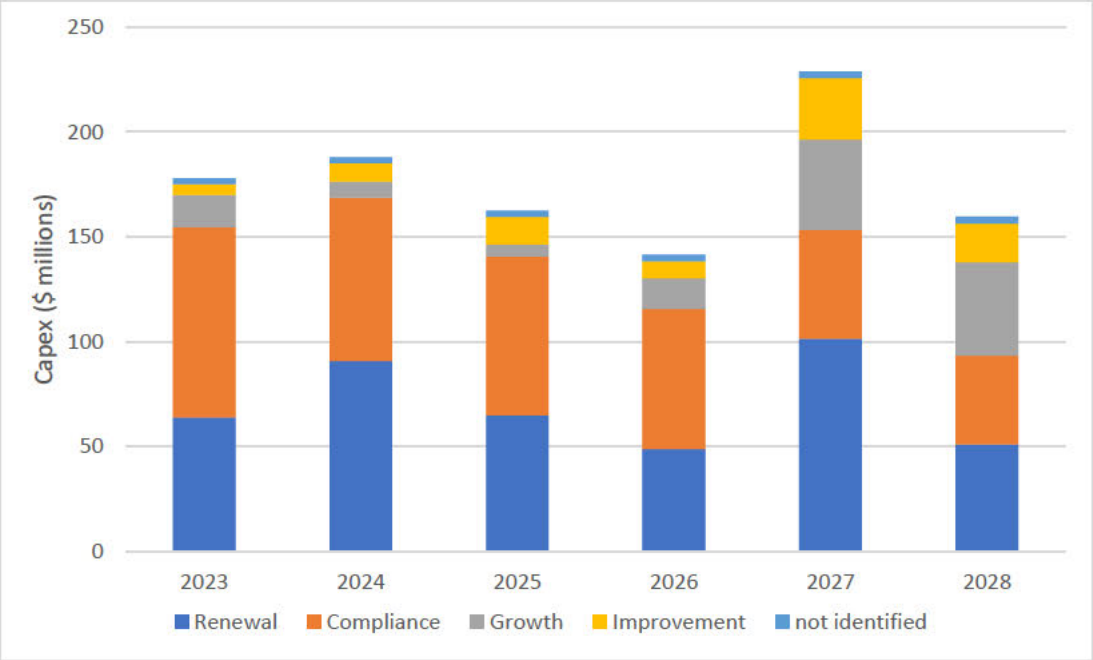


Note: Includes interest during construction.

Sources: QCA analysis; Seqwater January 2022 bulk water pricing model.

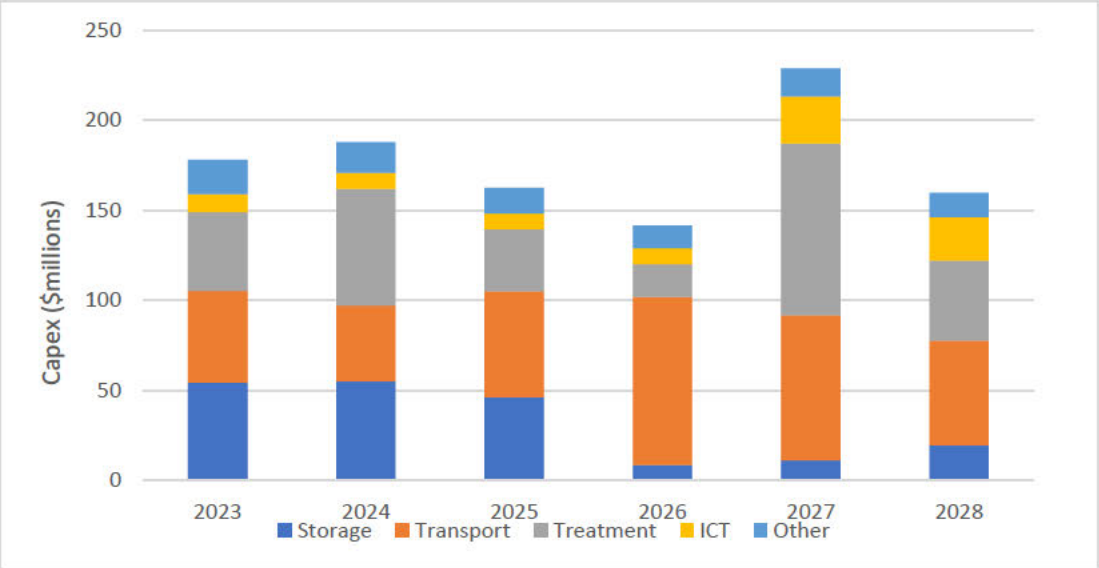
Seqwater said its forward capex program is driven largely by compliance and legal obligations, followed by asset renewals (Figure 7). By asset type, most expenditure is expected to be incurred on water transport infrastructure ($384m, or 37%), followed by water treatment ($301m, or 29%) and water storage ($194m, or 18%) (Figure 8). Figure 7 and Figure 8 present forecast capex on an 'as incurred' basis to better illustrate the drivers of expenditure in each year.

Figure 7 Forecast capex by driver ($m, nominal, as incurred)



Note: Capex is presented on an as-incurred basis to illustrate the pattern of expenditure over time. Projects are capitalised after completion and commissioning.

Figure 8 Total capex by year and asset type ($m, nominal, as incurred)



Note: Capex is presented on an as-incurred basis to illustrate the pattern of expenditure over time. Projects are capitalised after completion and commissioning.

The forecast program for the 2022–28 period includes a number of large projects deferred from the 2018–22 period. These include the Lake MacDonald Dam safety upgrade ($140m in 2025) and the Mt Crosby East Bank water treatment plant filtration upgrade ($42m in 2022–23).

The South West Pipeline project[121] is also included in the 2022–26 capex forecast at a capitalised cost of $108 million. This project was previously expected to be commissioned in 2027 but has progressed, with delivery expected in 2022–23.

5.4.1 QCA analysis

We chose a sample of four projects and programs to review in detail for prudence and efficiency. This detailed review allows us to assess the appropriate and consistent application of Seqwater's governance and capital planning and delivery frameworks (Table 22).

This sample was selected to reflect a reasonable cross-section of asset types and investment drivers. We also selected projects that are relatively well-progressed through Seqwater's investment gateway approvals process. These projects tend to be accompanied by more robust documentation and cost estimates. We consider this appropriate, as it affords Seqwater a reasonable opportunity to demonstrate the robustness of its capital planning and delivery processes, and how they are applied in practice.

We have also taken advice from Atkins on other matters that were identified during the investigation.

[121] Formerly known as the 'Beaudesert WSZ pipes upgrade' project.

Table 22 Sample projects reviewed

Project	*Description*	*Year of delivery/capitalisation*	*Capitalised cost ($m, nominal)*
South West Pipeline	Construction of a pipeline to connect the Beaudesert water supply zone to the SEQ water grid. Driven by demand growth and poor source water quality causing shutdowns at the Beaudesert WTP. Growth corridor and within a State Development Area.	2023	108.0
Mt Crosby West Bank monitoring and control systems (MCS)—stage 1 renewals	Renewal of obsolete monitoring and control systems at Mt Crosby WTP that have reached end of design life.	2023	6.8
Mt Crosby East Bank raw water pumping station flood resilience works—substation and enabling works	Works to mitigate flood risk to the pumping station involving relocation and renewal of the electrical substation, including civil works and relocation of existing buildings.	2023	37.7
Digital Technology and Innovations renewal program	Continued provision of technology, network and cyber security services. The objective is to reduce risk of asset failure, ensure ongoing support from manufacturers, and maintain up-to-date software.	2022–26	26.9

Sources: Seqwater, responses to RFI 105–108; Seqwater, sub. 1, p. 83; Seqwater January 2022 bulk water pricing model.

Overall, Atkins broadly supported Seqwater's capital expenditure in terms of the prudency of its investment plans in the forecast period. It recommended some specific adjustments to scope and timing of expenditure, and reclassification of some costs.[122] Atkins proposed only one discrete adjustment to a sampled project. This reflects the removal of $1.2 million in double counted costs associated with the South West Pipeline project. Seqwater has acknowledged this modelling error. While Atkins found the sampled projects generally prudent, it did consider there were opportunities for broader efficiencies, which are discussed further below in this section. Atkins' report provides further detail on its specific observations regarding each sampled project.[123]

Based on our review of the information available, and Atkins' technical advice, we consider the sampled projects are prudent. There are some potential areas of improvement and opportunities for efficiencies, and we have considered these in reaching our overall findings (section 5.4.2). Our consideration of other matters emerging from the review are set out below.

Wivenhoe Dam gates refurbishment

Seqwater's pricing submission included allowances totalling $6.6 million ($2019–20) during 2022–26 to refurbish the radial and bulkhead gates at Wivenhoe Dam. The project involves paint and

[122] Atkins draft report, pp. 96–97.
[123] Atkins draft report, pp. 108–115.

rust removal, recoating and replacement of seals. Seqwater initially sought to recover these costs as opex step changes.[124]

Seqwater later advised that this project would be recognised as capex rather than opex, as it is a major overhaul and is likely to extend the life of the asset.[125] This project was not selected for sample review, and we have not formed a view on the prudency and efficiency of the project or costs.

For the 2022–28 period, we have added an indicative allowance of $7.7 million to our alternative capex forecast, reflecting the costs and timing of the gate refurbishment advised by Seqwater.[126] We would expect prudent and efficient capex associated with this project to be added to the RAB at the next review, subject to ex post assessment.

Lake Macdonald Dam upgrade

The Lake MacDonald Dam upgrade is a significant capital project to satisfy dam safety requirements. Seqwater's 2022–28 capex forecast includes $140 million in capitalised costs to deliver this project in 2025. This project was deferred from the 2018–21 period.

Seqwater said that the proposed forecast will be reviewed as the project progresses through the options evaluation process.[127] At January 2022, Seqwater's modelling indicated the project remains at stage gate 1 in the investment approvals process (preliminary business case).[128]

While this project was not selected for detailed review, Seqwater advised that delivery of the project is likely to be further delayed. We also understand the cost is likely to significantly exceed the $140 million estimate included in the pricing submission and Asset Portfolio Master Plan (APMP). Seqwater's operational plan for 2021–22 identifies the project timing and cost as 'to be determined'.[129]

We sought updated estimates of the costs and phasing of the project in September 2021. Seqwater could not provide further information, noting the project was subject to an ongoing review which would not be completed until 2022.[130] In the absence of more certainty on the revised timing of the project, Atkins recommended the forecast capitalisation date be moved to 2027.[131]

Given the project's status in the planning and approval process, we consider delaying capitalisation until 2027 is appropriate. Importantly, this adjustment only delays the recovery of costs temporarily. Should Seqwater successfully deliver this project within the 2022–26 period, prudent and efficient capex will be added to the RAB at the next review. This project may be a candidate for future ex post assessment, given its history of deferral and indications of outturn costs being significantly higher than current forecasts.

[124] Seqwater, sub. 1, p. 101.
[125] Seqwater, *Wivenhoe gates protective treatment refurbishment*, project presentation, 8 September 2021; Seqwater, response to RFI 127.
[126] Seqwater, response to RFI 160. We have assumed the expenditures will capitalise one year after being incurred, consistent with Seqwater's assumed defects liability period.
[127] Seqwater, sub. 1, p. 57.
[128] Seqwater January 2022 bulk water pricing model.
[129] Seqwater, *Operational Plan 2021–22*, (unpublished) p. 20.
[130] Seqwater, response to RFI 174.
[131] Atkins draft report, p. 112.

Luggage point renewals

Seqwater proposed a total of $18.8 million over the 2022–28 period for renewals capex at Luggage Point advanced water treatment plant (AWTP).[132] This expenditure represents an allowance for ongoing asset replacements following the recommissioning of all three trains at the plant.

Seqwater projects the Luggage Point AWTP to be fully recommissioned in 2021–22. However, the drought response trigger may change with the updated WSP expected in 2022.[133] Atkins recommended the costs be either included or excluded from the capex forecast depending on the prevailing conditions, dam levels and triggers identified in the updated WSP.[134]

We consider this expenditure would be more appropriately considered in the context of the drought allowance (Chapter 11). Accordingly, we have excluded these costs when developing our alternative forecast capex estimate for the 2022–28 period.

Other issues

Efficiency assumptions

In contrast to its opex forecast, Seqwater did not apply any explicit efficiency targets to its forecast capex spend. It is also not clear that Seqwater applies any formal efficiency challenge to its forecasts at either the project (business case) level, or from an overall top-down perspective.

In its review, Atkins identified opportunities that it considered would deliver 'catchup' capital efficiencies for Seqwater during the 2022–26 period, specifically:

- bundling or packaging of works[135]
- more efficient contingency management[136]
- improving the linkage between asset performance and risks, and expenditure proposals
- development of historical cost databases to reduce the current reliance on external peer review and quantity surveyors.

Seqwater acknowledged a number of these opportunities and indicated it is progressing these issues.[137]

In recognition of these opportunities, Atkins proposed a range of annual efficiency factors be cumulatively applied to the broader capex forecast.[138] The total value of Atkins' catchup and continuing efficiencies is $81 million over the 2022–28 period, based on Seqwater's June 2021 capex submission.

It is clear that Seqwater acknowledges its relatively limited focus on challenging capital efficiency at the portfolio level. However, we have seen evidence that it is continuing to improve on this front.

We understand that Seqwater undertook a broad review of the capex program for 2020–21 and identified some opportunities for efficiencies at the program level, including through removal of

[132] Based on Seqwater's January 2022 bulk water pricing model.
[133] Atkins draft report, p. 120.
[134] Atkins draft report, p. 120.
[135] Atkins draft report, p. 123.
[136] Atkins draft report, p. 122.
[137] Interviews with Seqwater staff, 31 August 2021.
[138] Atkins draft report, p. 124.

portfolio-level risk allowances.[139] It is unclear if this is a regular and formalised process, and whether these reviews will continue beyond 2020–21.

Seqwater also expects to realise efficiencies in coming years through greater emphasis on bundling to achieve efficiencies in procurement and contract management. Seqwater identified over 230 individual projects valued at around $150 million as candidates for bundling during the 2022–28 period.[140] Seqwater said that bundling initiatives are intended to improve delivery efficiency from 2022–23 onwards and will continue to evolve as Seqwater better understands and quantifies the benefits.[141] It is not clear that the expected efficiencies from bundling have been estimated or captured in the proposed cost forecasts.

Seqwater is also making further progress toward efficiency through its asset management improvement plans and increased oversight of the capital program through establishment of new governance and review committees.[142]

We have considered Atkins' proposed efficiency factors and have chosen not to adopt them. We are unable to conclude that the level of efficiency implied by Atkins' efficiency factors is an appropriate assumption for Seqwater. Importantly, we consider Seqwater should have an opportunity to reveal efficient costs through the initiatives it is implementing before any continuing efficiency assumptions can reasonably be applied.

Capex escalation

Seqwater develops capital cost forecasts at the business case level in constant price terms. These estimates are then escalated to derive nominal forecasts as needed. We sought further information regarding this process from Seqwater, who advised that it applies a general escalation factor of 2.5 per cent, as advised by Queensland Treasury.[143] This escalation process takes place during modelling to develop cost estimates feeding into the APMP. These costs then feed into the regulatory pricing model as nominal, as-incurred values.[144]

We do not have access to Seqwater's modelling that applies the capex escalation and have not sought to apply our revised estimate of CPI inflation to the capex forecast. We consider this a pragmatic approach in this instance, given that:

- the impact of applying our alternative CPI escalator on total capex, revenues and prices during the 2022–23 to 2025–26 period is unlikely to be material
- capex is rolled into the RAB at the end of the period on an actual basis, which will resolve any differences between forecast and actual CPI inflation during the period (Chapter 6).

Opportunities for substitution between capex and opex

We sought Atkins' advice on whether Seqwater had given reasonable consideration to trade-offs between opex and capex. For the individual sample project reviews, Atkins assessed the

[139] Seqwater, response to RFI 193.
[140] Seqwater, Provision of information—bundling of projects, 7 October 2021.
[141] Seqwater, *Asset Portfolio Master Plan 2021*, March 2021, p. 21.
[142] Seqwater, sub. 1, pp. 59–70.
[143] Seqwater, response to RFI 157; Seqwater, sub. 1, pp. 87–88.
[144] We confirmed that the capex escalation factors prepared by Frontier Economics (Seqwater, sub. 9) are not applied (Seqwater, response to RFI 158). Forecast renewals capex for the Luggage Point AWTP appears to be the only capex line item that is escalated within Seqwater's bulk water pricing model itself. This expenditure is escalated by Seqwater's forecast CPI inflation.

implications for operating costs and concluded in each case that any relevant opex impacts are appropriately reflected in the opex base year.[145]

More broadly, Atkins identified limited evidence of Seqwater actively seeking out 'spend to save' opportunities. It considered there are opportunities for operating efficiencies through relatively simple capital initiatives that will likely deliver benefits quickly with short payback periods, including through energy efficiency and information technology initiatives.[146]

We consider that Seqwater has given reasonable consideration to opex–capex trade-offs in the context of the sampled capital projects. Seqwater said it will implement processes to ensure these opportunities are identified and explored, and adequate budget allocations are made for innovation and cost-saving projects.[147]

Interest during construction

We reviewed Seqwater's methodology for estimating and applying interest during construction (IDC) to capital projects with costs spanning more than one year. We found it is reasonable and consistent with the method applied in previous reviews.

Seqwater applied its proposed weighted average cost of capital (WACC) as the discount rate for calculating IDC. Consistent with our established approach, we use our estimated WACC in the IDC calculation (Chapters 6 and 7).

Allocation to declared irrigation services

Under the referral notice, costs associated with Seqwater's declared irrigation services are to be excluded from the expenditure forecasts, where irrigation-related costs are calculated consistent with the approach we adopted in our review of rural irrigation prices for 2020–24.

We have made the appropriate allocation of capital costs towards Seqwater's declared irrigation services.

5.4.2 QCA findings

Based on our review, we developed an alternative estimate of forecast capex for the 2022–23 to 2027–28 period (Table 23).

Table 23 QCA findings—alternative capex estimate for 2022–28 ($m, nominal, as commissioned)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***	***Total***
Seqwater's proposed capex—June 2021	298.4	139.2	287.5	164.5	177.1	284.6	1,351.3
Seqwater revised capex—January 2022	**297.5**	**138.0**	**286.1**	**163.6**	**175.2**	**282.4**	**1,342.8**
QCA adjustments							
Wivenhoe gates refurbishment	0.5	1.2	2.3	1.2	1.2	1.3	7.7

[145] Atkins draft report, appendix A.
[146] Atkins draft report, pp. 10, 23.
[147] Seqwater, sub. 15, p. 13.

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Lake Macdonald Dam upgrade—timing adjustment	–	–	(140.1)	–	155.6	–	15.5
South West Pipeline—double counting	(1.4)	–	–	–	–	–	(1.4)
Luggage Point renewals	(3.0)	(3.0)	(3.1)	(3.2)	(3.2)	(3.3)	(18.8)
QCA alternative capex estimate	**293.7**	**136.1**	**145.2**	**161.6**	**328.8**	**280.3**	**1,345.8**
Difference between QCA estimate and Seqwater proposal	(3.9)	(1.9)	(140.9)	(2.0)	153.6	(2.0)	3.0

Note: Values are subject to further modelling adjustments to reflect our position on the weighted average cost of capital in the estimation of interest during construction (Chapter 6). Totals may not add due to rounding.

Our estimated alternative capex allowance is not materially different from Seqwater's proposed allowance, as revised in January 2022. However, there are clear opportunities for Seqwater to realise further efficiencies during the 2022–28 period, which it has not yet quantified (section 5.4.1). In response to our draft report, Seqwater noted it has many process improvements underway and in planning, with additional areas of focus to explore further efficiencies.[148] Seqwater also said it would pursue 'spend to save' energy efficiency and solar electricity opportunities during the 2022–26 period, where it makes sense to do so.[149, 150]

We consider Seqwater's proposed capex of $1,342.8 million is a reasonable overall capex allowance within which Seqwater can operate for the remainder of the price path period, having regard to identified opportunities for efficiencies. This overall allowance should be sufficient to deliver a prudent and efficient capital program, and fund Seqwater's additional 'spend to save' investments, should it choose to undertake them during the period. Our position represents a conservative assumption about the scope for efficiencies when compared with Atkins' proposed efficiency adjustments.

Deliverability

Seqwater has realised significant capital underspends in the past two pricing periods, which can be largely attributed to deferral and reprioritisation of key projects. We have concluded that these deferrals were likely prudent in the circumstances and not clearly indicative of systemic weaknesses in planning and delivery processes.

For example, the Lake Macdonald Dam upgrade was deferred due to additional complexities identified during the initial procurement process that indicated costs would be significantly higher than expected. This prompted Seqwater to undertake further options analysis to identify alternative solutions before progressing.[151]

[148] Seqwater, sub. 15, p. 14.
[149] Seqwater, sub. 15, p. 13.
[150] For example, Seqwater's *Energy Efficiency Opportunities Register* includes 164 energy efficiency opportunities with the potential to save more than 37 GWh annually, or around 20 per cent of Seqwater's prevailing consumption, with corresponding opex savings of around $4 million per year (Seqwater, response to RFI 164 and 173).
[151] Seqwater, sub. 1, p. 57.

Seqwater acknowledged the need to strengthen its project delivery function and has recently established a 'Major Projects' function (Chapter 4) to support the delivery of the greater number of high-value and high-risk projects planned for the future.[152]

Seqwater's ongoing improvements to capital planning and delivery frameworks should also support delivery of the substantial forward capital program. We would expect to see these improvements embedded in Seqwater's processes at the next pricing review, along with efficiency benefits beginning to be realised and reflected in forecasts.

Based on our review, we find that Seqwater's capital forecast, while ambitious, is founded on generally good planning and governance processes. Seqwater is on a path to continued improvement of those processes. Notwithstanding some concerns regarding Seqwater's historical performance in spending its capital budget, the structural and process changes implemented by Seqwater are likely prudent responses to the scale of its upcoming capital program.

Moving forward, we suggest Seqwater implements more formal and comprehensive monitoring of actual capital expenditure, clearly documenting reasons for deferral of investments and divergences from forecasts. We note Seqwater has made some progress in this area.[153] In the interests of transparency and accountability, we consider this reporting should be subject to sign-off by Seqwater's board, made publicly available, and provided directly to Seqwater's bulk water customers.

More transparent reporting will give external stakeholders greater confidence in Seqwater's investment decisions and governance processes. Regular monitoring and reporting will also enhance Seqwater's own understanding and likely support improved forecasting and stronger justification of investments at subsequent regulatory reviews.

Assessment framework and incentives for prudent and efficient investment

Seqwater has generally robust capital planning processes and frameworks. It has demonstrated that it applies them appropriately and is committed to ongoing improvement. Given this, we consider the case for continuing to undertake extensive and interrogative reviews of forecast capital expenditure is becoming less clear.

In our view, it may be appropriate to reconsider the role of capex assessments in the future and how they can best foster accountability while presenting Seqwater with appropriate incentives.

We consider there are opportunities to improve the assessment and incentive frameworks for capex. This could include considering the potential role of ex post assessments, capital efficiency sharing mechanisms, reporting and monitoring, and customer engagement, for example. Ideally, the assessment framework should foster accountability for Seqwater and encourage a more acute focus on internal efficiency challenges through all stages of the project planning and delivery lifecycle. Importantly, Seqwater should be presented with appropriate incentives to invest where prudent to do so.

Assessments of forecast capex remain relevant and necessary to provide Seqwater with appropriate certainty and incentives to invest. However, we do not consider these exercises ought to strive for precision. Our preferred approach at this time is to establish a reasonable overall allowance for capital expenditure, within which Seqwater can deliver prudent investment, while providing flexibility to accommodate changing priorities over the pricing period.

[152] Seqwater, response to RFI 119.
[153] Seqwater, sub. 1, pp. 69–70.

Seqwater is best placed to define its capital program and manage its delivery. We expect that a prudent business would continually refine its capital program during the regulatory period and reallocate resources within its budget in response to new information and changing priorities. Variations from forecasts are to be expected, and these may be reasonable and indicative of prudent management responses to changing priorities or external drivers. With an appropriate capex assessment and incentive framework, these variances from forecast are more likely to be prudent and efficient.

Further explicit evidence of stakeholder endorsement of the capital program would also be persuasive in any future review of capex, be it forecast or ex post. Relevantly, stakeholders also highlighted the importance of an integrated approach to capital planning in co-ordination with retailer customers.[154] Urban Utilities said there is a need to consider the impacts of Seqwater's capital investments on the performance and costs of the downstream entities, and potential opportunities for sharing of costs with retailer customers.[155] We note that Seqwater has made progress in this area and is continuing to integrate customer and stakeholder engagement activities across various facets of its planning and operations.[156] Seqwater said it intends to work with its retailer customers on their infrastructure needs, identifying efficiencies and innovative strategies to defer expenditure and invest efficiently.[157]

Summary of QCA findings

We consider Seqwater's revised proposed total forecast capex allowance for the 2022–23 to 2027–28 of $1,342.8 million is a reasonable estimate of prudent and efficient capex.

However, we also consider that:

- Seqwater should investigate means of embedding processes for robust efficiency challenges in its capital planning and cost estimation processes
- Seqwater should, subject to any governance and commercial confidentiality issues, commence transparent and regular reporting of actual capital spend against forecast, detailing drivers and sub-drivers of investment, as well as providing detailed reasons for divergences in both cost and delivery timeframes
- there are opportunities to consider alternative assessment and incentive frameworks for capex to support ongoing prudent and efficient investment. We would welcome the opportunity to work with Seqwater, government and other stakeholders to progress this matter.

[154] Urban Utilities, sub. 25, p. 2.
[155] Urban Utilities, sub. 25, p. 2.
[156] Seqwater, sub. 1, pp. 31–34.
[157] Seqwater, sub. 15, p. 14.

6 REGULATORY ASSET BASE

6.1 Opening value of the regulatory asset base at 1 July 2022

The referral notice requests that we establish the opening regulatory asset base (RAB) at 1 July 2022 by rolling forward the opening RAB at 1 July 2017.[158]

Seqwater proposed an opening RAB at 1 July 2022 of $8,502.8 million (Table 24).

Table 24 Seqwater's proposed RAB roll-forward to 30 June 2022 ($m, nominal)

	2017–18	***2018–19***	***2019–20***	***2020–21***	***2021–22***
Opening RAB	8,465.7	8,470.5	8,475.4	8,251.9	8,474.9
plus capital expenditure	97.6	106.8	107.8	128.2	134.8
plus inflationary gain	145.6	143.2	(85.3)	352.6	154.9
less depreciation	238.4	245.0	246.0	257.8	261.8
Closing RAB	8,470.5	8,475.4	8,251.9	8,474.9	8,502.8

Notes: 2020–21 and 2021–22 reflect forecast values. Seqwater has calculated inflationary gain using rounded inflation rates. Totals may not add due to rounding.

Source: Seqwater June 2021 bulk water pricing model.

Table 25 provides our RAB roll-forward calculations for the period 2017–18 to 2021–22. The opening value of $8,465.7 million[159] at 1 July 2017 is adjusted for inflation, capital expenditure and depreciation over the period. This produces a closing value of $8,534.7 million at 30 June 2022, which will become the opening value at 1 July 2022.

Our approach to determine inflation, capital expenditure and depreciation over the period is explained below.

Table 25 QCA position—RAB roll-forward to 30 June 2022 ($m, nominal)

	2017–18	***2018–19***	***2019–20***	***2020–21***	***2021–22***
Opening RAB	8,465.7	8,470.6	8,475.8	8,248.5	8,482.1
plus capital expenditure	97.6	106.8	107.7	85.8	134.9
plus inflationary gain	145.7	143.4	(89.2)	408.7	184.9
less depreciation	238.4	245.0	245.9	260.8	267.2
Closing RAB	8,470.6	8,475.8	8,248.5	8,482.1	8,534.7

Notes: Inflationary gain, capital expenditure and depreciation for 2021–22 are forecasts only. Inflationary gain is calculated using unrounded inflation rates. Totals may not add due to rounding.

Source: QCA calculations.

[158] Referral notice, section C(7).

[159] Consistent with the referral notice, we have not sought to optimise the opening value of the RAB at 1 July 2017. See the referral notice, section C(6).

6.1.1 Inflationary gain

The opening value of the RAB is indexed each year by the inflation rate. We have indexed the RAB by applying actual inflation for the period 2017–18 to 2020–21 (see Table 26). Actual inflation is based on the Brisbane All Groups CPI index published by the Australian Bureau of Statistics (ABS). This is consistent with our past approach and the approach proposed by Seqwater in its June 2021 submission.[160]

As actual inflation is not available for 2021–22, we have applied a forecast inflation rate (see Table 26). Consistent with the referral notice, our forecast inflation rate is determined using the 40-day average of the forward inflation rate for the year, implied by traded zero-coupon Australian inflation swaps.[161] The forecast inflation rate has been determined by applying a 40-day averaging period to 30 June 2021.

We note that the approach to forecasting inflation in the referral notice is different to the approach set out in our position paper on forecasting inflation. The approach in our position paper would suggest a rate of 3.75 per cent for 2021–22.[162]

Table 26 Inflation rate (%)

	2017–18	***2018–19***	***2019–20***	***2020–21[a]***	***2021–22[b]***
Seqwater proposal	1.71	1.68	(1.00)	4.24	1.81
QCA position	**1.71**	**1.68**	**(1.05)**	**4.93**	**2.16**

a *Seqwater's proposal reflects indicative forecast inflation for 2020–21. Actual inflation for 2020–21 became available after Seqwater's June 2021 submission.* ***b*** *Reflects forecast inflation, as actual inflation for the year is not available.*

Source: ABS, Consumer Price Index, Australia, December 2021, cat. no. 6401.0, Table 1: All Groups, Index Numbers and Percentage Changes; QCA analysis; Bloomberg AUD Inflation Swap Zero Coupon 1Y–10Y, accessed at Bloomberg Terminal, 4 March 2022.

We have made an adjustment to building block costs to deduct an amount equivalent to the inflationary gain in the RAB, as we apply a nominal rate of return on assets. This avoids the double counting of inflation that would otherwise occur from indexing the RAB by inflation and applying a nominal rate of return on assets that embodies the inflation rate.

6.1.2 Capital expenditure

Capital expenditure is added to the RAB. We have conducted an ex post prudency and efficiency assessment of Seqwater's actual capital expenditure for the period 2017–18 to 2020–21 (see Chapter 5), consistent with the referral notice.[163] The roll-forward of the RAB reflects our findings from this assessment. For 2021–22, where actual capital expenditure is not available, we have rolled forward the RAB to reflect forecast capital expenditure.[164]

6.1.3 Depreciation

Depreciation is deducted from the RAB. Consistent with the referral notice, we have calculated depreciation by applying the straight-line method and adopting the remaining useful lives of the

[160] Seqwater, sub. 1, p. 127.
[161] Referral notice, section C(9).
[162] QCA, *Inflation forecasting*, final position paper, October 2021.
[163] Referral notice, section C(7)(a).
[164] It is expected that actual expenditures incurred during 2021–22 will be considered at the subsequent pricing investigation, should the referral notice prescribe an ex post prudency and efficiency assessment. As such, we have not assessed the prudency or efficiency of these costs.

assets as applied in our 2018–21 review of Seqwater's bulk water prices.[165] We have accepted Seqwater's proposed asset lives for assets entering the RAB from 2017–18 to 2021–22, which are based on capital expenditure as commissioned (or forecast, in the case of 2021–22).

Separately, an allowance for depreciation is provided as part of the building block costs that are used to calculate the value of the RAB. This allowance means Seqwater can recover the cost of prudent and efficient capital investments over the useful life of the assets.

6.2 RAB roll-forward from 1 July 2022

Seqwater's proposed RAB roll-forward from 1 July 2022 is provided in Table 27.

Table 27 Seqwater's proposed RAB roll-forward ($m, nominal)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***
Opening RAB	8,502.8	8,696.6	8,745.0	8,957.9	9,049.9	9,151.9
plus capital expenditure	298.4	139.2	287.5	164.5	177.1	284.6
plus inflationary gain	163.4	184.0	206.4	214.9	219.6	225.5
less depreciation	268.0	274.8	281.0	287.4	294.6	302.5
Closing RAB	8,696.6	8,745.0	8,957.9	9,049.9	9,151.9	9,359.6

Notes: Inflationary gain is calculated using unrounded inflation rates. Totals may not add due to rounding.
Source: Seqwater June 2021 bulk water pricing model.

Table 28 provides our RAB roll-forward calculations from 1 July 2022. Our approach to determine forecast capital expenditure, inflation and depreciation over the period is explained below.

Table 28 QCA position—RAB roll-forward ($m, nominal)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***
Opening RAB	8,534.7	8,784.1	8,840.9	9,053.9	9,143.9	9,239.9
plus capital expenditure	297.4	137.9	285.7	163.4	175.1	282.1
plus inflationary gain	227.4	201.5	216.1	220.9	221.3	223.7
less depreciation	275.4	282.5	288.8	294.3	300.5	308.1
Closing RAB	8,784.1	8,840.9	9,053.9	9,143.9	9,239.9	9,437.6

Notes: Inflationary gain is calculated using unrounded inflation rates. Totals may not add due to rounding.
Source: QCA calculations.

6.2.1 Inflationary gain

The referral notice sets out the approach we are to apply to forecast inflation (see section 6.1.1).[166] Table 29 provides our forecast inflation rates as at 31 January 2022.

We note that the approach to forecasting inflation in the referral notice is different to the approach set out in our position paper on forecasting inflation.[167] We have provided the figures

[165] Referral notice, sections C(6), C(8).
[166] Referral notice, section C(9).
[167] QCA, *Inflation forecasting*, final position paper, October 2021.

that the approach in our position paper would produce for information purposes only (see Table 29).

Table 29 Forecast inflation rate (%)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Seqwater	1.89	2.10	2.32	2.38	2.40	2.43
QCA position (referral notice)	**2.62**	**2.28**	**2.41**	**2.42**	**2.40**	**2.38**
QCA position paper	*2.75*	*2.75*	*2.67*	*2.58*	*2.50*	*2.50*

Source: Seqwater, sub. 1, p. 49; QCA analysis; Bloomberg AUD Inflation Swap Zero Coupon 1Y–10Y, accessed at Bloomberg Terminal, 4 March 2022.

6.2.2 Capital expenditure

We have assessed forecast capital expenditure for the period 2022–23 to 2027–28, consistent with the referral notice (Chapter 5).[168] Forecast capital expenditure reflecting our findings from this assessment is added to the RAB in the year the project is commissioned.

6.2.3 Depreciation

We have applied the straight-line method to forecast depreciation for the period 2022–23 to 2027–28. We have accepted Seqwater's proposed asset lives for assets entering the RAB during this period.

Unitywater sought greater transparency regarding Seqwater's assumed asset lives and an assessment of whether the assumed lives and asset management practices were appropriate. Unitywater also considered that Seqwater's asset management practices should seek to extend asset lives and defer capex.[169]

We reviewed Seqwater's asset lives for the 2018 to 2021 period during our 2018 review and found them to be appropriate, subject to minor adjustments to reflect Seqwater's Asset Portfolio Master Plan (APMP).[170] We have seen no evidence during this review to indicate that Seqwater's remaining asset lives are no longer reasonable for the 2022–26 pricing period.

Moreover, we consider that asset lives should not generally be revised unless there is a compelling case to do so. This stability provides certainty across regulatory periods and presents Seqwater with appropriate long-term incentives to support efficient investment decisions.

We have found Seqwater's asset management practices to be robust and improving (see Chapter 5). We have seen no evidence that Seqwater applied inappropriately short asset lives that would lead to premature asset renewal and replacement. In some cases, we have seen evidence to the contrary where assets are appropriately 'sweated' or operated well beyond their design lives, for example monitoring and control systems (MCS) and information communication and technology (ICT) assets.[171]

Seqwater's APMP indicates that its renewals planning is informed not purely by assumed useful lives of assets, but by a range of considerations including asset condition inspections, engineering

[168] Referral notice, section C(5).
[169] Unitywater, sub. 23, p. 1.
[170] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 56.
[171] Atkins draft report, pp. 119, 110; Seqwater, response to RFI 106.

assessments and asset performance.[172] Seqwater's renewals planning also recognises factors that may extend the life of its assets; for example, the use of cathodic protection in pipelines, which can increase the effective life of pipelines by 10 years.[173]

For transparency, we have reproduced Seqwater's assumed asset lives by weighted-average remaining life of new capex and by asset type (Table 30 and Table 31).

Table 30 Seqwater's weighted-average remaining asset lives

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***
Capex ($m)[a]	297.5	138.0	286.1	163.6	175.2	282.4
Weighted-average remaining life of new capex (years)	66.19	63.57	102.81	64.60	61.87	68.37

a *Capex is presented on as-commissioned basis, including interest during construction.*

Sources: Seqwater January 2022 bulk water pricing model ('Capex Costs' sheet, rows 3130 and 3132).

Table 31 Seqwater's useful lives for depreciation, by asset type

Asset type	***Useful life (years)***
Dams	150
Pump stations	49
Water treatment plants	61.5
Pipelines	80
Information communication & technology)	10
Other	80
Reservoir	80
Natural	60
Desalination	61.5
Western corridor water	61.5
Buildings	59.9
Laboratory equipment	10
Recreation	20
Water quality facility	38
Weirs	80
Monitoring and control	19
Sewage treatment	61.5

Source: Seqwater January 2022 bulk water pricing model ('Capex Costs' sheet, rows 1536 and 1555).

[172] Seqwater, *Asset Portfolio Master Plan*, March 2021, p. 26.
[173] Seqwater, *Asset Portfolio Master Plan*, March 2021, p. 54.

7 RATE OF RETURN, WORKING CAPITAL AND TAX ALLOWANCE

7.1 Rate of return

The rate of return reflects the return expected by investors to compensate them for investing in a firm. In recommending bulk water prices for Seqwater, the referral notice requests that we determine a rate of return that reflects the benchmark weighted average cost of capital (WACC).[174]

The WACC is the weighted average of the expected costs of equity and debt, with the respective weights representing the shares of equity and debt in the capital structure of the firm. Under the terms of the referral notice, we were requested to determine the cost of equity, and apply Seqwater's cost of debt as advised by QTC.[175]

Seqwater's proposed WACC for the 2022–26 regulatory period is provided in Table 32. It reflects a capital structure of 60 per cent debt (40 per cent equity), a cost of equity of 7.47 per cent, and the cost of debt advised by QTC.

We have considered whether Seqwater's proposed WACC is reasonable. In assessing Seqwater's proposed WACC, we have sought to understand the risks Seqwater faces providing bulk water services (section 7.1.1). We have considered the individual parameters underlying the WACC through our bottom-up assessment (section 7.1.2) and also applied a top-down assessment of the resulting WACC (section 7.1.3).

Overall, we do not consider that Seqwater's proposed WACC is reasonable. We are of the view that it will overcompensate Seqwater for the commercial and regulatory risks it faces.

Our position on the appropriate WACC to apply to Seqwater is provided in Table 32. Our WACC estimate reflects a capital structure of 60 per cent debt (40 per cent equity), a cost of equity of 6.86 per cent, and the cost of debt advised by QTC.[176]

Table 32 WACC 2022–26 (%)

	2022–23	***2023–24***	***2024–25***	***2025–26***
Seqwater proposed—June 2021	5.70	5.59	5.48	5.40
QCA position	**5.53**	**5.38**	**5.26**	**5.17**

Source: Seqwater, sub. 1, pp. 47,49; QCA analysis.

7.1.1 Risk and the regulatory framework

The rate of return should compensate Seqwater for the risks it faces. For this reason, Seqwater's risk profile is a relevant consideration in our assessment of its WACC.

[174] Referral notice, section C(10).
[175] If our determined cost of equity is lower than Seqwater's cost of debt as advised by QTC, the referral notice (section C(10)(b)) requests that the rate of return reflect the cost of debt advised by QTC.
[176] QTC revised its cost of debt estimates following our draft report. Our position reflects the updated cost of debt estimates.

Seqwater is a monopoly provider of bulk water services across south east Queensland. It delivers water to a predominately residential customer base of over three million people.[177] These features provide Seqwater with relatively stable demand for its services.

Seqwater is subject to regulation, with bulk water prices set by the government. Historically, the government has sought price recommendations from us, in accordance with the terms of the relevant referral notice.[178] We consider that the referral notice includes several mechanisms that limit Seqwater's exposure to risk:

- Revenue protection mechanism—Seqwater is guaranteed to recover its allowable revenue from the previous regulatory period. This occurs through an end-of-period adjustment, through which it will either recoup any under-recovery, or return any over-recovery, of revenue. Such a mechanism removes Seqwater's exposure to the risk that forecast water consumption may not materialise.
- Cost pass-through mechanisms—there are a number of circumstances where Seqwater is able to recover its actual costs, should these differ from the estimated costs used to calculate its allowable revenue. This may occur through an end-of-period adjustment, or a mid-period review should there be a material change in costs associated with a review event. This reduces Seqwater's exposure to the risk that costs may change for reasons which are outside of its control.
- Capital expenditure recovery mechanisms—Seqwater is guaranteed to recover a return on and of its asset base, including past and present capital expenditure. The regulatory asset base (RAB) cannot be optimised, thereby protecting existing assets. The RAB is rolled forward to include actual capital expenditure incurred in the previous regulatory period, subject to a prudency and efficiency review.
- Drought allowance mechanism—subject to government consideration, the drought allowance could be applied during the regulatory period, should Seqwater be operating at or below the 'drought response' trigger. This could limit Seqwater's exposure to drought-related risks.

Overall, the primary risk exposure to Seqwater relates to controlling its operating costs within approved allowances. Seqwater is also exposed to risks associated with operating within a relatively complex water security policy planning framework. We acknowledge that Seqwater's exposure to risk is related to the terms of any future referral notices.

7.1.2 Bottom-up WACC assessment

Seqwater engaged Frontier Economics (Frontier) to provide advice on the individual parameters underpinning its proposed WACC. However, in some cases, Seqwater did not adopt Frontier's advice, instead proposing estimates consistent with our final report for the 2018–21 regulatory period.

Our analysis of the individual WACC parameters is provided below.

[177] Seqwater, sub. 1, p. 12; Incenta, *Estimating Seqwater's firm-specific WACC parameters for the 2018–21 bulk water price investigation*, November 2017, p. 13.

[178] We have provided recommendations to the Queensland Government on Seqwater's bulk water prices since the period beginning 1 July 2015.

Capital structure

The capital structure of a firm refers to the relative proportions of debt and equity that together finance the firm's activities. Gearing refers to the proportion of debt comprising the total value of the firm's assets.

Seqwater proposed a gearing estimate of 60 per cent for the 2022–26 regulatory period.[179] The advice from Frontier concluded that 60 per cent gearing remains the standard estimate applied to regulated water businesses in Australia, and the specific circumstances leading to a lower gearing for the Gladstone Area Water Board (GAWB) were not applicable to Seqwater.[180]

Seqwater's proposed gearing estimate is consistent with the gearing estimate applied in the 2018–21 regulatory period. In the absence of evidence suggesting a material change in Seqwater's risk profile, we consider it appropriate to maintain the current level of gearing. A gearing estimate of 60 per cent remains consistent with recent regulatory decisions for Australian water businesses.[181]

We do not consider that the lower level of gearing applied to GAWB is appropriate for Seqwater. We note the different risk profiles of the two businesses—in particular, GAWB has a relatively small customer base and relies on a limited number of industrial customers for a large portion of its revenue.[182]

Cost of equity

The cost of equity is the rate of return required by shareholders for investing in a firm. It is commonly determined as the sum of the rate of return on a risk-free asset (the risk-free rate) plus the premium that investors require to accept the risks associated with the asset's returns (the market risk premium (MRP) multiplied by the equity beta).

Seqwater proposed a cost of equity of 7.47 per cent, reflecting:[183]

- a risk-free rate of 1.72 per cent[184]
- an MRP of 7.5 per cent
- an equity beta of 0.766.

Seqwater provided updates to the risk-free rate and MRP as part of its response to our draft report.[185] These updates are addressed below.

Risk-free rate

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

[179] Seqwater, sub. 1, p. 47.
[180] Seqwater, sub. 1, p. 47; Seqwater, sub. 5, pp. 6–7.
[181] For example, IPART, *Review of prices for Sydney Water*, final report, June 2020, p. 257; ESCOSA, *SA Water regulatory determination 2020*, final determination: statement of reasons, June 2020, p. 209; ICRC, *Regulated water and sewerage services prices 2018–23*, final report, May 2018, p. 87; OTTER, *2018 Water and sewerage price determination investigation*, final report, May 2018, p. 172.
[182] QCA, *Gladstone Area Water Board price monitoring 2020–25 Part A: Overview*, final report, May 2020, p. 82.
[183] Seqwater, sub. 1, p. 49.
[184] As of 31 March 2021.
[185] Seqwater, sub. 15, pp. 7, 8.

Seqwater proposed an indicative 10-year risk-free rate of 1.72 per cent, reflecting the 20-day average of 10-year Commonwealth Government bond yields to 31 March 2021.[186] It updated this estimate following our draft report, which also provided a risk-free rate of 1.72 per cent.[187]

Seqwater's proposed methodology to estimate the risk-free rate is consistent with our current approach, as outlined in our rate of return review.[188]

We have updated the risk-free rate to reflect the 20-day averaging period to 31 January 2022. This update provides a risk-free rate of 1.89 per cent.

Seqwater noted that the risk-free rate fell to historically low levels following the covid-19 crisis. It stated that our approach to estimating the cost of equity assumes a direct relationship between Commonwealth Government bond yields and the required return on equity. It considered the veracity of this assumed relationship highly important to ensuring that the regulated rate of return aligns with investor expectations and noted that the AER is currently proposing to reconsider the assumed relationship.[189]

We have considered the prevailing market conditions, including the implications of a low risk-free rate in our top-down assessment of the overall WACC (see section 7.1.3).

Market risk premium

The MRP is the additional return an investor requires to be compensated for the risk of investing in a market portfolio of risky assets, relative to purchasing a risk-free asset.

Seqwater proposed an MRP of 7.5 per cent for the 2022–26 regulatory period, reflecting advice from Frontier. Frontier updated this estimate to 7.19 per cent following our draft report.[190]

Frontier's estimates of the MRP were derived by applying equal weight to:

- an estimate of the MRP that is based on long-run historical data applying equal weight to the Ibbotson and Wright methods
- an estimate of the MRP that is based on current forward-looking market data applying a standard forward-looking dividend growth model (DGM).

Frontier raised concerns with the application of the Ibbotson method to produce our primary estimate of the MRP.[191] It primarily critiqued the relationship between the risk-free rate and MRP implied by the Ibbotson method and the method's limitations in capturing prevailing market conditions.[192] Our consideration of these detailed matters can be found in our rate of return review.[193]

Consistent with the conclusions from our rate of return review, we acknowledge that the MRP is likely to vary over time and applying the Ibbotson method generally results in the Capital Asset Pricing Model-based cost of equity varying one for one with movements in the risk-free rate. As a result, the Ibbotson method may not result in a reasonable estimate of the cost of equity under

[186] Seqwater, sub. 1, p. 45.
[187] Seqwater, sub. 15, p. 7.
[188] QCA, *Rate of return review*, final report, November 2021, pp. 83–86.
[189] Seqwater, sub. 1, pp. 44–45.
[190] Seqwater, sub. 15, p. 8.
[191] Seqwater, sub. 16, p. 4.
[192] Seqwater, sub. 16, pp. 10–19.
[193] See QCA, *Rate of return review*, final report, November 2021, pp. 56–59.

some market conditions—such as when there is heightened investor risk aversion, market volatility or abnormal interest rates.

However, rather than adjust the MRP itself in such circumstances, our preference is to adjust the overall WACC as part of our top-down approach. For this review, our top-down assessment (section 7.1.3) has considered prevailing market conditions. This consideration has helped inform our view on whether the overall WACC is reasonable.

Given this assessment, we consider that the Ibbotson method remains appropriate to apply in determining our bottom-up estimate of the WACC. As such, we have applied an MRP of 6.5 per cent.

Beta

The equity beta measures the movement of the equity return of a business with the market return. It captures both the underlying systematic risk of the entity (relative to the risk of the market) and the risk of leverage to equity holders. The asset beta (or unlevered equity beta) is the beta of a firm with no debt, and it measures the underlying systematic risk of the entity.

In the interests of regulatory certainty and predictability, Seqwater proposed an asset beta of 0.4, consistent with our final report for the 2018–21 regulatory period. Consistent with our previous approach, it then applied the Conine levering formula to determine an equity beta of 0.766.[194]

Seqwater considered beta estimation imprecise and prone to statistical error. It stated that it would only propose a change to its beta estimate if there was sufficient evidence to suggest that the systematic risk of the efficient benchmark firm had changed, having regard to evidence from appropriate comparators.[195] However, it noted that advice from Frontier supported an increase to its equity beta, as did our recent decision to accept an increase to GAWB's asset beta from 0.4 to 0.45.[196]

We consider that Seqwater's exposure to systematic risk is relatively limited. Seqwater remains a monopoly provider of bulk water services to a predominately residential customer base in south-east Queensland. As an essential good, residential water consumption is shown to have relatively low-income elasticity and is unlikely to be materially influenced by market-wide factors.[197] Seqwater currently has relatively stable cash flows through mechanisms that protect revenue and pass costs through to customers. More detail on Seqwater's risk profile is provided in section 7.1.1.

We have sought to estimate a beta reference point, to help guide our views on the appropriate equity beta for Seqwater. Having considered Seqwater's exposure to systematic risk, we are of the view that energy and water businesses provide appropriate comparator firms. We have adopted the sample of energy and water businesses outlined in our rate of return review.[198] This

[194] Seqwater applied a debt beta of 0.12, gearing of 60 per cent and an estimate of gamma equal to 0.47 (sub. 1, p. 47).
[195] Seqwater, sub. 1, p. 46.
[196] Seqwater, sub. 1, p. 46.
[197] For example, see Incenta, *Estimating Seqwater's firm-specific WACC parameters for the 2018–21 bulk water price investigation*, November 2017, pp. 13–14.
[198] Our approach to determining the sample of comparator firms is outlined in our rate of return review: QCA, *Rate of return review,* final report, November 2021, pp. 66–82, 105–106.

produces an average and median asset beta of 0.39 and an equity beta of 0.795[199] as a reference point.[200]

We acknowledge Seqwater's interest in providing regulatory certainty and predictability. After considering Seqwater's risk profile and our estimated reference point of 0.795, we are of the view that Seqwater's proposed equity beta of 0.766 is reasonable.

Gamma

Gamma is the value to investors of distributed dividend imputation credits. These are credits the Australian tax system allows companies to provide to their shareholders to reflect company taxes paid on profits that are distributed as dividends.

Seqwater initially proposed to maintain a gamma value of 0.47.[201] However, Seqwater subsequently adopted our current gamma estimate of 0.484.[202] This estimate reflects the approach outlined in our recent rate of return review.[203]

Cost of debt

The cost of debt is the cost to a firm of servicing and raising debt from a range of lenders. Seqwater proposed a cost of debt consistent with advice from QTC.[204]

In accordance with the terms of the referral notice, we have applied Seqwater's cost of debt as advised by QTC, which decreases over the regulatory period.

Following our draft report, Seqwater submitted updated cost of debt estimates provided by QTC,[205] which we have applied in this final report (Table 33).

Table 33 Seqwater's cost of debt, as advised by QTC

	2022–23	***2023–24***	***2024–25***	***2025–26***
Initial cost of debt	4.52	4.34	4.15	4.02
Updated cost of debt	**4.65**	**4.40**	**4.20**	**4.05**

Source: Seqwater, sub. 1, p. 47; Seqwater, sub. 15, p. 8.

We note that the cost of debt set out under the terms of the referral notice differs from the approach we have outlined in our rate of return review. The latter would produce an indicative cost of debt of 4.98 per cent at 31 January 2022.[206]

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[199] Applying a debt beta of 0.12 and gearing of 60 per cent.

[200] Our approach to estimating the equity beta applies the Brealey-Myers levering formula. This approach is consistent with the preferred approach by Frontier in its advice on the equity beta for Seqwater. Reasons for adopting this approach are outlined in our rate of return review: QCA, *Rate of return review*, final report, November 2021, pp. 78–80.

[201] Seqwater did note that this was not its preferred approach. It considered the appropriate approach to be consistent with advice provided by Frontier, resulting in a gamma estimate of 0.25 (Seqwater, sub. 1, pp. 47–48).

[202] Seqwater, sub. 15, p. 9.

[203] Details on our approach are provided in our rate of return review: QCA, *Rate of return review*, final report, November 2021, pp. 87–94.

[204] Seqwater, sub. 1, p. 47.

[205] QTC's updated cost of debt estimates were presented on 21 January 2022 (Seqwater, sub. 17).

[206] This is based on the average of 12-monthly observations. It should be noted that our approach allows entities flexibility to nominate an averaging period of a chosen length and timing, where the averaging period nominated by the entity is 'locked in' for each year within the trailing average at the start of a regulatory period. Our indicative cost of debt includes debt-raising costs equal to 10 basis points.

7.1.3 Top-down WACC assessment

A top-down assessment allows us to exercise our judgement to determine whether the overall WACC is reasonable, noting there may be cases where our bottom-up estimate of the WACC does not appropriately compensate Seqwater for the commercial and regulatory risks it faces.

Seqwater supported the use of a top-down approach to assist in assessing the reasonableness of the WACC.[207]

As noted in our rate of return review, we do not automatically adjust our bottom-up estimate of the WACC at each review. Rather, we consider whether circumstances exist at the time that require an adjustment, in order to provide a reasonable overall WACC.[208]

In conducting our top-down assessment, we may consider a range of factors. The focus of our top-down assessment is the reasonableness of the total return in the circumstances, not the appropriateness of individual parameter values.[209]

For example, our top-down assessment does not explicitly consider the strengths and weaknesses of the Ibbotson method.[210] Rather, it acknowledges that our bottom-up estimate of the WACC may not fully account for circumstances where there is heightened investor risk aversion, market volatility or abnormal interest rates, by considering prevailing market conditions, among other factors, to inform our view on the reasonableness of the overall WACC.

Considering the WACC values of other regulated energy and water businesses

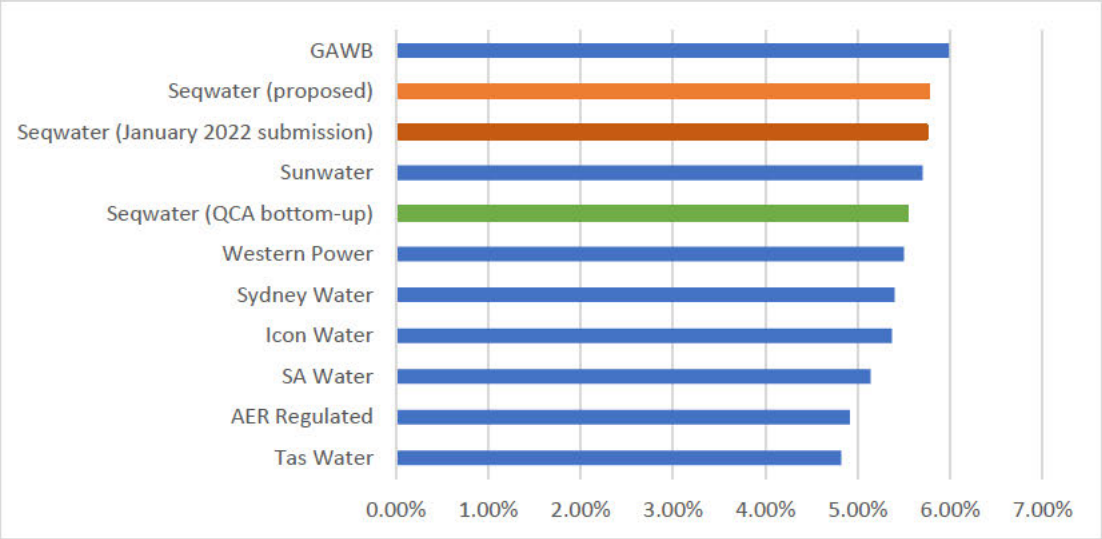
Consistent with the rate of return review, we have considered recent WACC decisions by other Australian regulators for energy and water businesses. We have compared these recent WACC decisions with Seqwater's WACC.

Some caution should be taken when interpreting this comparison.[211] For this review, the outcome of our comparison is not a key determinant in deciding whether Seqwater's overall WACC is reasonable. Rather, the outcome is a guide and is considered alongside a range of other factors (discussed below) to inform our view on a reasonable WACC for Seqwater.

Our comparison of WACCs from other recent regulatory decisions with Seqwater's WACC is provided in Figure 9.

[207] Seqwater, sub. 15, p. 7.
[208] QCA, *Rate of return review*, final report, November 2021, p. 18.
[209] QCA, *Rate of return review*, final report, November 2021, p. 20.
[210] Frontier stated that the shortcomings of the Ibbotson method for estimating the MRP should be recognised as part of the top-down analysis (Seqwater, sub. 16, p. 23). The strengths and limitations of the Ibbotson method were considered in detail in our rate of return review. This is explained in our discussion on the bottom-up estimate of the WACC (section 7.1.2).
[211] Various assumptions have been made and the comparison may be impacted by firm-specific factors.

Figure 9 Normalised WACC—comparison of relevant regulated energy and water businesses across Australia (normalised at 31 January 2022)



Notes: When interpreting normalisation results, it should be noted that various assumptions have been made. For example, uncertainty around the cost of debt methodology applied by other regulators has meant that in many cases, our best estimate of the cost of debt reflects the most recently published estimate. Note that the normalised WACC estimates for GAWB and Sunwater reflect our current approach to estimating the risk-free rate and cost of debt, as outlined in our rate of return review. The *WACC estimates* for Seqwater *are for the period 2022–23.*

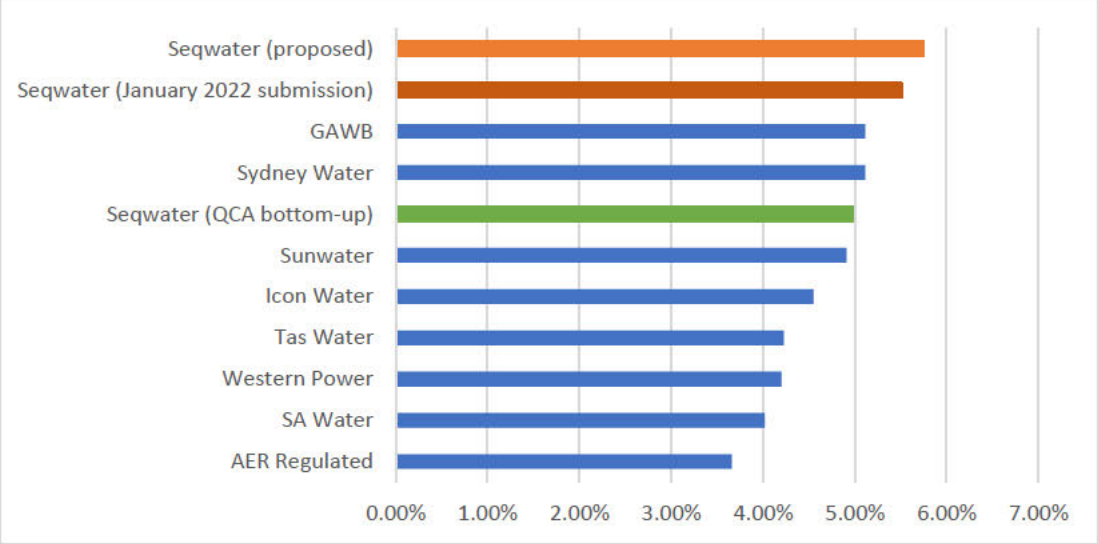
Source: Various regulatory decisions; IPART, WACC model, spreadsheet, February 2022, viewed 25 February 2022; QCA calculations.

Our comparison of normalised WACCs shows that for the first year of the regulatory period, our bottom-up estimate of Seqwater's WACC is not an outlier but sits closer to the upper end of the range of comparator businesses.

Seqwater's proposed WACC also sits at the upper end of the range, above our bottom-up estimate of the WACC. This remains the case when Seqwater's proposed WACC is adjusted to account for its update of parameters following the draft report—represented by Seqwater (January 2022 submission) in Figure 9.

We note that Seqwater has proposed an equity margin (the cost of equity less the risk-free rate) of 5.75 per cent, which is the largest of its comparators. Its January 2022 submission sits 40 basis points above the next largest equity margin of 5.11 per cent (see Figure 10).

Figure 10 Equity margin—comparison of relevant regulated energy and water businesses across Australia



Source: Various regulatory decisions; IPART, WACC model, spreadsheet, February 2022, viewed 25 February 2022; QCA calculations.

Frontier stated that a more relevant comparison is the total allowed market return (risk-free rate plus MRP) across regulators.[212] When applying an equity beta of one, this comparison shows that our bottom-up estimate of Seqwater's cost of equity (8.38%) is the median of the group. Seqwater's proposed WACC (and January 2022 submission) sit at the upper end of the range of comparator businesses.

Prevailing market conditions

In conducting our top-down assessment of the overall WACC, we have assessed prevailing market conditions. This was identified as a relevant consideration in our rate of return review, where we noted there may be certain market conditions where our bottom-up estimate does not provide a reasonable overall WACC.

For this review, to assist in our consideration of prevailing market conditions, we have had regard to the factors below.

Australian S&P 200 volatility index

In volatile markets, there may be heightened risk aversion, and investors may require a greater risk premium than under normal circumstances. This is a relevant consideration when assessing whether our bottom-up estimate of the overall WACC is reasonable.

To consider the prevalence of market volatility and risk aversion in the current market, we have had regard to the Australian S&P 200 volatility index (VIX), which calculates the amount of volatility expected in the Australian stock market over the proceeding 30 days.

We have considered the three-month average of the Australian S&P 200 VIX to 31 January 2022[213], which provides a reading of 13.33. Readings below 15 are typically considered bullish and indicate low volatility.[214]

[212] Seqwater, sub. 16, p. 25.
[213] This date is consistent with date applied to estimate the risk-free rate and inflation in our review.
[214] Market Index, *S&P/ASX 200 VIX index*, 2022, viewed 31 January 2022.

We acknowledge Frontier's concerns that the Australian S&P 200 VIX is focused on the short term and may not directly provide information on the price that investors require, from time to time, for bearing risk.[215] However, this does not mean it is not informative of prevailing market conditions, when considered alongside other factors.

Historical risk-free rate

In considering whether our bottom-up estimate of the overall WACC is reasonable, we recognise it is not necessarily the case that the cost of equity always moves in lockstep with the risk-free rate. As noted in our rate of return review, there may be cases where the cost of equity exhibits some stickiness with respect to changes in the risk-free rate, particularly when changes in the risk-free rate are relatively large in magnitude and have occurred relatively recently.[216]

To assist in understanding movements in the risk-free rate, we have considered the current risk-free rate against the historical averages, both over a five-year and 10-year period.

The risk-free rate, estimated using the using 10-year Commonwealth Government bond yields, has trended upwards since our draft report. The current risk-free rate of 1.89 per cent[217] is above the five-year average of 1.84 per cent, though it remains below the 10-year historical average of 2.50 per cent.

From this analysis, we cannot conclude that recent movements in the risk-free rate would imply a significant movement in the current cost of equity.

Dividend growth model estimate of the MRP

The DGM is a forward-looking method that relies on current information and forecasts to estimate the MRP.

As detailed in our rate of return review, issues around the DGM's sensitivity to parameter inputs and its large estimation variance means we have not applied this method to determine our bottom-up estimate of the MRP.

However, recognising that the DGM may be a good directional predictor of future returns data, we consider that the DGM may be relevant in informing our consideration of prevailing market conditions.

Our current estimate of the MRP, using the DGM, is 6.9 per cent. We have relaxed the mean-reverting risk-free rate assumption applied in previous reviews.[218] We note that doing so will tend to reduce the volatility of the estimates from the model.[219]

The DGM estimate is greater than that produced by the Ibbotson method and has increased slightly since our draft report (6.7 per cent). However, we do not consider that this difference represents a strong indication that investors require a greater risk premium in prevailing market conditions.

[215] Seqwater, sub. 16, p. 26.
[216] QCA, *Rate of return review*, draft report, June 2021, p. 51.
[217] Set at 31 January 2022.
[218] We note that this should assist in easing Frontier's concerns with our specification of the DGM. See Seqwater, sub. 16, p. 25 and sub. 3, pp. 31–34.
[219] QCA, *Rate of return review*, final report, June 2021, p. 63.

7.1.4 Conclusion

We do not consider Seqwater's proposed WACC to be reasonable. Seqwater's approach to estimating the WACC produces a WACC that is 16 basis points above our bottom-up WACC estimate of 5.53 per cent.[220] We do not consider this difference to be justified, on the basis that:

- we have assessed Seqwater's risk profile (section 7.1.1), and from this assessment, it is not clear that Seqwater requires additional compensation for the risks it faces above that provided through our bottom-up estimate of the overall WACC
- our assessment of prevailing market conditions did not identify circumstances that warrant an adjustment to the bottom-up estimate of the overall WACC.

For these same reasons, we do not consider any adjustment to our bottom-up estimate to be appropriate in this instance. We note that our consideration of recent WACC decisions by other Australian regulators with similar risk profiles provides no indication that our bottom-up estimate of the WACC is an outlier.

Our position is that the appropriate WACC to apply to Seqwater is our bottom-up estimate. This is a WACC of 5.53 per cent in 2022–23, decreasing to 5.17 per cent in 2025–26.

7.2 Return on assets and working capital allowance

The referral notice requests that we apply the WACC to calculate the return on assets, including working capital.[221]

7.2.1 Return on assets

The return on assets is calculated by applying the WACC to the regulated asset base. Our position is provided in Table 34. Our allowance differs to Seqwater's, due to the differences in the WACC and our RAB findings (see Chapter 6).

Table 34 Return on assets ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater proposed— June 2021	492.9	489.8	486.8	487.7	485.5	491.2	2,934.0
QCA position	**480.4**	**476.5**	**472.8**	**472.6**	**469.2**	**465.6**	**2,837.1**

Note: Excludes working capital.

Source: Seqwater June 2021 bulk water pricing model; QCA analysis.

7.2.2 Working capital requirement

Seqwater stated that its working capital requirement for the 2022–26 regulatory period was calculated applying the approach used in its 2018–21 review.[222]

Unlike some regulators, such as the Australian Energy Regulator, we typically provide regulated businesses with a working capital allowance to compensate for delays between the delivery of regulated goods or services and payment received for those goods or services. The working capital requirement is calculated by applying the WACC to the working capital balance.

[220] For the period 2022–23. The WACC will change over the regulatory period, reflecting differences in the cost of debt applied. In considering this difference, it should also be noted that Seqwater's proposed WACC reflects the lower cost of debt applied at the time of its June 2021 submission.

[221] Referral notice, section A(2)(a)(ii).

[222] Seqwater, sub. 1, p. 49.

Seqwater's proposed working capital balance reflects its accounts receivable, plus inventory, minus accounts payable, where:

- accounts receivable = total revenue x days receivable / days in a year = total revenue x 45 / 365
- inventory = operating expenditure x days in inventory / days in a year = operating expenditure x 3 / 365
- accounts payable = operating expenditure x days payable / days in a year = operating expenditure x 30 / 365.

We accept Seqwater's proposed approach, noting it remains consistent with the approach applied in previous reviews of Seqwater's bulk water prices.

We have confirmed that Seqwater's calculations produce a working capital requirement consistent with this approach. We have also confirmed that the payment timeframes for water retailers remain unchanged in the bulk water contracts.

Our position on working capital requirement is provided in Table 35. It differs from Seqwater's proposed working capital requirement, due to differences in the WACC, total revenue (see Chapter 10) and operating expenditure (see Chapter 4).

Table 35 Working capital allowance ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater proposed—June 2021	7.1	7.6	8.2	8.9	9.2	9.6	50.7
QCA position	**6.7**	**6.8**	**7.0**	**7.3**	**7.5**	**7.7**	**42.9**

Source: Seqwater June 2021 bulk water pricing model; QCA analysis.

7.3 Tax allowance

We provide an allowance for firms to meet their forecast tax liabilities. Seqwater is required to make tax equivalent payments as a participant in the National Tax Equivalent Regime, consistent with Queensland's obligations under the 1995 Competition Principles Agreement.[223] Tax liabilities, including tax equivalent payment liabilities, are legitimate costs that should be recovered through bulk water prices.

Our aim is to provide a tax allowance that reflects the efficient costs of a firm meeting its tax obligations, based on the cost and revenue allowances we provide. We provide an explicit allowance for tax, because this is consistent with our approach of using a nominal post-tax rate of return (see section 7.1). To calculate the allowance, we applied the corporate tax rate—adjusted for the value of dividend imputation credits (gamma)—to taxable income. This approach required our consideration of forecast revenues and tax deductions (such as operating costs, tax depreciation, interest expenses and accumulated tax losses, if any).

Seqwater submitted that the tax allowance should be determined by:

[223] Council of Australian Governments, *Competition Principles Agreement*, 11 April 1995 (as amended to 13 April 2007), cl. 3. To meet competitive neutrality principles, the regime notionally applies the tax laws to government owned businesses as though they were subject to federal income tax (see the Australian Taxation Office website and Seqwater, *Annual Report 2020–21*, September 2021, p. 47).

- using forecast revenue (including price path debt repayments) in the taxable income calculation
- limiting the recognition of tax losses to those accrued since 2013 (although it also said there may be an argument to limit recognition to losses accrued since 2018).[224]

Assessment of Seqwater's proposal

As the price path is designed to smooth price increases over a 20-year period from 2008 to 2028, tax losses that accrue in the earlier years of the price path (when revenue is lower than costs and the price path debt is accumulating) can be carried forward to reduce tax payable in the later years (when revenue is greater than costs because of price path repayments).[225] Seqwater's proposal to use forecast revenue, without using 2008 as the starting point for the calculation of tax losses, results in a tax allowance that is inefficiently high.[226] The proposal would deliver a windfall gain, because Seqwater would keep the benefit of tax losses accrued from 2008 to 2013, instead of using those losses to reduce high taxable income in the price path debt repayment phase.

A standard regulatory tax calculation would reflect forecast revenue. It is not possible to adopt the standard approach in this specific instance, because we do not have access to the extensive data required to estimate tax losses accrued in the early years of the price path (2008 to 2013). However, an approach that instead reflects forecast costs (i.e. forecast revenue excluding price path debt accruals/repayments) would provide a reasonable estimate of the efficient tax allowance, because the price path is expected to provide Seqwater with sufficient revenue to recover costs over the 20-year price path period. A cost-based approach does not generate the significant tax losses generated under a revenue-based approach, so it limits the distortion caused by our inability to take account of tax losses accrued from 2008 to 2013.

In summary, and consistent with our position in the draft report, we consider that an approach that reflects forecast costs and recognises tax losses accrued since 2013 is more consistent with our aim of providing an efficient tax allowance than Seqwater's proposed approach. We address the specific elements of Seqwater's proposal in more detail below.

Estimating forecast revenue

Seqwater submitted that an approach based on forecast revenue was more appropriate, because an approach based on forecast costs would deliver a tax allowance that was too low, since it ignored revenue received to cover debt repayments in the later years of the price path.[227]

If we adopted an approach based on forecast revenue, we would need to offset taxable income in the later years of the price path by tax losses generated in the early years. Otherwise, the tax allowance would be inefficiently high, because it would not reflect Seqwater's ability to offset higher taxable income in the debt repayment phase by tax losses accrued in the debt accumulation phase.

In our 2018 review, we identified that a revenue-based approach would require extensive data to estimate tax losses accrued before 2013. This would include establishing a RAB and tax asset

[224] Seqwater, sub. 1, pp. 50–52, sub. 15, pp. 10–11.
[225] Accrued losses generated in the under-recovery phase will not perfectly offset tax payable in the over-recovery phase because losses can only be carried forward in nominal terms, which means their value diminishes over time.
[226] Urban Utilities was concerned about the upward pressure put on prices by using a total revenue approach (sub. 13, p. 2).
[227] Seqwater, sub. 1, pp. 50–51, sub. 8, pp. 13–14.

base at the start of the price path in 2008, even though we were asked to accept the RAB as at 1 July 2013 (as advised by government) for the 2015 review.

Seqwater's 2020–21 annual report identifies tax losses of $3,273 million being carried forward as at 30 June 2021.[228] However, it would not be appropriate to use Seqwater's actual or reported tax losses, because our aim is to determine an efficient tax allowance, not to reflect a firm's actual tax costs. Practically, it would also be difficult to isolate losses generated from selling bulk water from losses generated from Seqwater's other activities, as well as to identify any tax impacts resulting from restructuring the bulk water sector, including changes in asset ownership.

As a result of these limitations, our position is to use forecast costs (i.e. forecast revenue excluding price path debt accruals/repayments) as a proxy for forecast revenue. A cost-based approach does not generate the significant tax losses generated under a revenue-based approach, which limits the distortion caused by our inability to take account of tax losses accrued from 2008 to 2013.

Treatment of tax losses

Seqwater submitted that there was an argument that we should only recognise tax losses accumulated since 2018, although it proposed to recognise tax losses accrued since 2013 to mitigate price impacts.[229]

Seqwater noted that we were not asked to include a tax allowance until our 2018 review. It went on to argue that this was equivalent to assuming it was exempt from paying tax before 2018, meaning that any tax losses generated should be ignored. Previous referral notices did not preclude the inclusion of a tax allowance, nor did they indicate that we should assume Seqwater was exempt from paying tax before 2018.[230] While we did not provide an allowance for tax in our 2015 review, this was because the rate of return reflected the cost of debt, rather than a WACC, which arguably was inconsistent with the Competition Principles Agreement. Under a cost of debt rate of return, Seqwater was not expected to pay tax, as tax losses accrued in the early life of assets (when tax depreciation exceeds regulatory depreciation) could be used to reduce tax payable in future (when regulatory depreciation exceeds tax depreciation).[231]

Seqwater went on to argue that the source of tax losses before 2018 reflected a government policy decision to set prices below efficient costs. Seqwater specifically referred to the decision to apply a cost of debt return. It said that accounting for tax losses generated by uneconomic policy decisions prolonged the effects of those decisions beyond 2018, when the intention was for prices to reflect efficient costs, including the decision to move to a WACC rate of return. However, the major source of tax losses was the design of the price path (as discussed above), not the decision to apply a cost of debt rate of return.

Even if we accepted that tax losses were driven by uneconomic policy decisions, we have not received any advice from the government that Seqwater should keep the benefit of any tax losses generated by those decisions. We also note Seqwater's view that accepting its arguments may require a retrospective examination of past policy decisions and the intent of those decisions.[232]

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[228] Seqwater, *Annual Report 2020–21*, September 2021, p. 64.
[229] Seqwater, sub. 1, pp. 51–52, sub. 8, pp. 12–14.
[230] The referral notice for the 2015 review said that bulk water costs were to include (but not be limited to) specified costs.
[231] QCA, *SEQ Bulk Water Price Path 2015–18*, final report, March 2015, pp. 65–66; QCA, *Seqwater Bulk Water Price Review 2018–21*, final report, March 2018, pp. 64–65.
[232] Seqwater, sub. 1, p. 52.

We are not convinced that it is appropriate to only recognise tax losses accrued since 2018. We have continued to recognise tax losses since 2013, consistent with our approach in the 2018 review.

Modelling issues

In response to the draft report, Seqwater advised that review of our modelling indicated potential errors in the application of our proposed approach. It provided a report from Frontier Economics (Frontier) to support its claim.[233]

Frontier said that it appeared we had double counted tax losses, because we made a deduction for tax losses incurred between 2013 and 2022 when price path debt was accumulating, but we did not also provide a tax allowance in relation to the revenue that pays down price path debt.[234] However, we confirm that we derived the losses by deducting tax expenses (opex, tax depreciation and interest) from total building block costs, accumulated over the period 1 July 2013 to 30 June 2022. Therefore, the losses in our model exclude the quantum of tax losses associated with the revenue/building block cost mismatch that results from the design of the price path debt mechanism.

The building block cost-based approach applied in our draft report model generates tax losses from 1 July 2013 onwards, primarily because tax depreciation initially exceeds regulatory depreciation. These losses are separate from the tax losses generated from the design of the price path debt mechanism. Given that these latter tax losses were not captured in our model, we do not consider there is any double counting.

Frontier also queried whether the $275 million of regulatory tax losses as at 1 July 2014 reflect the balance of regulatory tax losses accumulated during the 2008–13 period.[235] However, we can confirm that this amount reflects the regulatory tax losses in 2013–14 only, which is consistent with our approach of only accounting for tax losses from 2013 onwards.

In summary, after reviewing Seqwater's submission and Frontier's report, and undertaking a review of our modelling, we have not found any evidence of double counting or other errors.

Summary of our position

Consistent with our draft position, we have continued to apply the approach we adopted in the 2018 review. Under this approach we use costs as a proxy for revenue and recognise tax losses accumulated since 2013. This results in a tax allowance that is lower than the tax allowance Seqwater proposed, mainly due to Seqwater's proposal to apply a revenue-based approach without using 2008 as the starting point for the calculation of tax losses.

Table 36 QCA position—Tax allowance ($m, nominal)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***	***Total***
Seqwater's revised proposal	–	54.9	83.2	104.0	118.5	134.1	494.6
QCA position	**–**	**–**	**–**	**–**	**–**	**13.4**	**13.4**

Source: Seqwater January 2022 bulk water pricing model; QCA analysis.

[233] Seqwater, sub. 15, pp. 9–11, sub. 18.
[234] Seqwater, sub. 18, pp. 7–8.
[235] Seqwater, sub. 18, para. 39, p. 7.

8 TOTAL COSTS

We calculated the costs to be recovered from bulk water customers based on our determination of building block costs minus the costs allocated to irrigation services and the revenue expected to be received from other sources.

8.1 Building block costs

To determine building block costs, we added together the allowances for each of the following cost components:

- operating expenditure (opex)—the ongoing costs of supplying bulk water and maintaining bulk water assets (Chapter 4)
- a return on assets—an appropriate return on investments made in assets to provide bulk water services, reflecting our assessment of capital expenditure (capex), the value of Seqwater's regulatory asset base (RAB), and a rate of return taking into account matters specified in the referral notice (Chapters 5 to 7)
- a return of assets (depreciation)—the cost of capital investments over the useful life of the assets (Chapter 6)
- a return on working capital—the cost of holding capital to allow Seqwater to manage the timing difference between the outflow of cash associated with current liabilities and the receipt of cash associated with current assets (Chapter 7)
- tax—an allowance we provide to enable Seqwater to meet its tax equivalence obligations (Chapter 7).

Our position on building block costs (Table 37) reflects our findings on each cost component in earlier chapters.

Table 37 QCA position—building block costs ($m, nominal)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***
Operating expenditure	300.7	308.3	316.9	327.1	333.8	342.7
Return on assets	480.4	476.5	472.8	472.6	469.2	465.6
Return of capital (depreciation)[a]	48.0	81.0	72.7	73.4	79.1	84.4
Working capital allowance	6.7	6.8	7.0	7.3	7.5	7.7
Mid-year cash flow adjustment	(14.2)	(14.6)	(14.0)	(13.8)	(13.6)	(13.3)
Tax allowance	–	–	–	–	–	13.4
Total	**821.5**	**858.1**	**855.4**	**866.5**	**876.0**	**900.4**

a *Depreciation is net of indexation.*

Source: QCA analysis.

Note: Totals may not add due to rounding.

8.2 Cost and revenue offsets

In accordance with the referral notice[236], we deducted from bulk water costs the costs associated with providing irrigation services and the revenue Seqwater receives from other sources.[237] The purpose of these deductions is to prevent Seqwater from over-recovering its bulk water costs.

The cost and revenue offsets that we calculated assume that Seqwater is operating under normal (non-drought) conditions. Seqwater also proposed additional revenue offsets assuming drought conditions, which we assess as part of the drought allowance (see Chapter 11).

Cost offset—irrigation services

In accordance with the referral notice, the costs associated with providing irrigation services are calculated using the cost allocation approach from our 2020 irrigation price review.[238] The cost offset only covers shared operating expenditure, because shared capital expenditure is allocated to irrigation services before the allowances for the return on and of capital are calculated (see Chapter 5).

Seqwater has largely applied the cost allocation approach correctly to derive the offsets for each irrigation water supply scheme and distribution system[239], although we identified minor errors in Seqwater's calculations, which we have corrected.

Table 38 QCA position—irrigation cost offset ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Irrigation cost offset	**3.2**	**3.2**	**3.3**	**3.4**	**3.5**	**3.5**

Source: QCA, Rural irrigation price review 2020–24, Part C: Seqwater, final report, January 2020, p. 52; QCA 2020 irrigation price review model.

Revenue offsets

Seqwater earns revenue from several other sources, including from selling water to Toowoomba Regional Council and power station customers, and from leasing land.[240]

Power station revenue

Seqwater has agreements with two large customers to supply water to their power stations:

- an agreement with CleanCo to supply Swanbank power station
- an agreement with Stanwell to supply the Tarong and Tarong North power stations.[241]

The agreements provide for the supply of recycled water and/or raw water, and they include both fixed charges and variable charges. There are provisions for higher charges to apply to recycled water, but only if certain conditions are met.[242] Under the agreements, the charges increase annually by the inflation rate, but there are also provisions to periodically review and amend

[236] Referral notice, sections A(5), C(18)–(19).
[237] Excluding revenue received in relation to hydroelectric power stations (referral notice, section C(18)(c)).
[238] QCA, *Rural irrigation price review 2020–24, Part C: Seqwater*, final report, January 2020, p. 52.
[239] Seqwater, sub. 1, pp. 12, 88, 131; Seqwater, response to RFI 23; Seqwater's June 2021 pricing model.
[240] Seqwater, sub. 1, pp. 130–131. Seqwater identified minor errors in its initial forecast and subsequently provided corrected figures (Seqwater, responses to RFI 8, 23, 26).
[241] Seqwater, responses to RFI 8, 23, 26, 202.
[242] One condition is that government approval must have been obtained to supply recycled water into Wivenhoe Dam for drinking water purposes, which we understand has not yet been obtained (Seqwater, sub. 1, p. 121).

charges. While the agreements are due to terminate in 2023, they may be extended to 2028 (and again to 2033).

Seqwater's revenue forecasts appear to assume that both customers will extend their agreements to at least 2028. Seqwater assumed that CleanCo will take 1,200 ML of water each year to 2028 and Stanwell will take no water. Seqwater advised that Stanwell has an alternative, lower-cost source of supply and typically only takes water from Seqwater in drought conditions.[243]

Based on the information Seqwater provided—including the supply agreements, demand assumptions and revenue calculations—our position is that Seqwater's revenue forecasts for the power stations are reasonable.

Toowoomba Regional Council revenue

Toowoomba Regional Council usually obtains water from its own sources (dams and bores), but it obtains water from Seqwater when those sources are depleted.[244] [redacted]

We consider that Seqwater's assumption that the council will not take water during normal conditions is reasonable, as the council is expected to draw water from its own sources. Having reviewed the supply agreement and revenue calculations, we consider that Seqwater's revenue forecast for Toowoomba Regional Council is reasonable.

Other revenue sources

Seqwater's other sources of revenue include supply agreements with Gympie Regional Council [redacted], and revenue from leasing land and houses. [redacted]

Based on the information provided by Seqwater, we consider Seqwater's revenue forecast from other sources is reasonable. However, we do not accept the revenue offset (proposed as a foregone revenue adjustment) associated with Seqwater's proposal to provide a concealed leaks discount, because the proposal is subject to government consideration, and it is not clear if or when approval will be given (see Chapter 12). If the proposal is approved during the regulatory period, the government may wish to consider providing for an end-of-period adjustment in the referral notice for the next review.

[243] Seqwater, responses to RFI 8, 23, 202; Stanwell Corporation Limited, *Annual Report 2020/21*, September 2021, p. 45.

[244] Seqwater, responses to RFI 23, 202; Toowoomba Regional Council, *Current water supply sources*, TRC website, 2021, viewed 4 November 2021.

[245] Seqwater, response to RFI 9.

[redacted]

[248] Seqwater, responses to RFI 10, 213.

QCA position

Our position on the revenue offset is summarised in Table 39.[249] If the referral notice for the next review provides for an end-of-period revenue adjustment (like the current referral notice does), we expect that future bulk water prices will be adjusted for any differences between forecast revenue and actual revenue.

Table 39 QCA position—revenue offset ($m, nominal)

Revenue source	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Power stations	13.6	13.9	14.2	14.6	14.9	15.3
Toowoomba Regional Council	5.6	5.8	5.9	6.0	6.2	6.3
Other[a]	6.0	6.1	1.6	1.7	1.7	1.7
Total	**25.2**	**25.8**	**21.7**	**22.3**	**22.8**	**23.3**

[redacted]

Notes: Figures may not add due to rounding.

Summary—total offsets

Our position on cost and revenue offsets is provided in Table 40.

Table 40 QCA position—total offsets ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Cost offset—irrigation services[a]	3.2	3.2	3.3	3.4	3.5	3.5
Revenue offset	25.2	25.8	21.7	22.3	22.8	23.3
Total	**28.4**	**29.0**	**25.0**	**25.6**	**26.3**	**26.9**

a *Excludes capital expenditure allocation to irrigation (see Chapter 5).*

Note: Totals may not add due to rounding.

8.3 Adjusted building block costs

Our position on the adjusted building block costs, which are the costs to be recovered from bulk water customers after applying the cost and revenue offsets, is provided in Table 41.

Table 41 QCA position—adjusted building block costs ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Building block costs	821.5	858.1	855.4	866.5	876.0	900.4
less cost and revenue offsets	28.4	29.0	25.0	25.6	26.3	26.9
Adjusted building block costs	**793.2**	**829.1**	**830.4**	**840.9**	**849.8**	**873.5**

Source: QCA analysis.

Note: Totals may not add due to rounding.

[249] We updated Seqwater's proposal for the latest forecast inflation rates (see Chapter 6).

9 PRICE PATH DEBT—OPENING BALANCE AND REPAYMENT

In this chapter, we explain how we have calculated:

- the opening price path debt balance at 1 July 2022
- the annual price path debt repayments that would allow Seqwater to repay price path debt (including interest) by 2027–28.

9.1 Establishing the opening price path debt balance (as 1 July 2022)

Consistent with the referral notice, we established the opening price path debt balance at 1 July 2022 by rolling forward the price path debt balance at 1 July 2017, and making the following adjustments to forecasts from the 2018 review:

- updating building block costs[250] for updated capital costs
- allowing for the recovery of prudent and efficient costs arising from review events (drought response and feedwater quality events)
- updating forecast demand-related variable costs for actual costs
- allowing for the recovery of foregone revenue resulting from pricing amendments or decisions
- updating forecast revenue for actual revenue (bulk water revenue and revenue from other sources)
- updating interest costs for the actual cost of debt.[251]

The closing balance on 30 June 2022 of $2,315.0 million (Table 42) becomes the opening balance at 1 July 2022.

Table 42 QCA position—price path debt opening balance at 1 July 2022 ($m, nominal)

	2017–18	***2018–19***	***2019–20***	***2020–21***	***2021–22***
Opening balance	2,415.9	2,482.6	2,530.3	2,732.3	2,464.0
plus updated building block costs	796.5	861.2	1,058.5	582.0	826.5
plus review event costs—drought response	1.9	3.2	13.3	18.3	6.6
plus review event costs—feedwater quality	0.5	0.2	1.0	0.3	–
plus variable cost adjustment	–	1.8	2.2	–	–
plus foregone revenue adjustment	–	–	1.2	2.3	2.5
less additional revenue (other sources)	(2.3)	12.5	14.3	16.0	19.6
less actual bulk water revenue	856.5	931.3	990.0	982.4	1,085.0
plus price path debt interest costs	122.1	124.9	130.1	127.4	120.1
Closing balance	**2,482.6**	**2,530.3**	**2,732.3**	**2,464.0**	**2,315.0**

[250] The term 'maximum allowable revenue' in the referral notice is equivalent to the term 'building block costs' in this report.
[251] Referral notice, sections C(12)–(13).

9.1.1 Updated building block costs

In accordance with the referral notice, we have updated building block costs by adjusting for updated capital costs based on rolling forward the RAB from 1 July 2017 to 30 June 2022 (see Chapter 6) and updating the rate of return for the actual cost of debt advised by Queensland Treasury Corporation (QTC) (Table 43).

Table 43 Actual cost of debt—applicable to the rate of return (%)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*
2018 review—estimated cost of debt	5.70	5.55	5.35	5.15	5.00
Actual cost of debt (QTC)	5.70	5.68	4.93	4.93	4.90

Source: QCA, Seqwater bulk water price review 2018–21, final report, March 2018, pp. 60, 71; Seqwater, sub. 17, p. 2; Seqwater, responses to RFI 1, 21.

Our position on updated building block costs is provided in Table 44.

Table 44 QCA position—updated building block costs ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*
2018 review—forecast building block costs	773.3	808.8	812.9	799.4	809.0
2022 review—updated building block costs	796.5	861.2	1,058.5	582.0	826.5
Difference	23.2	52.4	245.6	(217.4)	17.5

Source: QCA, Seqwater bulk water price review 2018–21, final report, March 2018, pp. 73–74; QCA analysis.

9.1.2 Review event costs—drought response

If Seqwater can demonstrate a change in prudent and efficient costs as a result of taking drought response measures in accordance with the Water Security Program (WSP)[252], it can recover those costs through the drought response review event. For this review, the relevant costs are those incurred between 1 July 2017 and 30 June 2022.

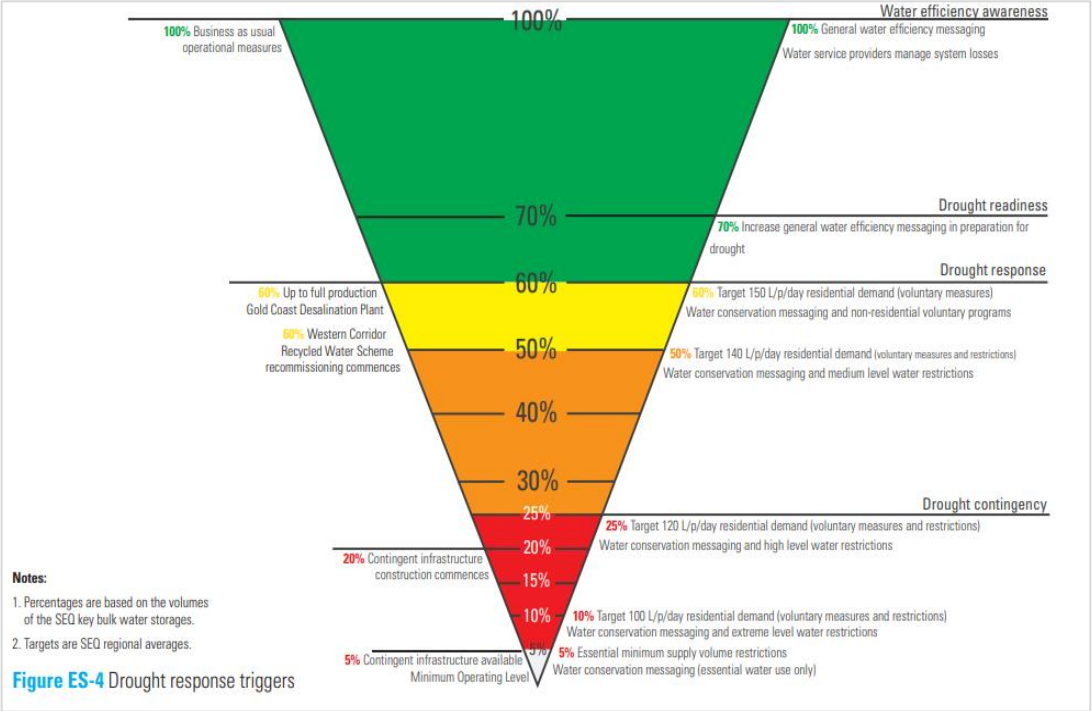
The WSP is a requirement under the *Water Act 2000*. The program contains Seqwater's plan for supplying water over the next 30 years in accordance with the government's level of service objectives.[253] An important part of the plan is how Seqwater will prepare for and respond to drought conditions. The latest version of the WSP was published in March 2017, and the next version is expected to be published in 2022.[254]

The drought response plan sets out triggers for taking actions based on the combined level of Seqwater's key bulk water storages (Figure 11).[255] There are triggers for drought readiness (70 per cent), drought response (60 per cent) and drought contingency (20 per cent).

The two key drought response actions in the WSP are commencing the recommissioning of the Western Corridor Recycled Water Scheme (WCRWS)—with a two-year commissioning period to reach full operation once dam levels reach 40 per cent—and operating the Gold Coast Desalination Plant (GCDP) up to full production.

[252] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, pp. 80–81.
[253] The objectives are set by the government under the Water Regulation 2016—Seqwater, sub. 11, p. 8; Seqwater, *Water for life, South East Queensland's Water Security Program 2016–2046*, version 2, March 2017, pp. 73–74, 90–92 (Seqwater, Water Security Program, March 2017).
[254] Seqwater, sub. 1, pp. 25–26.
[255] Twelve dams make up the key bulk water storages— see Seqwater, Water Security Program, March 2017, p. 139.

Figure 11 Overview of regional triggers and actions



Source: Seqwater, Water Security Program, March 2017, p. 10.

There are also sub-regional triggers and actions based on declining dam levels at a sub-regional level (mainly focused on the northern sub-region)[256], and each off-grid community has its own drought response plan.[257]

In the current period, the drought readiness trigger was first reached in April 2019, and the drought response trigger was first reached in November 2019. Dam levels have generally fluctuated between drought readiness and drought response since then, with a general pattern of rising dam levels over the summer wet season, followed by falling dam levels over winter. However, following a significant rainfall event in late February 2022, dam levels increased from around 70 per cent to over full storage levels in a few days.[258] Dam levels are currently around 88 per cent.[259]

Seqwater's review event claim

Seqwater claimed costs associated with undertaking various measures in the drought readiness and drought response phases, as well as costs incurred before the drought readiness trigger was reached.[260] The key cost items related to Seqwater's two manufactured water assets—the GCDP and WCRWS.[261]

[256] Seqwater, Water Security Program, March 2017, pp. 170–171.
[257] Seqwater, Water Security Program, March 2017, pp. 124–125, 206–306 (appendix N).
[258] Wivenhoe and Somerset dams exceeded their full supply levels and were utilising flood storage compartments, while many other dams were spilling.
[259] Seqwater, *Historic dam levels*, Seqwater website, 2022, accessed 15 March 2022. Wivenhoe, Somerset and North Pine dams are operating at a reduced full supply level due to dam improvement projects. As such, Wivenhoe Dam storage is being maintained at 90 per cent of its full water supply level, Somerset Dam at 80 per cent and North Pine Dam at 68 per cent, until the upgrades are completed. This results in the SEQ Water Grid being at full supply at around 88 per cent.
[260] Seqwater, sub. 1, pp. 91, 113–124.
[261] Seqwater, sub. 1, pp. 120–122.

Seqwater submitted that drought response measures pertain to all measures required to respond to declining dam levels, including drought readiness measures.[262] Seqwater also describes the WSP as an adaptive approach that is not intended to be an exhaustive and exclusive list of actions that are only warranted and legitimate at or below a specific trigger point.[263]

After the draft report, Seqwater revised its total claim down from $72.0 million to $43.3 million to reflect actual costs incurred in 2020–21 and 2021–22, although the 2021–22 claim only covers costs incurred to October 2021 (Table 45).

Table 45 Seqwater's revised proposal—drought response review event ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22[a]*	*Total*
Drought readiness	1.5	3.2	5.3	2.4	–	12.4
Drought response	0.4	–	8.0	19.7	6.6	34.7
less cost savings[b]	–	–	–	3.8	–	3.8
Total	**1.9**	**3.2**	**13.3**	**18.3**	**6.6**	**43.3**

a *Reflects actual costs from July to October 2021 only.* ***b*** *Reflects costs saved by replacing dam-sourced water with manufactured water. Cost savings over the period are captured in the 2020–21 figure.*

Note: Figures may not add due to rounding.

Source: Seqwater, sub. 15, p. 44; Seqwater, responses to RFI 4, 134, 135, 159, 216.

In response to the draft report, Seqwater said that $1.9 million of the review event claim (associated with the partial recommissioning of the WCRWS) could potentially be classified as capex.[264] However, Seqwater did not provide sufficient information and justification to support a reclassification and we have assessed the costs as part of the review event claim.

How we applied the review event definition

We undertook an initial assessment of Seqwater's cost claim for the draft report. Based on that assessment, we found that some costs may not meet the review event definition because they resulted from taking actions that were not drought response measures, or the actions were taken too early according to the drought response triggers in the WSP. However, we also recognised that no water planning document could precisely determine the optimal approach to prepare for and respond to drought, as the optimal approach was likely to reflect the relevant circumstances. We also acknowledged that Seqwater may not have been adequately compensated for drought readiness costs through the current opex allowance.

We concluded that it may be appropriate to apply a more flexible assessment approach, which would consider whether Seqwater had prudently and efficiently prepared for, and managed its response to, drought conditions.[265] We acknowledge Seqwater's concern that without an opportunity to recover its efficiently incurred costs, it may not be appropriately incentivised to prudently manage water security and prepare for drought in future.[266]

To inform our assessment, we sought further information and justification from Seqwater on the prudency and efficiency of its review event claim in response to the draft report.

[262] Seqwater, sub. 1, pp. 116–117 and responses to RFI 134, 135, 159.
[263] Seqwater, responses to RFI 134, 135, 159.
[264] Seqwater sub. 15, p. 48.
[265] Seqwater supported this approach in response to the draft report (sub. 15, pp. 46–47, sub. 22).
[266] Seqwater, sub. 15, pp. 46–47, sub. 22, pp. 9–10, 13–15.

Assessing the prudency and efficiency of Seqwater's claim

To assist with our assessment, we engaged Atkins to provide advice on the prudency and efficiency of Seqwater's proposed costs, with a particular focus on the prudency of the decisions to recommission parts of the WCRWS and the efficiency of costs associated with the WCRWS and GCDP.

Decision to recommission one train at Luggage Point

We found that Seqwater undertook some actions ahead of the relevant triggers in the WSP. The main action undertaken early was the partial recommissioning of the recycled water scheme. The decision to recommission a single train at the Luggage Point Advanced Water Treatment Plant (AWTP) was made in December 2017.[267] At the time of the decision, dam levels were at around 78 per cent, which was well above the trigger for taking the action in the WSP (dam levels at 60 per cent) and also above the drought readiness trigger (70 per cent).[268] Seqwater gave the following reasons for the decision:

- Seqwater could improve operational understanding of the asset (which had been dormant for some time) and identify potential issues and minimise risks before the full recommissioning of the scheme.
- The recycled water could be supplied to industrial customers, which would reduce demand on drinking water supplies.
- Partial recommissioning would improve public confidence and support stakeholder and community education.[269]

Urban Utilities said the partial recommissioning was crucial to water security and helped to improve community understanding and acceptance of the role of recycled water.[270]

We note that Seqwater already receives funding through its operating cost allowance to maintain the WCRWS in care and maintenance mode, which is described in the WSP as maintaining the scheme so that it can be returned to full production within a two-year period.[271] Therefore, it could be argued that Seqwater should already be undertaking relevant preparedness activities to ensure the scheme can be fully operational within that timeframe. Atkins considered the decision to recommission early was not prudent, because (among other reasons) the WSP already accounts for the lead time to move to full production.[272] However, it could also be argued that recommissioning is a reasonable and appropriate course of action to improve operational understanding and minimise the risks of full recommissioning. Taking early action to de-risk the recommissioning process may reduce the risk of having to take more costly actions if the drought were to worsen (for example, implementing more severe water restrictions or investing in other water sources).[273]

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[267] Seqwater, sub. 1, pp. 95–96 and response to RFI 126.
[268] Seqwater, *Historical dam levels*, Seqwater website, 2021, accessed 15 November 2021.
[269] Seqwater, sub. 1, pp. 95–96, 118; Seqwater, response to RFI 126; Seqwater, *Western Corridor Recycled Water Scheme, Recycled Water Management Plan Annual Report 2019–20*, December 2020, p. 7; Seqwater, *2019 Water Security Program Annual Report*, December 2019, p. 4.
[270] Urban Utilities, sub. 25, p. 3.
[271] Seqwater, Water Security Program, March 2017, p. 77.
[272] Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26*, supplementary report, March 2022, p. 17 (Atkins supplementary report).
[273] Seqwater, sub. 22, p. 14.

The other arguments provided by Seqwater in support of early recommissioning are less compelling. Demand from industrial customers is uncertain and variable, and appears to be driven by drought conditions impacting the availability of water from customer's main supply sources. Since the plant was recommissioned, Atkins found that the amount of drinking water saved each year (by supplying recycled water to industrial customers instead) was the equivalent of 0.2 per cent of Wivenhoe Dam's storage capacity.[274] However, Seqwater also identified that maintenance issues had adversely affected production capacity.[275] Seqwater has also not justified how early recommissioning has supported improving public confidence, and stakeholder and community education.

While it is difficult to definitively conclude that the decision was prudent in the circumstances, we acknowledge the potentially significant impacts on water security if Seqwater had not taken pre-emptive action to mitigate the risk of full recommissioning. We also note that Seqwater would likely have incurred some of these costs later, as dam levels eventually dropped below 60 per cent, when full recommissioning was supported by the WSP.

Decision to recommission two additional trains at Luggage Point

In March 2021, Seqwater decided to recommission the remaining two Luggage Point trains to increase supply to industrial customers in drought and reduce demand on Wivenhoe Dam.[276] The additional water is expected to be available from mid-2022.[277] Recommissioning the additional trains would increase capacity by 46 ML per day to 70 ML per day, but the use of the water is limited to industrial purposes—we understand it has not yet been approved for supply into Wivenhoe Dam to supply households and businesses more broadly.[278]

We consider the decision was likely to be prudent. Dam levels were around 56 per cent at the time the recommissioning decision was made, so it was consistent with the WSP, and forecast supply and storage depletion scenarios indicated that additional supply was needed.[279] However, at the next review, we intend to review the prudency of the decision to continue with the recommissioning as dam levels recovered, and any decision to operate the plants following recommissioning.

Efficiency of GCDP and WCRWS costs

Atkins made several observations in relation to the efficiency of the costs associated with the GCDP and WCRWS. Based on Atkins' analysis and findings, we have concerns about the potential efficiency of costs in several areas, including the structure and implementation of the contracts for the operation and maintenance of the plants, and unit costs that appear high relative to comparators.[280]

There may also be an opportunity to review the operating strategy for the WCRWS to minimise total costs when in drought.[281] Atkins queried whether the WCRWS was an efficient solution to

[274] Atkins supplementary report, pp. 16–17, 22.
[275] Seqwater, *Supplementary Information on the Western Corridor Recycled Water Scheme Expenditure*, February 2022, pp. 8–10.
[276] Seqwater, sub. 1, p. 96.
[277] Seqwater, *Supplementary Information on the Western Corridor Recycled Water Scheme Expenditure*, February 2022, p. 14.
[278] Seqwater, sub. 1, p. 121, sub. 11, p. 14; Seqwater, *Western Corridor Recycled Water Scheme, Recycled Water Management Plan Annual Report 2019–20*, December 2020, pp. 7, 11.
[279] Atkins supplementary report, p. 18.
[280] Atkins supplementary report, pp. 8, 20–27.
[281] Atkins supplementary report, p. 27.

supplying industrial customers, particularly when their demand is uncertain and variable and the costs of supplying recycled water is high compared to other sources.[282]

Adjustment for cost savings

In the draft report, we identified that an adjustment should be made for the costs saved from requiring less water from conventional sources (mainly dams).[283]

Seqwater advised that recycled water substituted raw water used by the power stations, and the power stations also cover the cost of pumping the water from the raw water source.[284] As a result, no cost savings were considered to be associated with supplying recycled water instead of raw water. However, Seqwater agreed that it was reasonable to include an offset for cost savings associated with supplying desalinated water when operating under drought conditions.[285] In response to the draft report, Seqwater proposed cost savings of $3.8 million over the period and incorporated these cost savings into its revised cost claim for the 2020–21 year.[286]

After reviewing Seqwater's proposal and considering Atkins' advice that the proposal was a fair representation of cost savings[287], our view is that Seqwater's proposed cost savings are appropriate.

QCA position

We have some concerns about the prudency and efficiency of Seqwater's cost claim, particularly the prudency of the decision to partially recommission the WCRWS well ahead of the drought response trigger, and the efficiency of costs associated with maintaining and operating the WCRWS and GCDP. Nevertheless, based on the information available to us, and noting the limited time available for our review, at this time we are unable to conclude with sufficient confidence that any specific cost items are imprudent or inefficient. As a result, our position is to accept Seqwater's revised cost claim (Table 46).

Table 46 QCA position—drought response review event ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Seqwater's revised proposal	1.9	3.2	13.3	18.3	6.6	43.3
QCA adjustment	–	–	–	–	–	–
QCA position	**1.9**	**3.2**	**13.3**	**18.3**	**6.6**	**43.3**

Source: Seqwater, sub. 15, p. 44; QCA analysis.

As Seqwater's cost claim for 2021–22 only reflects actual costs to October 2021, we would expect to review costs for that year as part of the next review, when actual expenditure for the full year is available. We expect to particularly focus on the prudency of the decision to continue with the recommissioning of the two additional trains as dam levels recovered, and any decisions to operate the trains following recommissioning. We have recommended a new review event to account for Luggage Point AWTP costs (see section 12.2).

[282] Atkins supplementary report, pp. 17, 22, 27.
[283] QCA, *Seqwater Bulk Water Price Review*, draft report, November 2021, p. 93.
[284] Either from Lake Wivenhoe or the Brisbane River.
[285] Seqwater, response to RFI 206.
[286] Seqwater, sub. 15, p. 44 and response to RFI 216.
[287] Atkins supplementary report, p. 27.

9.1.3 Review event costs—feedwater quality

Seqwater claimed $2.0 million associated with four separate rainfall events that reduced water quality and increased treatment costs.[288] Atkins assessed Seqwater's claim and found the costs to be prudent and efficient and consistent with the review event definition.[289] On this basis, we accept Seqwater's review event claim (Table 47).

Table 47 QCA position—feedwater quality review event ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Seqwater's proposal	0.5	0.2	1.0	0.3	–	2.0
QCA adjustment	–	–	–	–	–	–
QCA position	**0.5**	**0.2**	**1.0**	**0.3**	**–**	**2.0**

Source: Seqwater, sub. 1, pp. 123–124; Seqwater, response to RFI 3 (post draft report); QCA analysis.

9.1.4 Demand-related variable cost adjustment

We accept Seqwater's proposed adjustment to account for the cost impact of the difference between forecast and actual demand on variable costs (Table 48).

Table 48 QCA position—adjustment for demand-related variable costs ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Seqwater's proposal	–	1.8	2.2	–	–	4.0
QCA adjustment	–	–	–	–	–	–
QCA position	–	**1.8**	**2.2**	–	–	**4.0**

Source: Seqwater, sub. 15, p. 51; Seqwater, response to RFI 5 (post draft report); QCA analysis.

9.1.5 Foregone revenue adjustment

In accordance with the referral notice, we have made an adjustment to account for any foregone revenue resulting from pricing amendments or decisions.[290]

Seqwater proposed to recover foregone revenue associated with a government decision to approve a discounted bulk water price for Incitec Pivot Limited (IPL).[291] The purpose of the discount was to prevent the customer from inefficiently bypassing the network to obtain water from an alternative supply source.[292]

The foregone revenue adjustment is calculated by subtracting the revenue received from IPL from the revenue that would have been received had the customer paid the (undiscounted) bulk water price. We adjusted Seqwater's proposal to reflect the approved 2021–22 bulk water price and updated consumption information provided after the draft report (Table 49).

[288] Seqwater, sub. 1, pp. 91, 123–124.
[289] Atkins draft report, pp. 46, 60–61.
[290] Referral notice, sections A(3), C(12)(d).
[291] The discount took effect in October 2019 (Seqwater, responses to RFI 23, 200), so it was not captured in the forecast of revenue offsets in our 2018 review.
[292] Seqwater, sub. 1, p. 128.

Table 49 QCA position—foregone revenue adjustment ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22[a]*	*Total*
Seqwater proposal	–	–	1.2	2.1	2.0	5.3
QCA adjustment	–	–	–	0.1	0.5	0.6
QCA position	**–**	**–**	**1.2**	**2.3**	**2.5**	**6.0**

a *Based on forecast consumption.*

Note: Figures may not add due to rounding.

Source: Seqwater, responses to RFI 6 (post draft report), 23; QCA analysis.

9.1.6 Revenue updates

Seqwater earns revenue from bulk water prices and other sources. Under the referral notice, we have been asked to update forecast revenue for actual revenue for the period 1 July 2017 to 30 June 2022.[293] This includes bulk water revenue and revenue Seqwater receives from other sources.

Seqwater said it would be logical to offset drought review event costs by the additional revenue received from other sources, which was mainly driven by drought-related water sales. Seqwater also considered this approach would reduce the amount it needed to recover through the review event and hence its reliance on end-of-period adjustments. Seqwater argued that end-of-period adjustments are not guaranteed to be a feature of future referral notices, and they can also have impacts on price path debt and customers.[294]

We have not adopted Seqwater's proposed approach. It is unclear why Seqwater considered that capturing the revenue impacts under one end-of-period adjustment (review event) over another (revenue true-up) would reduce its reliance on end-of-period adjustments or how it would have any impact on price path debt or customers. Regardless, the approach would not be consistent with the referral notice, which provides for separate end-of-period adjustments for the cost impacts of drought (review event) and the revenue impacts of drought (revenue true-up).

Bulk water revenue

Over the period, Seqwater's actual revenue from bulk water sales was higher than forecast, mainly because demand was higher than forecast (Table 50).

Table 50 Actual bulk water revenue ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
2018 review—forecast revenue	848.1	889.6	940.4	987.8	1,026.6	4,692.5
2022 review—actual revenue	856.5	931.3	990.0	982.4	1,085.0[a]	4,845.2
Difference[b]	**(8.4)**	**(41.7)**	**(49.6)**	**5.4**	**(58.4)**	**(152.7)**

a *Updated forecast.* ***b*** *Calculated by subtracting actual revenue from forecast revenue.*

Source: QCA, Seqwater bulk water price review 2018–21, final report, pp. 72, 75; Seqwater, sub. 1, pp. 128–129, sub. 15, p. 51.

[293] Referral notice, section C(12)(e).
[294] Seqwater, sub. 1, p. 128, sub. 15, pp. 51–52.

Revenue from other sources (revenue offsets)

Revenue that Seqwater receives from other sources is deducted from bulk water costs. However, no adjustment is made for the revenue Seqwater receives for supplying irrigation services, because the costs of providing irrigation services are excluded from bulk water costs.[295] Actual revenue was higher than forecast over the period, and in each year except 2017–18 (Table 51).

Table 51 Adjustment for actual revenue from other sources ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
2018 review—forecast revenue	26.7	15.2	15.5	15.9	16.3	89.5
2022 review—actual revenue	24.4	27.7	29.8	31.9	35.8[a]	149.7
Difference[b]	**2.3**	**(12.5)**	**(14.3)**	**(16.0)**	**(19.6)**	**(60.2)**

a *Updated forecast.* ***b*** *Calculated by subtracting actual revenue from forecast revenue.*

Source: QCA models for 2015 and 2018 reviews; Seqwater, response to RFI 202.

9.1.7 Interest cost update

We have updated interest costs for the relevant actual cost of debt, as advised by QTC (Table 52).

Table 52 Actual cost of debt—applicable to price path debt (%)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*
2018 review—estimated cost of debt	5.11	5.11	5.11	5.11	5.11
Actual cost of debt (QTC)	5.11	5.11	5.07	5.02	5.15

Source: QCA, Seqwater Bulk Water Price Review 2018–21, final report, March 2018, p. 73; Seqwater, sub. 17, pp. 1–2; Seqwater, responses to RFI 2 (post draft report), 22.

9.2 Price path debt repayment from 1 July 2022 to 30 June 2028

The price path debt repayment component is a function of:

- the opening price path debt balance each year—starting with an opening balance of $2,315.0 million at 1 July 2022 (see section 9.1 above)
- the interest costs—where Seqwater's estimated cost of debt (5.15 per cent per year to 2027–28, as advised by QTC[296]) is applied to the debt balance
- price smoothing constraints (Chapter 10) and the full repayment of price path debt by 2027–28.

Our position on the annual price path debt repayments is provided in Table 53, and the price path debt repayment profile is shown in Figure 12.

[295] In addition, we do not make an adjustment for revenue related to the hydroelectric power stations, because this revenue source does not offset bulk water costs (in accordance with the referral notice, sections A(5), C(19)).
[296] Seqwater, sub. 15, pp. 8–9, sub. 17, pp. 1–2.

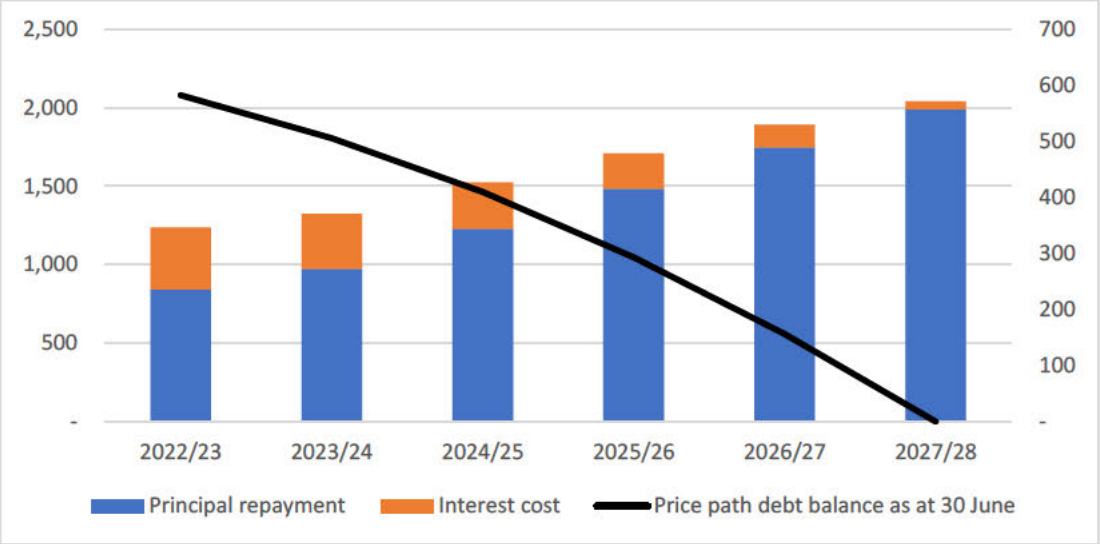
Table 53 QCA position—price path debt repayments, 2022–23 to 2027–28 ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Principal	235.9	272.8	344.2	415.4	489.3	557.4	2,315.0
Interest costs	110.4	97.7	82.2	63.1	40.4	14.2	408.0
Total	**346.3**	**370.5**	**426.4**	**478.6**	**529.7**	**571.5**	**2,723.0**

Source: QCA analysis.

Note: Totals may not add due to rounding.

Figure 12 Price path debt repayment profile ($m, nominal)



Source: QCA analysis.

10 TOTAL REVENUE AND RECOMMENDED PRICES

Our position on the total revenue requirement (Table 54), which is the revenue to be recovered through bulk water prices, is the sum of adjusted building block costs (Chapter 8) and the price path debt repayment (Chapter 9). We consider this will provide Seqwater with sufficient revenue to recover forecast prudent and efficient costs of providing bulk water supply services and repay price path debt by 2027–28.

Table 54 QCA position—total revenue requirement ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Adjusted building block costs	793.2	829.1	830.4	840.9	849.8	873.5
Price path debt repayment	346.3	370.5	426.4	478.6	529.7	571.5
Total	**1,139.5**	**1,199.6**	**1,256.8**	**1,319.5**	**1,379.5**	**1,445.1**

Source: QCA analysis.

Note: Totals may not add due to rounding.

We calculate prices for each year of the four-year regulatory period by converting the total revenue requirement into a single volumetric price using forecast water demand (Chapter 3). In accordance with the referral notice, we also smooth price increases so that prices increase by the same percentage in each year of the four-year regulatory period.

Based on our recommendations (Table 55), prices would increase by 2.14 per cent each year, which is broadly consistent with the indicative increase in our draft report.

Table 55 QCA recommendation—bulk water prices($/kL, nominal)

	2022–23[a]	*2023–24*	*2024–25*	*2025–26*
QCA recommendation ($/kL)	**3.301**	**3.371**	**3.444**	**3.517**
Increase (%)	2.14	2.14	2.14	2.14

a *The percentage increase in 2022–23 is relative to the current (2021–22) price.*

Source: QCA analysis.

Recommendation 1—bulk water prices

We recommend the following bulk water prices:

- 1 July 2022 to 30 June 2023: **$3.301** per kilolitre
- 1 July 2023 to 30 June 2024: **$3.371** per kilolitre
- 1 July 2024 to 30 June 2025: **$3.444** per kilolitre
- 1 July 2025 to 30 June 2026: **$3.517** per kilolitre.

11 DROUGHT ALLOWANCE

We have been asked to recommend a drought allowance that could be applied in addition to prices that would apply under normal operating conditions. The drought allowance is expected to provide Seqwater with total revenue sufficient to recover prudent and efficient costs associated with operating under drought operating conditions—defined as operating at or below the 'drought response' trigger in the Water Security Program (WSP) for the length of the regulatory period.[297]

We have been asked to recommend an allowance that:

- includes the incremental costs expected to be incurred during drought operating conditions, with a focus on cost areas that are material, rather than cost areas that are likely to have a minor and inconsequential impact in total
- accounts for reduced forecast demand during drought conditions, but any adjustments to Seqwater's proposed forecast should result in a forecast that remains at or above target demand consistent with medium-level water restrictions as published in the WSP
- remains constant in real terms (i.e. increases by forecast inflation only) for the duration of the regulatory period.[298]

Although Seqwater is no longer operating under drought conditions, the drought allowance is independent of current operating conditions. If the allowance is applied during the regulatory period, it would provide a signal to customers about the higher costs of supplying water when there is reduced availability from lower cost (conventional) sources and reduce the need for a large ex post adjustment through the review event mechanism.

11.1 Overview of Seqwater's proposal

Given the timing, severity and duration of droughts is difficult to predict, Seqwater said its proposed allowance was based on a simple 'conceptual' drought response strategy.[299] Under the strategy, Seqwater is assumed to operate under drought conditions for the entire regulatory period and to incur costs from undertaking the following measures:

- fully recommissioning the Western Corridor Recycled Water Scheme (WCRWS)—taking the first two years and eight months of the period, followed by fully operating the scheme until the end of the period
- maximising operation of the Gold Coast Desalination Plant (GCDP) for the entire period.[300]

These are the key measures associated with reaching the 60 per cent drought response trigger in the current version of the WSP.[301] Seqwater did not propose to include other drought-related costs[302], because they were more uncertain and less material.[303]

[297] Referral notice, sections A(4), C(15)–(16).
[298] Referral notice, section C(17).
[299] Seqwater, sub. 11, pp. 19–21.
[300] Seqwater, sub. 11, p. 20.
[301] Seqwater, Water Security Program, March 2017, p. 10.
[302] For example, costs associated with carting water to off-grid communities, media campaigns and community engagement to support demand management, and variable pumping costs (Seqwater, sub. 11, pp. 23–24).
[303] Seqwater, sub. 11, pp. 19–20.

Seqwater's proposal also included an allowance to cover the expected revenue shortfall from lower demand during drought, and a revenue offset to reflect additional revenue expected from other sources.

11.2 Assessment and recommendations

To form a view on an appropriate drought allowance, we engaged Atkins to assist with our assessment of Seqwater's drought demand forecast and proposed revenue requirement. We then converted the revenue requirement into an annual drought allowance.

11.2.1 Demand forecast

Seqwater considered that its most recent experience in drought is a reasonable basis for forecasting demand under drought conditions. Seqwater proposed a residential demand forecast of 163 litres per person per day, based on demand observations since the 60 per cent drought response trigger was reached in mid-September 2020.[304] Seqwater chose this period because water conservation messaging was being delivered at this time and some demand management measures were active.[305] Seqwater's proposed demand is between 5 and 7 per cent lower than the corresponding forecast under normal operating conditions.

Atkins noted that the WSP prescribes an increase in water conservation messaging and 'medium level restrictions' when storage levels reach 50 per cent. This point was not reached during the period of Seqwater's observed drought usage. Atkins said that other water suppliers in Australia have recently projected larger reductions in demand during drought; for example, Sydney Water targeted a 13.7 per cent reduction from level 2 water restrictions in 2020.[306]

Atkins said Seqwater's proposed drought demand was not unrealistic if the drought remains broadly stable and storage levels stay in the 55 to 65 per cent range. However, Atkins said demand would likely decline further if dam levels fell below 50 per cent, when further water conservation measures would be triggered. In this scenario, Atkins considered a demand reduction of 10 to 20 per cent, or larger, could be foreseeable.[307]

We acknowledge the difficulties in forecasting demand under drought conditions. Such forecasting requires assumptions to be made about the duration and severity of future droughts, as well as customer responses to drought, potentially higher prices during drought, and other water conservation measures.

While Seqwater's proposed demand forecast represents a relatively simple approach, we consider the forecast is appropriate in the context of recommending a drought allowance. Consistent with the referral notice, the assumed demand is above the target demand for medium-level water restrictions as prescribed in the WSP (140 litres per person per day).

Seqwater's forecast is consistent with its stated objective of adopting a simple and transparent approach to estimating the drought allowance. We consider it serves as a reasonable indicative estimate of demand, particularly because we would expect differences between forecast and actual demand to be reconciled through an end-of-period adjustment.[308]

[304] Seqwater, sub. 11, p. 18. Seqwater also expressed this as 249 litres per person per day 'total' consumption rate (Seqwater, *demand*, presentation to the QCA, September 2021, p. 11).
[305] Seqwater, *demand*, presentation to the QCA, September 2021, p. 11.
[306] Atkins draft report, p. 51.
[307] Atkins draft report, p. 51.
[308] Subject to the continued provision of an ex post revenue adjustment in referral notices.

11.2.2 Revenue requirement

Seqwater's proposed revenue requirement comprises three elements:

- the 'material' additional or incremental costs of supplying water under drought conditions
- an allowance to recover the expected revenue shortfall due to lower demand under drought conditions
- an offset to account for the additional revenue Seqwater expects to earn from selling more water to Stanwell and Toowoomba Regional Council.

Drought costs

Seqwater proposed a total of $316.1 million in drought costs over the regulatory period (Table 56). The costs reflect the full recommissioning and then operation of the WCRWS and the operation of the GCDP.

Table 56 Seqwater's proposal—drought costs ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
WCRWS (recommissioning plants):					
• capital charges[a]	–	–	3.2	6.8	10.0
• operating costs	22.0	22.5	23.0	–	67.6
WCRWS (operating plants)—operating costs	16.3	16.7	30.8	59.6	123.4
GCDP (operating plant)—operating costs	27.8	28.4	29.1	29.8	115.1
Total	**66.1**	**67.6**	**86.1**	**96.2**	**316.1**

a *Reflects proposed capital expenditure of $109 million over the period.*

Source: Seqwater, sub. 11, p. 4 and drought calculations spreadsheet, August 2021 (response to RFI 186).

In the draft report, we said that we did not have sufficient information to be able to form a view on whether the proposed costs were reasonably prudent and efficient, and we asked Seqwater to provide greater detail and justification in support of its proposal.[309] Seqwater provided further information in response to the draft report.

It is difficult to estimate the prudent and efficient costs of responding to drought, because there is considerable uncertainty and a range of scenarios that may impact on actual expenditure.[310] Among other things, costs may depend on:

- the severity and progression of the drought
- the costs of recommissioning and operating the recycled water scheme, which has been in care and maintenance for several years
- whether approval is obtained to supply recycled water into Wivenhoe Dam for supply to businesses and households

[309] Urban Utilities supported the provision of additional information to allow a full assessment of costs (sub. 13, pp. 3–4).

[310] Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26*, supplementary report, March 2022, p. 34 (Atkins supplementary report).

- possible amendments to Seqwater's drought response strategies in the next version of the WSP (which is expected to be published in 2022).[311]

Recommissioning the recycled water scheme is consistent with the drought response trigger in the current version of the WSP, although government approval is required to supply recycled water into Wivenhoe Dam for drinking water purposes. Until approval is obtained, the use of the recycled water is limited to industrial purposes.[312] We consider that it is appropriate to provide an ex ante allowance in the drought allowance for full recommissioning on the assumption that government approval is obtained, consistent with the current version of the WSP. We would expect to scrutinise the prudency of recommissioning decisions if we are asked to undertake an ex post assessment of costs.

Atkins said the proposed recommissioning capital expenditure appeared reasonable, based on outturn costs for recommissioning the Luggage Point AWTP, but it considered the proposed recommissioning operating expenditure appeared high.[313] In relation to proposed operating expenditure for running the WCRWS and GCDP, Atkins said the costs did not appear unreasonable.[314] However, Atkins also made general observations that it was difficult to draw conclusions about the efficiency of Seqwater's proposed costs due to inadequate information, a lack of evidence of cost benchmarking and market testing, and potential issues with the structure of implementation of the contracts for the operation of the plants.[315]

While Atkins has raised concerns about aspects of Seqwater's proposed costs, overall we consider that the proposal provides a reasonable estimate of costs for the purposes of determining the drought allowance, in the time we have had to examine the new information provided by Seqwater. We have not factored into the allowance other drought-related costs that Seqwater may incur[316] or potential cost savings from supplying less water from conventional sources.[317] This is consistent with the request in the referral notice that we focus on cost areas that are material[318], and a lack of precision in the cost estimate.

Our position should not be interpreted as providing pre-approval for Seqwater to incur costs. The allowance is designed to work in conjunction with the review event mechanism (and other ex post adjustment mechanisms), and we would expect Seqwater to demonstrate the prudency and efficiency of costs it incurs. This provides a degree of protection against inefficient costs being passed through to customers.

[311] Seqwater advised that the next version of the WSP will contain an updated drought response strategy, including updated triggers (sub. 11, p. 8).
[312] Seqwater, sub. 1, p. 121.
[313] Atkins supplementary report, pp. 30–34.
[314] Atkins supplementary report, pp. 30–31.
[315] Atkins supplementary report, pp. 23, 26, 34–36.
[316] Seqwater provided examples of other costs it may incur (sub. 11, pp. 23–24). We have also not included an allowance for renewals capex associated with the Luggage Point AWTP, which Seqwater proposed to recover through bulk water prices (as discussed in Chapter 5).
[317] Unitywater, sub. 23, p. 3.
[318] Referral notice, section C(17)(a).

Table 57 QCA position—drought costs ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Seqwater's proposal	66.1	67.6	86.1	96.2	316.1
QCA adjustment	–	–	–	–	–
QCA position	**66.1**	**67.6**	**86.1**	**96.2**	**316.1**

Revenue shortfall due to lower demand

Seqwater proposed an allowance to recover an expected shortfall in revenue because of lower demand under drought conditions. Including an allowance for the revenue shortfall is consistent with the request in the referral notice to account for reduced forecast demand during drought conditions. Consistent with Seqwater's approach, we estimated the shortfall by multiplying the bulk water price (under normal conditions) by the forecast reduction in demand.[319]

Table 58 QCA position—revenue shortfall ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Revenue shortfall[a]	**57.4**	**68.1**	**80.6**	**94.0**	**300.2**

a *Based on recommended bulk water prices.*

Additional revenue from other sources

Seqwater expects to earn additional revenue from selling more water to Toowoomba Regional Council (TRC) and Stanwell (for its power stations) under drought conditions. According to Seqwater, both customers have their own supply sources, so they only tend to draw water from Seqwater when local drought conditions adversely affect their own supplies.[320] Seqwater initially proposed an incremental revenue offset of around $10 million each year to account for higher water sales to both customers.[321]

While there are provisions in the Stanwell agreement to charge higher prices for recycled water under certain conditions, Seqwater's proposed drought allowance applied the standard prices contained in the agreement. Because it is uncertain if the higher prices will apply, we consider that using the standard prices is reasonable. [redacted][322] Seqwater advised that the demand assumptions underpinning the revenue offset calculations for both customers are based on a hypothetical moderate drought, where it is assumed that customers obtain some water from their main supply sources.[323]

Based on the information provided by Seqwater, including the supply agreements and revenue calculations, our position is that Seqwater's revenue forecasts are generally reasonable for the purposes of establishing the drought allowance. [redacted]

[319] Seqwater, sub. 11, pp. 18–19.
[320] See Chapter 8.
[321] Seqwater, response to RFI 201, sub. 11, pp. 4, 19.
[322] Seqwater, response to RFI 9 (post draft report).
[323] Seqwater, response to RFI 7 (post draft report).

Table 59 QCA position—revenue offset ($m, nominal)

Source	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*Total*
Revenue offset	**10.5**	**10.8**	**11.0**	**11.3**	**43.6**

Summary—revenue requirement

A summary of our position on the revenue requirement for operating under drought conditions is provided in Table 60.

Table 60 QCA position—revenue requirement ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Drought costs	66.1	67.6	86.1	96.2	316.1
plus revenue shortfall	57.4	68.1	80.6	94.0	300.2
less additional revenue from other sources	10.5	10.8	11.0	11.3	43.6
Total	**113.0**	**125.0**	**155.8**	**178.9**	**572.6**

Note: Totals may not add up due to rounding.

Source: QCA analysis.

11.2.3 Converting the revenue requirement into an annual drought allowance

The final step is to convert the revenue requirement into an annual drought allowance per kilolitre of water. We did this by dividing the revenue by forecast demand and smoothing the allowance so that it remains constant in real terms over the regulatory period.[324]

Our recommendation on the drought allowance is provided in Table 61. Seqwater's proposed allowance is higher than our recommended allowance, because we re-calculated the revenue shortfall (reflecting our recommended bulk water prices) and updated the revenue offset forecasts.

Table 61 QCA recommendation—drought allowance ($/kL, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*
QCA recommendation	**0.405**	**0.414**	**0.424**	**0.435**
Seqwater's proposal	0.431	0.440	0.450	0.461
Difference (%)	(5.9)	(5.7)	(5.6)	(5.6)

Source: QCA analysis; Seqwater drought calculations spreadsheet (August 2021).

[324] Using the updated inflation forecast (see Chapter 6).

Recommendation 2—drought allowance

We recommend the following drought allowances:

- 1 July 2022 to 30 June 2023: **$0.405** per kilolitre
- 1 July 2023 to 30 June 2024: **$0.414** per kilolitre
- 1 July 2024 to 30 June 2025: **$0.424** per kilolitre
- 1 July 2025 to 30 June 2026: **$0.435** per kilolitre.

12 CUSTOMER IMPACTS, FUTURE REVIEW EVENTS AND OTHER MATTERS

In this chapter, we consider:

- the impact of our recommendations on households and businesses
- the appropriateness of the current list of review events to guide future reviews
- other matters raised by Seqwater, including proposals to introduce a prudent discounting framework and provide a concealed leaks discount.

12.1 Customer impacts

We have considered the impact of our recommendations on households and businesses, noting that the government will decide whether to accept our recommendations.

Based on our recommendations, bulk water prices would increase by 2.14 per cent for each of the next four years, which is below forecast inflation[325], providing a real bulk water price decrease to customers. Adding the drought allowance would increase bulk water prices by a further 12.3 per cent, which may give rise to affordability concerns for some customers. As prices are fully volumetric, all customers would face the same percentage increase in the bulk water component of their water bill, but customers with higher water usage would face bigger increases in dollar terms than customers with lower usage.

Bulk water prices make up a significant proportion of total water bills. For example, Urban Utilities and City of Gold Coast advised that bulk water prices made up around 40 per cent of an average customer's bill.[326] Broadly, in submissions to this review, retailers considered that annual increases of around 2 per cent were acceptable[327], but they were concerned about the impact on customers of applying the drought allowance.[328]

Our role is to recommend prices in accordance with the terms of the referral notice. This includes providing Seqwater with a reasonable opportunity to recover its prudent and efficient costs and repay price path debt by 2028. Prices that reflect prudent and efficient costs protect customers from excessive prices, while providing the means for Seqwater to deliver a safe and reliable water service. We also recommend prices that are consistent with the price path the government established, which aims to smooth price impacts over time to mitigate bill impacts (Chapter 1).

We recognise that affordability may be a concern for some customers, particularly if the drought allowance is applied. However, given current dam levels, it appears unlikely that the drought allowance would apply in the near term, although decisions about the application of the allowance are a matter for government.

That said, subsidised water prices are inefficient and ineffective at addressing affordability concerns, because they cannot target support to those in need. Social equity and affordability

[325] See section 6.2.1 for forecast inflation rates.
[326] Urban Utilities, *2020/21 Annual Report*, p. 18, sub. 25, p. 1; City of Gold Coast, sub. 24, p. 1.
[327] Unitywater, sub. 23, p. 2; Urban Utilities, sub. 25, p. 1; City of Gold Coast, sub. 24, p. 1.
[328] Unitywater, sub. 23, p. 2; Urban Utilities, sub. 25, p. 3–4; City of Gold Coast, sub. 24, p. 1; Logan Water, sub. 26, p. 1. City of Gold Coast was also concerned that the drought allowance would increase the financial risk to retailers (sub. 24, p. 1).

concerns are better addressed through targeted measures, such as better consumer protection, broader income support measures, and government and retailer hardship programs.[329] Box 2 summarises the key support measures currently available to water customers. It is a matter for the government to determine the ongoing appropriateness of support measures to meet social equity and affordability objectives.

[329] See Productivity Commission, *Australia's Urban Water Sector*, inquiry report no. 55, August 2011, pp. 217–228.

Box 2 Support for water customers in south east Queensland

Customers facing payment difficulties should contact their retailer to find out what support is available. Retailers have obligations to help customers that are in financial hardship or facing payment difficulties. However, support is generally only available to property owners (rather than tenants) because property owners are financially responsible for paying water bills.

Hardship policies

Retailers must have a hardship policy that is available to small customers that cannot pay their bill because of financial hardship. In accordance with the South East Queensland Customer Water and Wastewater Code, hardship policies must contain the following:

- information about relevant government concessions
- flexible payment options (including payment plans and the Centrepay billing service)
- programs the retailer may use to assist the customer to pay their bill
- information or referral to financial counselling services or community service organisations
- information about water efficiency measures
- the circumstances under which the hardship policy will no longer apply to a customer.

For customers facing temporary financial difficulties, retailers may extend the due date for paying a bill and must allow customers to pay by instalments under a payment plan.

Government concessions

Eligible pensioners can access a water subsidy of up to $120 per year. To receive the subsidy, customers must meet all the following eligibility criteria:

- hold a Queensland Pensioner Concession Card or Department of Veterans' Affairs Health Card for all conditions
- be the owner or life tenant of the property, which is their principal place of residence
- be legally responsible for paying local council rates and charges levied on the property.

More information about the subsidy can be found on the Queensland Government website.

Dispute resolution

The Energy and Water Ombudsman Queensland provides a dispute resolution service for small customers that cannot resolve a problem or complaint with their water retailer. Further information is available at www.ewoq.com.au.

Rights of tenants

Lessors can recover water consumption charges (including bulk water prices) from tenants, but only if certain criteria are met. Information about tenants' rights in relation to paying for water is available at www.rta.qld.gov.au.

12.2 Review event mechanism—future reviews

To establish the opening price path debt balance at 1 July 2022, we make several end-of-period adjustments in accordance with the referral notice (see Chapter 9).[330] One of the adjustments is to provide for Seqwater to recover costs arising from the occurrence of any of following review events:

- cost of debt events
- drought response events
- feedwater quality events
- emergency events
- law or government policy events.[331]

Seqwater claimed costs associated with two review event categories in the current regulatory period—feedwater quality events and drought response events (see Chapter 9). In addition to assessing these cost claims, we were asked to advise on the appropriateness of the review event mechanism to guide future reviews.[332]

12.2.1 Purpose of the review event mechanism

When there is significant uncertainty about whether an event will occur, or the costs associated with an event are unusually difficult to forecast, it can be more efficient to pass through costs to customers after an event occurs, rather than include an upfront cost allowance that reflects expected costs or compensates the firm for accepting the risk.[333]

However, a firm is likely to have at least some ability to influence costs and manage the risk of the event occurring, so there is a balance to be struck between:

- allocating risk to the firm to incentivise the firm to efficiently manage risk and pursue efficiency gains
- allocating risk to customers to provide a reasonable opportunity for the firm to recover its efficiently incurred costs and maintain an appropriate level of service, and to encourage customers to make efficient consumption decisions.

In our view, the current review event mechanism strikes a reasonable balance between the allocation of risk between Seqwater and end customers. Seqwater bears most operating cost risk during the regulatory period, which means that customers generally do not pay more if costs are higher than forecast, while Seqwater retains the benefit if costs are lower than forecast. Customers bear operating cost risk associated with a limited number of review events, but an ex post cost assessment protects against the pass-through of inefficient costs.[334]

[330] Referral notice, sections A(3), C(12).
[331] Referral notice, sections A(3), C(12)(c); QCA, *Seqwater Bulk Water Price Review 2018–21*, final report, March 2018, pp. 80–81; QCA, *SEQ Bulk Water Price Path 2015–18*, final report, March 2015, pp. 91–94.
[332] Referral notice, section C(14).
[333] For the mechanism to operate symmetrically, both increases and decreases in costs are passed through to customers.
[334] Unitywater (sub. 14, p. 5) supported applying the review event mechanism to deal with abnormal costs.

12.2.2 Assessing current review events

Our recommendation is that most of the review events remain appropriate and should be retained, but two review events should be removed. They are cost of debt events and feedwater quality events.[335]

We also recommend the addition of a new review event relating to the costs of operating the Luggage Point advanced water treatment plant (AWTP) (Luggage Point review event) under normal operating conditions. This new review event is required, because we are unable to form a reasonable view as to the prudency and efficiency of forecast operating costs associated with the Luggage Point AWTP, without knowing the government's future water security planning requirements for the plant.

Cost of debt events

The cost of debt is an input to the rate of return on assets (Chapter 7) and the interest rate on price path debt (Chapter 9). In accordance with the referral notice, the cost of debt for each reflects Seqwater's cost of debt as advised by Queensland Treasury Corporation (QTC).[336]

If the government approaches QTC to advise the actual cost of debt, a review event is triggered, and we update the estimated cost of debt for the actual cost of debt. However, for this review, the government made an explicit request in the referral notice to make an end-of-period adjustment for the actual cost of debt, instead of triggering a review event.[337]

To estimate the cost of debt, we usually aim to reflect the debt management strategy of a benchmark efficient firm, rather than a firm's actual cost of debt.[338] We do not make an end-of-period adjustment for the firm's actual cost of debt, to incentivise the firm to make efficient financing decisions and protect consumers from prices that reflect inefficient costs. The approach is also consistent with the principle of competitive neutrality.[339]

Seqwater argued that the review event should be retained because the difference between the forecast and actual cost of debt could have a material impact on its financial position, and because there is no certainty as to the terms of future referral notices.[340] However, the decision to use the actual cost of debt is a government policy decision, so any request to update the cost of debt should be listed as an end-of-period adjustment in future referral notices (consistent with the referral notice for this review), and the cost of debt review event should be removed.

Drought response event

As currently defined, if Seqwater can demonstrate a change in prudent and efficient costs as a result of taking drought response measures in accordance with the Water Security Program (WSP), those costs are eligible to be recovered as a drought response review event.

Our position is that the drought response review event should be retained. Droughts are difficult to predict, and the impact on costs is uncertain. It is likely to be more efficient to pass through

[335] Seqwater (sub. 1, p. 139) supported retaining the current review events and did not propose adding any new events.
[336] Referral notice, sections C(10), C(13).
[337] Referral notice, sections A(3), C(12)(b).
[338] QCA, *Rate of return review*, final report, November 2021, p. 29.
[339] The principle that a government-owned business should not have a competitive advantage over private sector firms due to government ownership.
[340] Seqwater, sub. 15, p. 54.

costs when a drought occurs and the costs of responding to the drought are known with more certainty.

In response to the draft report, Seqwater submitted that the current definition of a drought response review event should be amended to provide for the prudent and efficient costs of preparing for, and proactively managing, drought at both the drought readiness and drought response stages.[341] Seqwater proposed the following definition:

> A change in prudent and efficient costs incurred by Seqwater in preparing for and proactively managing drought in accordance with the Water Security Program, consistent with the current definition of a 'drought response action' as contained in the Regulator's 2021 *Water Security Program Guidelines South-East Queensland*, but excluding:
>
> - revenue recovered for costs already reflected in the approved operating and capital expenditure forecasts; and
> - any revenue recovered during the period through a drought allowance.[342]

Rather than determining eligibility based on compliance with the WSP, we consider that a more flexible and holistic assessment approach to determining eligibility promotes a prudent and efficient drought management approach. We recognise that no water planning document can precisely determine the optimal approach to prepare for and respond to drought, as the optimal approach is likely to reflect the relevant circumstances.

As we consider that Seqwater is unlikely to be adequately compensated for drought readiness activities through upfront cost allowances, the definition should clarify that costs associated with those activities are eligible to be recovered. However, as Seqwater is compensated for undertaking drought preparedness activities through upfront cost allowances (for example, the costs of maintaining the manufactured water assets to a particular state of preparedness), these costs should not be recoverable as a review event. Cost recovered through the application of the drought allowance should also be excluded to avoid double counting.

While Seqwater's proposed definition refers to revenue impacts, the review event should only consider cost impacts, otherwise the review event is likely to overlap with other end-of-period adjustments that address revenue impacts.

Reflecting the above considerations, we recommend the following definition for the drought response review event:

> A change in prudent and efficient costs caused by Seqwater taking drought readiness or drought response actions, having regard to the following:
>
> - whether Seqwater has already been compensated for the relevant actions, for example, through allowances for drought or operating costs, or through insurances or the rate of return
> - whether Seqwater has acted in accordance with relevant water security planning requirements
> - whether the actions were approved by the Seqwater Board as prudent considering all of the circumstances at the time the decision was made and, where reasonable, any change in circumstances during the implementation of the actions.

[341] Seqwater, sub. 15, pp. 55–56.
[342] Seqwater, sub. 15, pp. 55–56.

Feedwater quality events

Seqwater made a claim for costs associated with the occurrence of feedwater quality events in each of the last four years, although the costs of responding to each event were relatively minor (Chapter 9).

As these events were not extraordinary, and Seqwater had advised of known gaps in its treatment processes, Atkins advised that it may be more efficient to provide Seqwater with an upfront allowance to take on feedwater quality risk, rather than passing through costs to customers as a review event.[343]

In the 2018 review, we did not accept Seqwater's proposal to include an upfront allowance to bear the risk of seasonal or climatic variations in feedwater quality, because there was not enough information to determine an appropriate allowance.[344] However, Seqwater's review event claim provided us with more information about the nature of feedwater quality issues and the costs of addressing those issues.

We have provided an upfront allowance for Seqwater to address and manage feedwater quality risks (see Chapter 4), instead of allowing Seqwater to recover costs ex post through a review event. The costs are relatively minor and predictable, and transferring the risk from end customers to Seqwater should provide a better incentive for Seqwater to efficiently manage variations in feedwater quality in future.

We acknowledge that extraordinary or extreme events (such as cyclones, floods, or terrorist or criminal acts) may lead to a sustained and severe deterioration in feedwater quality, with the likelihood of events occurring and the costs of responding to those events more difficult to forecast. We expect that most of these types of events, including the impact of the February/March 2022 floods, would be captured by the emergency review event.

However, Seqwater argued the review event should be retained to provide for the recovery of expenditure associated with extraordinary events that are not captured by the emergency review event, such as feedwater contamination caused by a chemical spill.[345] Seqwater proposed the following definition for the feedwater quality event:

> A change in prudent and efficient costs caused by a feedwater quality event, excluding revenue already recovered from the feedwater quality allowance.[346]

Retaining the review event would not provide an appropriate allocation of risk or incentivise Seqwater to efficiently manage variations in feedwater quality. The proposed definition also appears to transfer risk to customers when costs exceed the allowance, while allowing Seqwater to keep the benefit if costs are lower. Nevertheless, we consider an amendment to the emergency event definition is appropriate because the definition, as currently drafted, may not capture all extraordinary events (see below).

Other review events

Our recommendation is that emergency events and law or government policy events should be retained. As it is difficult to predict the likelihood of these events occurring and to forecast the cost impacts, it is likely to be more efficient to pass through costs to end customers after events occur, rather than to provide Seqwater with an upfront allowance to take on the risk. While we

[343] Atkins draft report, pp. 46, 60–61.
[344] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 80.
[345] Seqwater, sub. 15, pp. 38–40, 55.
[346] Seqwater, sub. 15, p. 55.

would expect Seqwater to have some control over the costs of these events, the ex post cost assessment should provide an incentive for Seqwater to efficiently incur costs when responding to events.

In the draft report, we proposed amendments to both definitions to improve clarity and remove references to the impact of events on revenue. To the extent there are any revenue impacts, they could be addressed through a separate end-of-period revenue adjustment.[347] While noting it had no certainty that an end-of-period revenue adjustment would continue to apply, Seqwater accepted the proposed amendments.[348]

The definition of the emergency event should also be amended so that it also captures extraordinary events (as discussed above), and the name of the event should be amended to reflect its broader scope. The definition of the law or government policy event should also be amended to:

- make all claims subject to an ex post assessment for prudency and efficiency—the current definition provides for costs to be automatically passed through to customers if the cost impact is unambiguous.[349] However, it is difficult to foresee a situation where a cost impact would be unambiguous; we would need to verify a claim in any case
- remove the reference to Seqwater being unable to manage the impact of a change in law or government policy—the wording is unclear, open to interpretation, and unnecessary, since we would expect changes in law or government policy to largely be outside of Seqwater's control.

In response to the draft report, Seqwater queried why we had not provided a recommendation on an existing review event that addresses changes in cost or revenue due to unexpected changes to water demand or supply.[350] However, this is not an existing review event; rather, it reflects a recommendation from our 2015 review in relation to the management of volume risk.[351] The government's position on other risk mitigation mechanisms are specified in the referral notice, and we have not been asked to make recommendations in relation to these mechanisms.

12.2.3 New review event—Luggage Point

This review event would capture costs associated with the recommissioning and operating, or decommissioning (back to care and maintenance) of the plant. This new review event is required, because we are unable to form a reasonable view as to the prudency and efficiency of forecast operating costs associated with the Luggage Point AWTP, without knowing the government's future water security planning requirements for the plant.

Moreover, there is sufficient uncertainty as to the plant's role in meeting water security planning requirements. We understand that the plant's operation may be considered as part of the next

[347] In accordance with the referral notice for this review, we make a separate end-of-period adjustment to update forecast revenue for actual revenue (see section 9.1.6), although the continuation of this adjustment in future is at the discretion of the government.
[348] Seqwater, sub. 15, p. 56.
[349] Seqwater (sub. 15, pp. 54, 56) queried why we did not discuss this provision in the draft report. We can confirm that we formed a draft view on this provision in the draft report (see p. 111), which we have maintained for the final report.
[350] Seqwater, sub. 15, pp. 54, 56.
[351] QCA, *SEQ bulk water price path 2015–18*, final report, March 2015, p. 90.

version of the WSP. The current version of the WSP does not provide sufficient certainty as to the ongoing operation of the Luggage Point AWTP outside of drought in current conditions.

Given the level of Seqwater's dams and availability of water from customers' own supply sources, customer demand does not appear to justify the prudency or efficiency of Seqwater's proposed low-flow operation (at $8.5 million per annum). In this regard, it is uncertain that the plant's recycled water represents a cost-effective way of producing water in non-drought conditions. By way of comparison, Seqwater's forecast desalination costs are materially less expensive than the plant's costs.

In light of the above, we recommend the following new review event:

> A change in prudent and efficient costs as a result of the operation and/or decommissioning of the Luggage Point AWTP, having regard to the following:
>
> - an explicit water security planning requirement as to the ongoing mode of operation and/or decommissioning of the facility
> - in the absence of an explicit water security planning requirement, customer demand for the plant's recycled water, and whether the plant represents an effective least-cost solution for meeting that demand.

12.2.4 QCA recommendations

Except for cost of debt events and feedwater quality events, the current list of review events should be retained, but the definition of each event should be amended. The recommended Luggage Point event will provide certainty to Seqwater that it will be able to recover the additional prudent and efficient costs of operating (or decommissioning) the Luggage Point AWTP in certain circumstances.

Consistent with our previous recommendations, within-period price adjustments are appropriate if cost impacts are significant, but it would be appropriate for the government to ask us to conduct a review and recommend any price adjustments. However, within-period adjustments are not necessary for drought response events, because the drought allowance could be applied instead.[352]

[352] Seqwater (sub. 15, pp. 55–56) supported this recommendation.

Recommendation 3—future review events

Event	*Retain event?*	*Within-period adjustment?*	*Amend definition?*	*Definition*
Existing review events				
Cost of debt	No	n/a	n/a	n/a
Drought response event	Yes	No—unnecessary given drought allowance.	Yes	A change in prudent and efficient costs caused by Seqwater taking drought readiness or drought response actions, having regard to the following: • whether Seqwater has already been compensated for the relevant actions, for example, through allowances for drought or operating costs, or through insurances or the rate of return • whether Seqwater has acted in accordance with relevant water security planning requirements • whether the actions were approved by the Seqwater Board as prudent considering all of the circumstances at the time the decision was made and, where reasonable, any change in circumstances during the implementation of the actions.
Feedwater quality event	No	n/a	n/a	n/a
Emergency or extraordinary event	Yes	Yes—material cost impacts only.	Yes	A change in prudent and efficient costs caused by an emergency event or extraordinary event, but only if Seqwater is not at fault.
Law or government policy event	Yes	Yes—material cost impacts only.	Yes	A change in prudent and efficient costs caused by a change in law or government policy.
New review events				
Luggage Point event	n/a	Yes—material cost impacts only.	n/a	A change in prudent and efficient costs as a result of the operation and/or decommissioning of the Luggage Point AWTP, having regard to the following: • an explicit water security planning requirement as to the ongoing mode of operation and/or decommissioning of the facility • in the absence of an explicit water security planning requirement, customer demand for the plant's recycled water, and whether the plant represents an effective least-cost solution for meeting that demand.

12.3 End-of-period adjustments

Seqwater asked that we consider recommending that the government provides greater assurance that an end-of-period adjustment will apply to the 2022–26 regulatory period, consistent with the mechanism that applies to current period costs and revenue.[353] Seqwater said the lack of certainty about whether the mechanism will continue to apply is a significant risk to the firm's financial sustainability.[354] Urban Utilities indicated that it supported Seqwater's proposal.[355]

As we were only asked to provide advice on future review events, not other end-of-period adjustments, we consider that making recommendations on other adjustments would be outside the scope of our review.[356]

12.4 Prudent discounting framework

Some large end customers may be able to supply themselves at lower cost than if they obtain supply through the water network. If a customer decides that it is financially viable to bypass the network, the withdrawal of their demand may require an increase in bulk water prices to enable Seqwater to recover its fixed costs.[357]

Seqwater has obtained government approval to supply a large customer at a discounted price to prevent the customer from bypassing the network.[358] In accordance with the referral notice[359], we adjusted bulk water prices to enable Seqwater to recover the foregone revenue associated with providing that discount (see Chapters 8 and 9).

Seqwater considered there would be benefit in establishing a prudent discounting framework to provide stakeholders with certainty. Seqwater proposed applying the following criteria to price negotiations, and when seeking government approval to grant discounts:

- The customer must have a technically and economically feasible option to bypass the network.
- The size of the discount would be no larger than necessary to prevent bypass, would not result in other users being worse off than if the discount was not applied and the customer bypassed the network, and would not result in the customer contributing less than their incremental cost of supply.[360]

Seqwater asked that we recommend to the government that future prudent discounts be approved if the above criteria are met, with the foregone revenue associated with providing the discount recovered through bulk water prices.[361] Urban Utilities supported Seqwater's proposed framework, as it considered this would provide greater clarity and certainty to retailers and end customers.[362]

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[353] Referral notice, sections A(3), C(12).
[354] Seqwater, sub. 1, pp. 10, 135–140, sub. 11, p. 22.
[355] Urban Utilities, sub. 13, p. 3.
[356] Seqwater acknowledged our position in response to the draft report (sub. 15, p. 58).
[357] Seqwater, sub. 1, p. 143.
[358] Seqwater, sub. 1, pp. 11, 128, 141, 143.
[359] Referral notice, sections A(3), A(5), C(12)(d), C(18)(d).
[360] Seqwater said the criteria were modelled on the framework for granting of prudent discounts on electricity transmission network charges in the National Electricity Rules (sub. 1, pp. 11, 141, 143–144).
[361] Seqwater, sub. 1, pp. 11, 144–145.
[362] Urban Utilities, sub. 13, p. 3.

While we have not considered Seqwater's proposal in detail, there may be merit in establishing a prudent discounting framework to promote the efficient use of the water network. Whenever prices for a large customer are set at a level that recovers more than the standalone cost of supply, there is a risk that the customer will bypass the network and invest in their own supply arrangements. This may result in inefficient duplication of water supply infrastructure and higher prices for other customers.

However, one reason that large customers may pay more than standalone costs is that bulk water prices are not cost reflective—while costs are mostly fixed, they are fully recovered through consumption or usage charges. Therefore, another option to reduce the risk of inefficient bypass may be to restructure prices to introduce a fixed charge, so there is less reliance on the usage component to recover costs.

We highlighted some of these issues in our 2018 review, in response to Seqwater's proposal to introduce a prudent discounting framework at that time.[363] However, as was the case then, for this review we were not asked to provide advice to government on a prudent discounting framework, so we consider that making recommendations would be outside the scope of our review.[364]

12.5 Concealed leaks discount

Seqwater proposed to discount bulk water prices for end customers that lose water because of concealed leaks on their property.[365] Seqwater advised that concealed leaks are hidden or underground leaks that a customer could not reasonably be expected to know about—for example, leaks from underground pipes. Seqwater said customers often become aware of concealed leaks when their bills are higher than usual.[366]

Seqwater suggested that we recommend a concealed leaks discount on bulk water prices, in accordance with a policy it is developing in consultation with retailers. Seqwater proposed to recover the foregone revenue of providing the discounts—expected to be around $3 million per year—through an increase in bulk water prices for other customers.[367] Seqwater said the purpose of the discount was to alleviate financial hardship for affected customers, by spreading a portion of the costs of the lost water across all customers. Seqwater expected the impact on other customers would be small (around 30 cents annually per customer), compared to the potentially significant impact on customers affected by concealed leaks.[368]

Retailers are already required to provide financial relief to customers affected by concealed leaks[369], although they have discretion to determine eligibility criteria and the level of relief provided.[370, 371] Urban Utilities supported Seqwater's proposal, noting that it would align with

[363] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 84.
[364] Seqwater and Urban Utilities acknowledged our position in response to the draft report (Seqwater, sub. 15, p. 58; Urban Utilities, sub. 25, pp. 4–5).
[365] Seqwater, sub. 1, pp. 11, 141–143.
[366] Seqwater, sub. 1, p. 142.
[367] Seqwater said an end-of-period adjustment was likely to be required, given the uncertainty associated with the forecast (sub. 1, pp. 11, 130, 141, 143 and response to RFI 23).
[368] Seqwater, sub. 1, p. 142.
[369] See Queensland Government, *South East Queensland Customer Water and Wastewater Code*, version 1, April 2017, s. 19.
[370] Seqwater, sub. 1, pp. 11, 130, 142.
[371] See, for example, the concealed leaks remission policy Urban Utilities developed—Urban Utilities, *Concealed leak policy*, version 7, October 2021.

retailers' policies and result in better outcomes for customers impacted by concealed leaks.[372] Redland City Council encouraged collaboration between Seqwater, the government and the retailers to develop a process for Seqwater or the government to fund the discount.[373]

It is not within the scope of our review to make a recommendation about the appropriateness of Seqwater's proposal. We were asked to recommend a single volumetric price, not to consider whether different prices should apply to customers in particular circumstances. In addition, the referral notice only provides scope for the recovery of foregone revenue if a discounted price has been approved by the government.

The development of a concealed leaks discount framework is a matter of government policy. However, as a general comment, the reasons stated for providing a discount and recovering foregone revenue from other customers are not compelling.

The cost associated with concealed leaks at a customer's property is not a cost of supplying bulk water, and Seqwater is only responsible for supplying water to the point of connection with the retailers' distribution networks.[374]

A discounted price may also not be the most appropriate or effective way of addressing concerns about financial hardship. It is not necessarily the case that customers that incur higher than normal bills due to concealed leaks are at greatest risk of facing payment difficulties. While we acknowledge Seqwater's view that the policy targets situations where customers would not reasonably be aware of the leak or be able to take timely actions to address the leak[375], the policy may also reduce the incentive for customers to avoid leaks by appropriately maintaining water infrastructure on their properties.

Measures that provide direct support to customers who cannot afford to meet their basic water needs are likely to be less distortionary and to better target concerns about affordability and financial hardship.

[372] Urban Utilities, sub. 13, pp. 2–3, sub. 25, p. 4.
[373] Redland City Council, sub. 12, pp. 1–2.
[374] Under clause 8 of the supply agreements.
[375] Seqwater, sub. 15, pp. 58–59.

APPENDIX A: RECOMMENDATIONS

In accordance with the referral notice issued under section 23 of the *Queensland Competition Authority Act 1997*, we have completed our investigation into Seqwater's bulk water pricing practices and present our recommendations on:

(1) the bulk water prices to apply for the regulatory period 1 July 2022 to 30 June 2026

(2) a drought allowance that could be applied during the regulatory period, in addition to prices under normal operating conditions

(3) the appropriateness of future review events.

1. Bulk water prices

We recommend a bulk water price of $3.301 per kilolitre in 2022–23, increasing to $3.517 per kilolitre in 2025–26 under normal (non-drought) conditions.

QCA recommendation—bulk water prices ($/kL)

	2022–23	***2023–24***	***2024–25***	***2025–26***
Bulk water price	**3.301**	**3.371**	**3.444**	**3.517**

2. Drought allowance

We recommend a drought allowance of $0.405 per kilolitre in 2022–23, increasing to $0.435 per kilolitre in 2025–26.

QCA recommendation—drought allowance ($/kL)

	2022–23	***2023–24***	***2024–25***	***2025–26***
Drought allowance	**0.405**	**0.414**	**0.424**	**0.435**

3. Review events

Our recommendation on future review events is provided below.

QCA recommendation—future review events

Event	*Retain event?*	*Within-period adjustment?*	*Amend definition?*	*Definition*
Existing review events				
Cost of debt	No	n/a	n/a	n/a
Drought response event	Yes	No—unnecessary given drought allowance.	Yes	A change in prudent and efficient costs caused by Seqwater taking drought readiness or drought response actions, having regard to the following: • whether Seqwater has already been compensated for the relevant actions, for example, through allowances for drought or operating costs, or through insurances or the rate of return • whether Seqwater has acted in accordance with relevant water security planning requirements • whether the actions were approved by the Seqwater Board as prudent considering all of the circumstances at the time the decision was made and, where reasonable, any change in circumstances during the implementation of the actions.
Feedwater quality event	No	n/a	n/a	n/a
Emergency or extraordinary event	Yes	Yes—material cost impacts only.	Yes	A change in prudent and efficient costs caused by an emergency event or extraordinary event, but only if Seqwater is not at fault.
Law or government policy event	Yes	Yes—material cost impacts only.	Yes	A change in prudent and efficient costs caused by a change in law or government policy.
New review events				
Luggage Point event	n/a	Yes—material cost impacts only.	n/a	A change in prudent and efficient costs as a result of the operation and/or decommissioning of the Luggage Point AWTP, having regard to the following: • an explicit water security planning requirement as to the ongoing mode of operation and/or decommissioning of the facility • in the absence of an explicit water security planning requirement, customer demand for the plant's recycled water, and whether the plant represents an effective least-cost solution for meeting that demand.

APPENDIX B: REFERRAL NOTICE

Note: The referral notice was issued by the Treasurer and Minister for Investment on 16 June 2021.

QUEENSLAND COMPETITION AUTHORITY ACT 1997

SECTION 23

MINISTER'S REFERRAL NOTICE

Referral

Pursuant to section 23(1) of the *Queensland Competition Authority Act 1997* (the Act), I refer the monopoly business activity of bulk water supply by the Queensland Bulk Water Supply Authority (Seqwater) in the local government areas listed below to the Queensland Competition Authority (the Authority) for an investigation about the pricing practices relating to that activity with the objective of recommending the State bulk water prices (Prices) for Seqwater in the following local government areas for the period of 1 July 2022 to 30 June 2026 (the Regulatory Period).

Brisbane	Logan	Scenic Rim
Gold Coast	Moreton Bay	Somerset
Ipswich	Noosa	Sunshine Coast
Lockyer Valley	Redland	

(A) Pursuant to section 24 of the Act, I direct the Authority to consider and make recommendations about the following matters as part of its investigation:

1) Recommend Prices for the Regulatory Period that allow Seqwater sufficient revenue to recover the prudent and efficient costs of providing bulk water supply services (defined as per (C)(4)) and repay Price Path Debt (as per (C)(11) and (C)(14)) by 2027-28 under normal operating conditions as per (C)(2).
2) Prices are to be consistent with the following:
   (a) bulk water costs include, but are not limited to:
      i. prudent and efficient capital expenditure and operating expenditure as per (C)(5);
      ii. a return on assets (including working capital) using a rate of return as per (C)(10);
      iii. an allowance for tax (where applicable);
      iv. interest on Price Path Debt as per (C)(13);
      v. depreciation calculated as per (C)(8);
      vi. any costs detailed in Seqwater's bulk water supply agreements; and
      vii. additional prudent and efficient operating and capital costs arising from Review Events (defined as per (C)(14))
   (b) the regulated asset base (RAB) is to be established as per (C)(6) and subject to the opening RAB dictated by (C)(7);
   (c) repayment of Price Path Debt by 2027-28;
   (d) prices as per (C)(1);
   (e) forecast demand as per (C)(2)-(C)(3); and
   (f) the inflation forecasting methodology as per (C)(9).
3) Price Path Debt is to be calculated as per (C)(11)-(C)(13);
4) A Drought Allowance is to be calculated as per (C)(15)-(C)(17); and
5) The other matters as per (C)(18)-(C)(19).

(B) Timing

1) Pursuant to section 24 of the Act, I direct the Authority to provide to the Minister for Water and me:

   (a) a Draft Report by 30 November 2021, following on a submission being made by Seqwater by 30 June 2021; and

   (b) a Final Report by 31 March 2022.

HON. CAMERON DICK MP

Treasurer and Minister for Investment

(C) Definitions

Price structure

1) The Authority is to recommend Prices that:

   (a) are volumetric only with a single common price to apply for all SEQ council areas;

   (b) are consistent with smoothing price changes over the Regulatory Period; and

   (c) remain constant in real terms beyond the Regulatory Period until 2027-28.

Normal operating conditions and Forecast demand

2) For the purpose of recommending Prices, forecast demand is to be as provided by Seqwater for normal operating conditions and must be within the range (low-high) published in the SEQ Water Security Program.

3) The Authority can make adjustments to the normal operating conditions forecast demand to ensure it is appropriate for regulatory pricing purposes as long as any Authority adjusted forecast remains within the range (low-high) published in the SEQ Water Security Program.

Capital and Operating Expenditure

4) Capital and operating expenditure includes activities related to the provision of bulk water supply services (including catchment management) as well as activities related to recreation management and flood mitigation costs.

5) To assess capital and operating expenditure from 1 July 2022 to 30 June 2028, the Authority must:

   (a) form a view on the prudency and efficiency of capital and operating expenditure, with the focus on cost areas which are material rather than matters which are likely to have a minor and inconsequential impact in total;

   (b) to the extent that it is not practicable to form a view on the prudency and/or efficiency of aspects of capital expenditure (for example, because a project is not expected to be commissioned until later in the price path period), adopt an appropriate assessment approach; and

   (c) have regard to the strategic and operational plans approved by the responsible Ministers under the South East Queensland Water (Restructuring) Act 2007.

RAB

6) The opening RAB as at 1 July 2017 is not to be optimised and the Authority is to accept the remaining lives as used by the Authority in the 2018-21 review.

7) To establish the opening RAB as at 1 July 2022, the Authority is to:

   (a) assess actual capital expenditure from 1 July 2017 to 30 June 2022 (to the extent actual capital expenditure information is available) for prudency and efficiency. The review should focus on items that would have a material impact rather than matters which are likely to have a minor and inconsequential impact in total. Any findings of the Authority against the prudency and efficiency of projects sampled should not be extrapolated to un-sampled projects.

(b) roll forward the RAB from 1 July 2017 to 30 June 2022, using actual capital expenditure, and forecast capital expenditure where actual expenditure is not available, adjusted for any findings as per (C)(7)(a); and

(c) adjust for depreciation and actual inflation over the period.

8) Depreciation is to be calculated using the straight-line method, reflecting the remaining useful life of the assets.

Forecast inflation

9) The forecast rate of inflation must be determined by the Authority using the 40-day average of the forward inflation rate for that year implied by traded zero-coupon Australian inflation swaps.

Rate of Return

10) In regard to the rate of return the Authority uses to recommend Prices, the following is to apply:

(a) for assets (including working capital), a benchmark weighted average cost of capital (WACC) return, using a cost of equity as determined by the Authority for the equity component, and Seqwater's cost of debt as advised by Queensland Treasury Corporation (QTC) for the debt component; and

(b) if the cost of equity calculation determined by the Authority is lower than Seqwater's cost of debt, the rate of return applying to assets should be Seqwater's cost of debt as advised by QTC.

Price Path Debt

11) Price Path Debt is the accumulated under-recovery arising from the bulk water price path.

12) To establish the opening Price Path Debt as at 1 July 2022, the Authority is to make an end of period adjustment to the Price Path Debt as at 1 July 2017 based on:

(a) an updated assessment of Maximum Allowable Revenue from 1 July 2017 to 30 June 2022 adjusting for the updated capital costs based on rolling forward the RAB as per item (C)(7);

(b) updating the rate of return and interest costs for the relevant actual cost of debt as advised by QTC;

(c) any prudent and efficient costs arising from Review Events as per (C)(14);

(d) any foregone revenue as a result of pricing amendments or decisions;

(e) Seqwater's actual revenue from 1 July 2017 to 30 June 2021 and forecast revenue for 1 July 2021 to 30 June 2022; and

(f) actual demand-related variable costs from 1 July 2017 to 30 June 2021 and forecast demand-related variable costs for 1 July 2021 to 30 June 2022.

13) Interest on Price Path Debt from 1 July 2022 is to be calculated by applying Seqwater's cost of debt as advised by QTC.

Review Events

14) Review Events are defined in accordance with the Authority's recommendations from the previous price review, as set out in its March 2018 report; with the Authority also to consider and make a recommendation on the appropriateness of future review events.

Drought Allowance

15) The Authority is to recommend a Drought Allowance that could be applied during the Regulatory Period, that is in addition to Prices under normal operating conditions as per (C)(1), and expected to provide Seqwater with total revenue sufficient to recover prudent and efficient costs associated with Drought operating conditions.

16) Drought operating conditions refers to a situation where Seqwater is operating at or below the 'Drought Response' trigger per the published SEQ Water Security Program for the length of the Regulatory Period.

17) The Drought Allowance is to:

(a) include the incremental costs expected to be incurred during drought operating conditions including, but not limited to, costs associated with water conservation measures, and mobilisation of the Gold Coast Desalination Plant and the Western Corridor Recycled Water Scheme, with a focus on cost areas which are material rather than cost areas which are likely to have a minor and inconsequential impact in total;

(b) account for reduced forecast demand during drought operating conditions, noting that the Authority can make adjustments to the drought operating conditions forecast demand to ensure it is appropriate for regulatory pricing purposes as long as any Authority adjusted forecast remains at or above target demand consistent with medium level water restrictions as published in the Water Security Program (not including demand from power stations and Toowoomba Regional Council); and

(c) remain constant in real terms for the duration of the Regulatory Period.

Other Matters

18) Bulk water costs are to be offset by the below revenue streams, as advised from Seqwater:

(a) revenue from the sale of water to power stations;

(b) revenue from other water sales;

(c) revenue from any other source, except revenue related to the hydroelectric power stations; and

(d) revenue as a result of pricing amendments or decisions.

19) Costs and revenues associated with Seqwater's declared irrigation services are to be excluded. The costs related to irrigation services are to be calculated consistent with the cost allocation approach adopted by the Authority in its review of Seqwater's irrigation price paths for 2020-24.

APPENDIX C: STAKEHOLDER SUBMISSIONS

Stakeholder	*Submission number*	*Type of submission*	*Date*
Seqwater	1	Initial submission	June 2021
	2	Attachment 1—The term of the risk-free rate, report prepared for Seqwater by Frontier Economics	June 2021
	3	Attachment 2—The market risk premium, report prepared for Seqwater by Frontier Economics	June 2021
	4	Attachment 3—Equity beta for a benchmark efficient water utility, report prepared for Seqwater by Frontier Economics	June 2021
	5	Attachment 4—Gearing for a benchmark efficient water utility, report prepared for Seqwater by Frontier Economics	June 2021
	6	Attachment 5—Updated cost of debt estimates, report prepared for Seqwater by Queensland Treasury Corporation	June 2021
	7	Attachment 6—The role of gamma in the regulatory process, report prepared for Seqwater by Frontier Economics	June 2021
	8	Attachment 7—Regulatory corporate tax allowance, report prepared for Seqwater by Frontier Economics	June 2021
	9	Attachment 8—Cost escalation factors, report prepared for Seqwater by Frontier Economics	June 2021
	10	Attachment 9—Estimation of Seqwater's productivity growth rate, report prepared for Seqwater by Frontier Economics	June 2021
	11	Supplementary submission (drought costs)	August 2021
	15	Response to draft report	January 2022
	16	Attachment 1—The market risk premium and 'top down' assessment, report prepared for Seqwater by Frontier Economics	January 2022
	17	Attachment 2—Updated cost of debt estimates for Seqwater, report prepared for Seqwater by Queensland Treasury Corporation	January 2022
	18	Attachment 3—The corporate tax allowance for Seqwater, report prepared for Seqwater by Frontier Economics	January 2022
	19	Attachment 4—Maintenance Base Year Adjustments and Step Changes, Technical Note prepared by Seqwater	January 2022
	20	Attachment 5—Indicative insurance pricing 2021 and beyond, Letter prepared for Seqwater by Marsh	January 2022
	21	Attachment 6—Updated cost escalation forecasts, Memo prepared for Seqwater by Frontier Economics	January 2022
	22	Attachment 7—Expert report on QCA treatment of drought review event costs, report prepared for Seqwater by Frontier Economics	January 2022
Redland City Council	12	Initial submission	August 2021

Stakeholder	*Submission number*	*Type of submission*	*Date*
Urban Utilities	13	Initial submission	August 2021
	25	Response to draft report	January 2022
Unitywater	14	Initial submission	August 2021
	23	Response to draft report	January 2022
City of Gold Coast	24	Response to draft report	January 2022
Logan Water	26	Response to draft report	February 2022

Note: All submissions are available on our website.

APPENDIX D: CONSIDERATION OF SECTION 26 MATTERS

We explain how we have considered and had regard to each of the matters in section 26 of the QCA Act in the table below.

Table 62 Consideration of section 26 matters

Section 26 matter		*QCA consideration*
(1)(a)	The need for efficient resource allocation	We recommend prices that reflect our assessment of the prudent and efficient costs of supplying bulk water, which is consistent with promoting efficient investment by Seqwater and efficient consumption by customers (see Chapters 4 to 7).
(1)(b)	The need to promote competition	Consistent with competitive neutrality principles, Seqwater should not have a competitive advantage over private sector firms due to government ownership. In accordance with these principles, we recommend prices based on cost allowances reflecting the tax obligations and return on equity of a benchmark efficient firm. We have also considered ways in which competitive outcomes could incentivise Seqwater.
(1)(c)	The protection of consumers from abuses of monopoly power	Consumers are protected from the exercise of monopoly power because the prices we recommend reflect our assessment of the prudent and efficient costs of supplying bulk water (see Chapters 4 to 7). This prevents Seqwater from earning excessive profits due to its monopoly position.
(1)(d)(i)	The cost of providing the service in an efficient way, having regard to relevant interstate and international benchmarks	The prices we recommend reflect our assessment of the prudent and efficient costs of supplying bulk water. We have regard to benchmarking, where we consider this to be appropriate, including considering benchmark analysis undertaken by Frontier (Seqwater, sub. 10) and Atkins to inform potential efficiency gains for opex and capex (Chapter 4 and 5). We also have considered normalised WACC outcomes (Chapter 7).
(1)(d)(ii)	The actual cost of providing the service	Our assessment of the prudency and efficiency of costs was informed by information provided by Seqwater about its actual costs and forecast costs (Chapters 4 and 5).
(1)(d)(iii)	The standard of the service, including quality, reliability and safety	When assessing Seqwater's cost proposals, we considered Seqwater's operating environment and its regulatory obligations. Our assessment considered whether Seqwater could meet the required standards of quality, reliability and safety when delivering bulk water services. Cost reductions are not efficient if they are achieved at the expense of service quality.
(1)(e)	The appropriate rate of return on assets	The prices we recommend reflect a rate of return on assets that is calculated in accordance with the parameters in the referral notice, including a return on equity that reflects a benchmark efficient firm (Chapter 7).
(1)(f)	The effect of inflation	Inflation is relevant to several aspects of our assessment, including the rate of return, indexation of the regulatory asset base and operating cost escalation (for example, Chapter 4). We determined the forecast rate of inflation using the methodology specified in the referral notice and established the opening value for the RAB using the actual rate of inflation (Chapter 6).
(1)(g)	The impact on the environment of prices charged by Seqwater	Consistent with the referral notice, we recommend prices that are fully volumetric, which promotes water conservation (Chapter 10). However, environmental impacts are generally managed through non-price means. Our recommended prices provide for Seqwater to recover sufficient revenue to meet its environmental obligations, including compliance with legislation and regulations; for example, costs associated with vegetation offsets arising from

Section 26 matter		*QCA consideration*
		statutory obligations to 'offset' environmental impacts resulting from land clearing (Chapter 4).
(1)(h)	Considerations of demand management	Fully volumetric prices provide a financial incentive for customers to reduce consumption. The addition of the drought allowance when water availability is low would further encourage water conservation. The price signal may be complemented by water restrictions and other demand management measures, which aim to reduce demand.[376] However, prices signal efficient water use when the volumetric charge reflects the marginal cost of supply—that is, the cost to Seqwater of making available an additional kilolitre of water. Prices that are fully volumetric will often exceed the marginal cost of supply (particularly outside of drought), resulting in consumers unnecessarily curtailing their water use even when there are opportunities to employ water in high-value uses.
(1)(i)	Social welfare and equity considerations including community service obligations, the availability of services to consumers and the social impact of pricing practices	We recommend prices in accordance with the government's price path, which aims to smooth price impacts over time to mitigate customer impacts. We have considered the impact of our recommended prices on customers (Chapter 12), noting that the government will ultimately decide whether to accept our recommendations.
(1)(j)	The need for pricing practices not to discourage socially desirable investment or innovation	The prices we recommend promote efficient investment, because they allow Seqwater to recover the prudent and efficient costs of providing bulk water services (Chapter 10).
(1)(k)	Legislation and government policies relating to ecologically sustainable development	We recommend prices that enable Seqwater to recover the prudent and efficient costs of meeting its regulatory requirements, including its environmental obligations and water security planning requirements (Chapters 4 and 5).
(1)(l)	Legislation and government policies relating to occupational health and safety and industrial relations	We provide a base-year fixed opex allowance that provides Seqwater with sufficient revenue to satisfy occupational health and safety and industrial relations obligations (Chapter 4).
(1)(m)	Economic and regional development issues, including employment and investment growth	We recommend prices that are no higher than necessary to enable Seqwater to recover its prudent and efficient costs over time, while providing Seqwater with sufficient revenue to invest efficiently, which benefits businesses and households using the service.
(1)(n)	Any directions given by the government to Seqwater	We take the directions provided to Seqwater into account where they are relevant to our assessment.
(2)	Any water pricing determinations	Not applicable, as there are no water pricing determinations in effect.[377]

[376] See, for instance, Seqwater, *Water for life, South East Queensland's Water Security Program 2016-2046*, version 2, March 2017, pp. 10, 45–49.

[377] Water pricing determinations apply to private sector water supply activities that are declared under Part 5A of the QCA Act. There are currently no declared water supply activities under Part 5A.

APPENDIX E: RESPONSE TO SPECIFIC STAKEHOLDER COMMENTS

The table below responds to specific issues raised by stakeholders that have not been addressed elsewhere in the report.

Table 63 Response to stakeholder comments

Issue raised	*QCA response*
Unitywater questioned the basis for using bulk water prices to recover costs for recreation management, flood mitigation and dam safety. It said the contribution of these costs to prices should be transparent if they are to be recovered through bulk water prices.[378]	In accordance with the referral notice, we have provided for these costs to be recovered through bulk water prices. Other means of recovering these costs would be a matter for government policy and are beyond the scope of our review.
Urban Utilities said Seqwater should publish the proposed demand forecast earlier than the currently anticipated March 2022 timeframe.[379]	This matter is beyond the scope of our review.
Retailers commented on matters related to the implementation of pricing decisions, for example, the timing of the annual bulk water price announcements, how the drought allowance will be applied, and the timeframe for retailers to implement the drought allowance in their billing systems and communicate with customers.[380]	These are matters of government policy and are beyond the scope of our review. The government may wish to consider the matters raised in submissions.
Unitywater said that we should undertake further consultation before finalising the drought allowance, given the potential for significant customer impacts.[381]	The timeframes for the review, including the requirement to provide the final report by 31 March 2022, meant that further consultation was not possible.
Unitywater sought information on expected price impacts after 2028.[382]	This matter is beyond the scope of our review. In accordance with the referral notice, our assessment only considered costs and prices to the end of the price path in 2028.
Urban Utilities encouraged us to review Seqwater's demand management activities with the aim of ensuring prudent and efficient investment in water security planning.[383]	Seqwater's demand management strategies are broadly embodied within its Water Security Program, a review of which is beyond the scope of our review. Nonetheless, in reviewing a sample of Seqwater's capital projects, we had regard to Seqwater's options analysis in capital planning and investment decision making, including its consideration of demand management options, where relevant.

[378] Unitywater, sub. 14, p. 2.
[379] Urban Utilities, sub. 13, p. 4.
[380] Urban Utilities, sub. 13, p. 3; Unitywater, sub. 23, p. 3; City of Gold Coast, sub. 24, p. 1; Logan Water, sub. 26, pp. 1–2.
[381] Unitywater, sub. 23, p. 2.
[382] Unitywater, sub. 23, p. 3.
[383] Urban Utilities, sub. 25, p. 4.

ABBREVIATIONS

AWTP	advanced water treatment plant
CPI	consumer price index
FTE	full-time equivalent
GAWB	Gladstone Area Water Board
GCDP	Gold Coast Desalination Plant
GWh	gigawatt hour
IPL	Incitec Pivot Limited
IPART	Independent Pricing and Regulatory Tribunal of New South Wales
ML	megalitre
MRP	market risk premium
PV	photovoltaic
QTC	Queensland Treasury Corporation
RAB	regulatory asset base
RFI	request for information
s., ss.	section, sections
SEQ	south east Queensland
WACC	weighted average cost of capital
WCRWS	Western Corridor Recycled Water Scheme
WPI	wage price index
WSP	Water Security Program
WSS	water supply scheme
WTP	water treatment plant

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