Queensland Competition Authority

Draft Report

Seqwater Bulk Water Price Review

November 2021

Level 27, 145 Ann Street, Brisbane Q 4000
GPO Box 2257, Brisbane Q 4001
Tel (07) 3222 0555
www.qca.org.au

SUBMISSIONS

Closing date for submissions: 31 January 2022

This report is a draft only and is subject to revision. Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (QCA). Therefore submissions are invited from interested parties concerning our assessment of Seqwater's bulk water prices for the period 1 July 2022 to 30 June 2026. The QCA will take account of all submissions received within the stated timeframes.

Submissions, comments or inquiries regarding this paper should be directed to:

Queensland Competition Authority
GPO Box 2257
Brisbane Q 4001

Tel (07) 3222 0555
Fax (07) 3222 0599
www.qca.org.au/submissions

Confidentiality

In the interests of transparency and to promote informed discussion and consultation, the QCA intends to make all submissions publicly available. However, if a person making a submission believes that information in the submission is confidential, that person should claim confidentiality in respect of the document (or the relevant part of the document) at the time the submission is given to the QCA and state the basis for the confidentiality claim.

The assessment of confidentiality claims will be made by the QCA in accordance with the *Queensland Competition Authority Act 1997*, including an assessment of whether disclosure of the information would damage the person's commercial activities and considerations of the public interest.

Claims for confidentiality should be clearly noted on the front page of the submission. The relevant sections of the submission should also be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two versions of the submission (i.e. a complete version and another excising confidential information) could be provided.

A confidentiality claim template is available on request. We encourage stakeholders to use this template when making confidentiality claims. The confidentiality claim template provides guidance on the type of information that would assist our assessment of claims for confidentiality.

Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at our Brisbane office, or on our website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact us on (07) 3222 0555.

Contents

SUMMARY

We have been asked to conduct an investigation into Seqwater's bulk water pricing practices under section 23 of the *Queensland Competition Authority Act 1997*.

As part of this investigation, we are to provide recommendations on:

- the bulk water prices to apply for the regulatory period 1 July 2022 to 30 June 2026
- a drought allowance that could be applied during the regulatory period in addition to prices under normal operating conditions, to provide Seqwater with total revenue sufficient to recover prudent and efficient costs associated with operating in drought operating conditions
- the appropriateness of future review events.

This report explains how we reached our draft recommendations.

Draft recommendations

Our draft recommendations are indicative, and will be subject to further consideration before we provide our final report.

Under normal (non-drought) conditions, our draft recommendation is for a bulk water price of $3.295 per kilolitre in 2022–23. Bulk water prices then increase by 2 per cent per annum over the next three years to $3.491 per kilolitre in 2025–26. The draft bulk water prices reflect our draft finding that Seqwater should recover revenue of $7,695.4 million from 2022–23 to 2027–28.

In contrast, Seqwater's proposal would have provided for a bulk water price of $3.431 per kilolitre in 2022–23. Bulk water prices then increase by 6 per cent per annum over the next three years to $4.105 per kilolitre in 2025–26. Seqwater's proposal sought revenue of $8,728.4 million from 2022–23 to 2027–28.

QCA draft recommendations—bulk water prices

	2022–23	***2023–24***	***2024–25***	***2025–26***
Bulk water price ($/kL)	**3.295**	**3.359**	**3.425**	**3.491**

In terms of the drought allowance that could be applied, we have provided an indicative allowance of $0.406 per kilolitre in 2022–23. Our allowance reflects Seqwater's proposed cost forecast, as an interim measure, until we can assess the costs further. Seqwater's proposal would have provided for a drought allowance of $0.431 per kilolitre in 2022–23.

QCA draft recommendations—indicative drought allowance

	2022–23	***2023–24***	***2024–25***	***2025–26***
Indicative drought allowance ($/kL)	**0.406**	**0.416**	**0.425**	**0.435**

Our draft recommendation is that existing review events related to drought response, emergency events and law or government policy events be retained, but that adjustments to the associated definitions be made. We consider that the removal of cost of debt events and feedwater quality events is appropriate.

Next steps

Public involvement is an important part of our review. We invite submissions on our draft report from stakeholders, interested parties and members of the community. Submissions are due by 31 January 2022.

It is important that we receive submissions by the due date so that we have sufficient time to carefully and fully consider the issues raised as we prepare our final report, which we must provide to the government by 31 March 2022. After the government has considered our recommendations, we expect it will then determine Seqwater's prices.[1]

Timetable

Step	*Date*
Submissions on the draft report are due	31 January 2022
The final report is provided to the government	By 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

For more information about our review, you can visit our website or contact us on 07 3222 0555. To receive updates on the review, please register your details at www.qca.org.au/email-alerts.

[1] The government has 90 days to accept or reject our recommendations (QCA Act, s. 36(2)). The government determines bulk water prices under the *Water Act 2000* (s. 360W).

1 OVERVIEW

1.1 Seqwater's bulk water supply activities

Seqwater is a government-owned statutory authority and monopoly supplier of bulk water to more than three million people in south east Queensland.[2] 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[3], the pricing practices relating to these activities are not the subject of this review.[4]

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.[5] 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.

The government determines bulk water prices.[6] However, as the supply of bulk water by Seqwater has been declared a monopoly business activity[7], the government can ask us to investigate Seqwater's bulk water pricing practices and to recommend prices.[8]

We previously completed reviews of Seqwater's bulk water prices, in 2015 and 2018.[9] The government determined prices that were consistent with our recommendations in each of those reviews.

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

[2] 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.

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

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

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

[6] *Water Act 2000 (Qld), s. 360W.*

[7] 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)).

[8] The responsible Minister has this power under the QCA Act, pt. 3, div. 3.

[9] 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.

for a year to enable Seqwater to focus on its covid-19 response.[10] 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.[11]

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[12] and included investments in new supply sources, such as the Gold Coast Desalination Plant (GCDP) and the Western Corridor Recycled Water Scheme (WCRWS), and an interconnected pipeline network to transport water around south east Queensland.[13]

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.

Fewer than seven years remain until the end of the price path, and price path debt is being repaid.

1.3 Our review

This is our third review of Seqwater's bulk water prices. We are conducting this review under a referral notice issued by the Treasurer and Minister for Investment under section 23 of the *Queensland Competition Authority Act 1997*. We have been asked to:

- recommend bulk water prices that 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
- recommend a drought allowance that provides Seqwater with total revenue sufficient to recover prudent and efficient costs associated with operating in drought operating conditions.[14] The drought allowance is to recover the incremental costs expected to be incurred during drought operating conditions
- consider the appropriateness of the current review events, for the purposes of informing future reviews.

[10] Seqwater, sub. 1, p. 17; A Lynham MP, letter to the QCA, 24 April 2020.
[11] Seqwater, sub. 1, p. 2.
[12] 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.
[13] Seqwater Water Security Program, p. 19.
[14] Those costs incurred when operating at or below the drought response trigger in the SEQ Water Security Program. We understand that the drought allowance is not intended to be a scarcity price.

Our draft recommendations are set out in this report. A summary of our findings is provided below.

Assessment of prudent and efficient costs

The referral notice requests that we recommend prices for the regulatory period that allow Seqwater sufficient revenue to recover the prudent and efficient costs of providing bulk water services and to repay 'price path debt' by 2027–28.[15] We have assessed Seqwater's proposed costs to be recovered over the regulatory period for prudency and efficiency. As a result of this assessment, our draft findings are that Seqwater's:

- operating expenditure should be set at $1,870.7 million over the period 2023 to 2028.[16] This is 11 per cent lower than the operating expenditure of $2,102.7 million in Seqwater's submission
- prudent and efficient actual capital expenditure over the period 2018 to 2022 is $575.2 million. This is consistent with Seqwater's submitted actual capital expenditure
- forecast capital expenditure of $1,351.3 million[17] over the period 2023 to 2028 is a reasonable overall estimate of prudent and efficient capex. This is consistent with Seqwater's submitted forecast capital expenditure
- the rate of return should be set to 5.37 per cent in 2023, reflecting a benchmark gearing of 60 per cent, a cost of equity of 6.64 per cent and a cost of debt advised by Queensland Treasury Corporation (QTC). This is 33 basis points lower than Seqwater's submitted rate of return of 5.70 per cent in 2023
- tax allowance claim results in a windfall gain by ignoring certain tax losses and should be adjusted
- other cost and revenue components be adjusted, as set out in this report.

Overall, we consider that Seqwater should be allowed to recover $7,695.4 million through prices between 2023–2028, which is $1,033.0 million (or 12 per cent) lower than Seqwater proposed.

Bulk water prices

In accordance with the referral notice, the main objective of our review is to recommend prices for the four-year regulatory period under normal (non-drought) operating conditions.[18] Our draft recommendation on bulk water price in normal conditions is shown in Table 1.

Table 1 Draft recommendation—Bulk water prices

	2022–23	***2023–24***	***2024–25***	***2025–26***
QCA draft recommended bulk water price ($/kL)	**3.295**	**3.359**	**3.425**	**3.491**
Seqwater's bulk water price ($/kL)[a]	3.431	3.642	3.867	$4.105

[15] Referral notice, section A(1).
[16] This figure does not include Seqwater's proposed costs to operate part of the recycled water scheme, which we have requested further information from Seqwater.
[17] Capital expenditure is presented on an as-commissioned basis.
[18] We have interpreted 'normal operating conditions' as conditions associated with operating above the drought response trigger. Costs associated with operating below the drought response trigger are captured by the drought allowance, consistent with the referral notice (sections A(4), C(15)–(17)).

	2022–23	*2023–24*	*2024–25*	*2025–26*
Difference (%)	(4.0)	(7.8)	(11.4)	(14.9)

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

Source: QCA analysis; Seqwater's pricing model.

Based on our draft recommendations, bulk water prices would increase by 2 per cent for each of the next four years.

We have considered the impact of our draft recommendations on households and businesses. It is important to note that the impacts are indicative only—our final recommendations may change to reflect updated information and feedback on our draft report, and the government will ultimately decide whether to accept our final recommendations.

As prices are 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.

Drought allowance

For the first time, we have also been asked to recommend a 'drought allowance' that could be added to the prices that would apply under normal (non-drought) conditions. The purpose of the allowance is to enable Seqwater to recover the additional costs of operating under drought conditions, which is defined as operating at or below the 'drought response trigger' in the water security program. Under the current version of the water security program, the trigger is reached when combined dam levels drop to 60 per cent.[19] Seqwater is currently operating in drought response mode, with dam levels lower than 60 per cent since the middle of the year (currently around 55 per cent).[20]

Our indicative drought allowance that could be added to bulk water prices shown in Table 2. We note our allowance reflects Seqwater's proposed cost forecast, as an interim measure, until we can assess the costs further.

Table 2 Draft recommendation—Indicative drought allowance

	2022–23	*2023–24*	*2024–25*	*2025–26*
QCA indicative drought allowance ($/kL)	**0.406**	**0.416**	**0.425**	**0.435**
Seqwater's drought allowance ($/kL)[a]	0.431	0.440	0.450	0.461
Difference (%)	(5.6)	(5.5)	(5.5)	(5.5)

a This is the drought allowance resulting from Seqwater's submission.

Source: QCA analysis; Seqwater's pricing model.

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

Review events

We have been asked to consider and make a recommendation on the appropriateness of future review events.

[19] Seqwater Water Security Program, p. 10.

[20] Seqwater, *Historic dam levels*, Seqwater website 2021, accessed 15 November 2021.

Our draft recommendation is that drought response events, emergency events and law or government policy events be retained, with adjustments to the associated definitions.

Our draft recommendation also considers the removal of cost of debt events and feedwater quality events appropriate.

With regard to the cost of debt event, we note the decision to use the actual cost of debt is a government policy decision. As a result, we consider 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.

For the feedwater quality event, our draft position is to provide an upfront allowance for Seqwater to address and manage feedwater quality risks. Transferring the risk from end customers to Seqwater should provide a better incentive for Seqwater to efficiently manage variations in feedwater quality in future.

2 OUR APPROACH TO THE REVIEW

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

2.1 Consideration of the referral notice and legislative requirements

We make our draft 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 have been asked to recommend 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 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 QTC
- risk-sharing—the revenue requirement should be adjusted to account for 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
- 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 have also been 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.

Consideration of section 26 matters

In conducting our review, we are required to consider the matters in section 26 of the QCA Act.

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.

The list of matters is extensive, diverse and potentially conflicting[21]—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 C.

2.2 Stakeholder submissions

We provided stakeholders with an opportunity to comment on Seqwater's proposal and received three submissions from: Redland City Council, Urban Utilities and Unitywater. We have had regard to these submissions throughout our review, even though we may not have referred directly to every issue raised.

Stakeholders stated that we should consider the financial impact of prices on end customers. In particular, concerns were raised about the time-period in which the price path debt is to be recovered and the implications of any drought allowance.[22]

Stakeholders also stated we should consider:

- the robustness of, and confidence in, demand forecasts[23]
- the implications of Seqwater's proposed tax allowance determined using 'total income' inclusive of revenue received to recover the price path debt[24]
- Seqwater's operating expenditure, including:
  - the need for transparency in expenditures, and prices that represent prudent and efficient costs, considering trade-offs[25]
  - customer impacts of proposed expenditures and justifying the need for the expenditure, in the context of end use customers' needs[26]
  - the robustness of demand forecasts, and implications for future opex[27]
  - efficiencies realised during the current period and their recognition within the forecast program[28]
  - the need for a more integrated approach to investment decisions that considers broader objectives to optimise outcomes across the water sector and maximise benefits for customers, communities and the environment.[29]
- Seqwater's capital expenditure, including:
  - the need for transparency in expenditures and prices that reflect prudent and efficient costs, considering trade-offs[30]

[21] Productivity Commission, *Australia's Urban Water Sector*, Inquiry Report No. 55, August 2011, pp. 267–270.
[22] Redland City Council, sub. 12, p. 1; Urban Utilities, sub. 13, p. 2; Unitywater, sub. 14, pp. 2, 5.
[23] Unitywater, sub. 14, p. 3.
[24] Urban Utilities, sub. 13, p. 2.
[25] Redland City Council, sub. 12, p. 2; Urban Utilities, sub. 13, pp. 1–2.
[26] Redland City Council, sub. 12, p. 2; Unitywater, sub. 14, pp. 1–2.
[27] Unitywater, sub. 14, pp. 3, 6; Urban Utilities, sub. 13, p. 4.
[28] Urban Utilities, sub. 13, p. 2.
[29] Urban Utilities, sub. 13, p. 4.
[30] Redland City Council, sub. 12, p. 2; Urban Utilities, sub. 13, pp. 1–2.

- customer impacts of proposed expenditures, and justifying the need for the expenditure, in the context of end use customers' needs[31]
- robustness of demand forecasts and implications for the capital program[32]
- capital program efficiency and deliverability—capital program optimisation and capacity of Seqwater's ability to plan and deliver the program efficiently, given the program size and previous deferrals and underspends[33]
- the need, timing and robustness of cost estimates for the capital program[34]
- the potential for overinvestment in response to new legislative requirements[35]
- efficiencies realised during the current period, and their recognition within the forecast program[36]
- the reduction of non-revenue water investment including confirmation that the current and expected level of leakage does not warrant capital works to mitigate losses[37]
- the need for a more integrated approach to investment decisions that considers broader objectives to optimise outcomes across the water sector and maximise benefits for customers, communities and the environment.[38]

We have considered these matters throughout our review where relevant.

In addition, Unitywater questioned the basis for using bulk water charges 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.[39] We note the referral notice states that these costs are to be included within the bulk water prices, and 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.[40] However, we consider this matter is beyond the scope of our review.

Similarly, Urban Utilities comments around the timing of both the annual bulk water price announcements and the application of the drought allowance[41] are matters of government policy and are beyond the scope of our review.

2.3 How we make our draft recommendations

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

[31] Redland City Council, sub. 12, p. 2; Unitywater, sub. 14, pp. 1–2.
[32] Unitywater, sub. 14, pp. 3, 6; Urban Utilities, sub. 13, p. 4.
[33] Unitywater, sub. 14, pp. 3–4.
[34] Unitywater, sub. 14, pp. 3–4.
[35] Unitywater, sub. 14, pp. 4–5.
[36] Urban Utilities, sub. 13, p. 2.
[37] Unitywater, sub. 14, pp. 3–4.
[38] Urban Utilities, sub. 13, p. 4.
[39] Unitywater, sub. 14, p. 2.
[40] Urban Utilities, sub. 13, p. 4.
[41] Urban Utilities, sub. 13, p. 3.

- 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.

2.3.1 Prices assuming normal (non-drought) conditions

To determine prices under normal or non-drought conditions, we establish a revenue requirement and convert 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 cost 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 (Figure 1).[42]

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.[43] This involves 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 in assets to provide bulk water services, reflecting our assessment of capital expenditure (capex), the value of Seqwater's regulatory asset base (RAB), and an appropriate rate of return (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 obligations (Chapter 7).

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

After making these deductions, this leaves 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 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 reflects a government decision to moderate the impact on customers of recovering

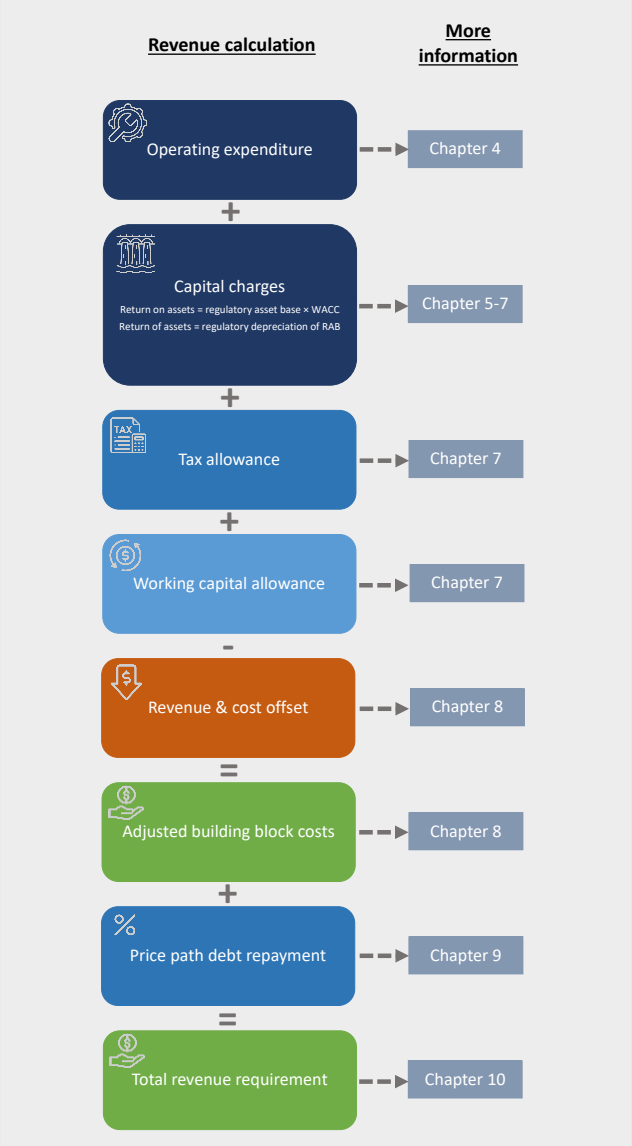
[42] Referral notice, sections A(1), A(2).
[43] The term 'maximum allowable revenue' in the referral notice is equivalent to the term 'building block costs' in this report.

the costs associated with significant investments made to secure south east Queensland's water supply in response to the Millennium Drought (see Chapter 1).[44]

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 draft report, we refer to revenue from bulk water prices that exceeds building block costs as '*price path debt repayment*' (see Chapter 9).[45]

Figure 1 Approach to calculating bulk water revenue–normal conditions



Converting the revenue requirement into prices

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*'.

[44] 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.

[45] The price path debt repayment component includes interest on price path debt.

We calculate 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 Chapter 10).[46]

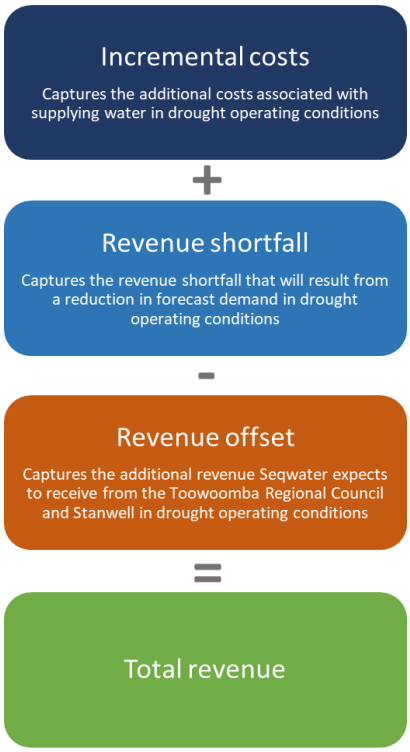
In accordance with the referral notice, we also smooth price increases so that prices increase by the same percentage each year of the regulatory period. Based on our draft recommendations, prices would increase by 2 per cent each year. However, the increase is only indicative, because our final recommendations may change to reflect new or updated information and feedback on our draft report.

2.3.2 Establishing a drought allowance

To establish the drought allowance, we estimate 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, as well as additional revenue from other sources.

Figure 2 Approach to calculating the drought allowance revenue requirement



In accordance with the referral notice, the drought allowance will remain constant in real terms (i.e. only increase by inflation) for the duration of the regulatory period. We require further justification from Seqwater in relation to prudent and efficient costs of operating in drought conditions. Based on the available information, we estimate an allowance of $0.406 per kilolitre

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

in 2022–23, which is around 12 per cent of the price expected to apply under normal conditions ($3.295 per kilolitre). As with our draft recommendations on bulk water prices, these figures are only indicative, and our final recommendations may change.

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.[47]

We reviewed Seqwater's demand forecasts for normal operating conditions and consider them to be appropriate for the purposes of setting bulk water prices for the 2023–26 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 under 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.[48] Seqwater expected this forecast to be ultimately reflected in the next version of the Water Security Program (WSP), which it expects to be published in March 2022.[49]

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 including a new sector-based demand model to better reflect regional demand growth.[50]

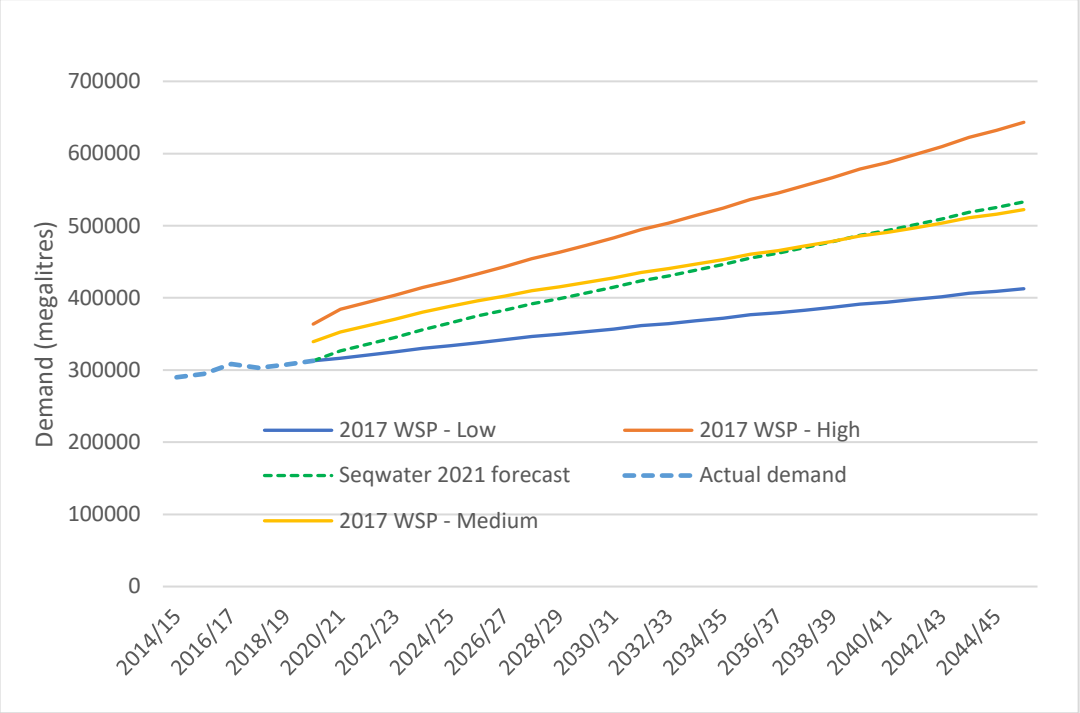
In recent years, actual demand has been below the 2017 WSP medium demand profile. However, the difference has remained within 3 per cent over the past four years, which Seqwater said is not significant.[51] Seqwater said its proposed forecast is 3.8 per cent lower than the 2017 WSP medium forecast initially, before beginning to converge with that forecast from 2026–27. Seqwater said this supports its view that the forecast is appropriate for the 2023–26 regulatory period.[52]

[47] Referral notice, sections C(2), C(3), C(17)(b).
[48] Seqwater, sub. 1, p. 38; Seqwater, response to RFI 58.
[49] 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*.
[50] Seqwater, sub. 1, p. 38; Seqwater, *Seqwater pricing submission QCA interview demand presentation*, September 2021, p. 6
[51] Seqwater, sub. 1, p. 39.
[52] Seqwater, sub. 1, p. 39.

3.2 QCA analysis and draft findings

The referral notice requests Seqwater to provide a demand forecast for normal operating conditions that is within the range published in the WSP.[53] 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.[54] 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



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

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

Atkins noted there is inherent uncertainty in demand forecasting but found Seqwater's demand forecasts are not unreasonable.[55] Atkins made the following observations as areas for potential improvement in Seqwater's demand forecasting:

- 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.

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

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

[55] 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).

- There appears to be limited consideration of current levels or changes in losses over time.[56]

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–low range of the 2017 WSP, in accordance with the referral notice (Figure 3).[57]
- The forecast has been developed in consultation with, and is endorsed by, retailer customers.[58]
- 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 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.

[56] Atkins draft report, pp. 41–42.

[57] Seqwater submitted that the relevant WSP for assessing the demand forecast should be the 2022 WSP, which is expected to be published in March 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. Nonetheless, should a revised WSP be published prior to release of our final report, we will endeavour to take that into account in making our final assessment.

[58] 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.

The referral notice asks 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.[59]

Seqwater submitted a base-step-trend approach for its forecast fixed and variable opex.

We assessed Seqwater's proposed opex and found:

- the prudent and efficient total opex that Seqwater should recover from bulk water charges is $1,870.7 million (outlined in Table 3). This is $232.0 million less than Seqwater proposed $2,102.7 million (Table 4)
- Seqwater's proposed base year for fixed opex was not justified as being efficient; it should be set at $218.6 million, with corresponding step changes of $95.8 million over 2023–28 (section 4.3)
- capital planning costs associated with several upcoming large capital projects should be capitalised, allowing Seqwater to recover all necessary prudent and efficient costs when these projects are commissioned. We accept Seqwater's proposed opex for the recovery of major project group staff costs not allocated to actual capital projects such as administration and training costs
- Seqwater's base year for variable opex should be set at $33.3 million, with corresponding step change reductions totalling $6.5 million over 2023–28 (section 4.5).

We also consider:

- Seqwater should provide greater clarity as to the best means for it to recover the prudent and efficient costs of Luggage Point advanced water treatment plant (AWTP) operations. It is also uncertain what level of production may be determined for normal and/or drought conditions (section 4.3.2)
- no efficiency target should be applied to Seqwater's opex if Seqwater submits a credible efficiency plan. Given Seqwater's overspend in its 2019–20 base year relative to its approved allowance, the priority is for Seqwater to develop an efficiency plan that sets out the pathway to reveal efficient costs over the regulatory period, including an ongoing process to identify and implement spend to save initiatives (section 4.3.3).

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

Overview of QCA draft findings and Seqwater's proposed opex

Table 3 QCA draft 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*
Fixed opex	253.0	258.7	265.6	274.8	278.8	285.2	1,616.0
Variable opex	38.9	40.4	41.6	42.9	44.6	46.4	254.8
Total opex	**291.9**	**299.0**	**307.2**	**317.7**	**323.3**	**331.6**	**1,870.7**
Variance from Seqwater's total proposed opex	(23.5)	(39.6)	(44.5)	(43.1)	(40.0)	(41.2)	(231.9)
Other items							
Treatment to be determined (Luggage Point AWTP)	7.8	8.0	8.2	8.4	8.6	8.8	49.7

Source: QCA calculations.

Table 4 Seqwater's proposed opex ($m, nominal)

Cost category	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Fixed opex	276.7	298.0	308.9	315.9	316.4	323.7	1,839.5
Variable opex	38.7	40.7	42.8	44.9	47.0	49.1	263.2
Total opex	**315.4**	**338.7**	**351.7**	**360.8**	**363.3**	**372.8**	**2,102.7**

Source: Seqwater pricing model 2021 and opex forecast summary model, August 2021.

Note: Seqwater's proposal includes Luggage Point Advanced WTP.

4.1 QCA 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.[60]

We first compared Seqwater's actual costs of providing the service with allowances we approved in our 2015 and 2018 reviews[61], to understand its 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.

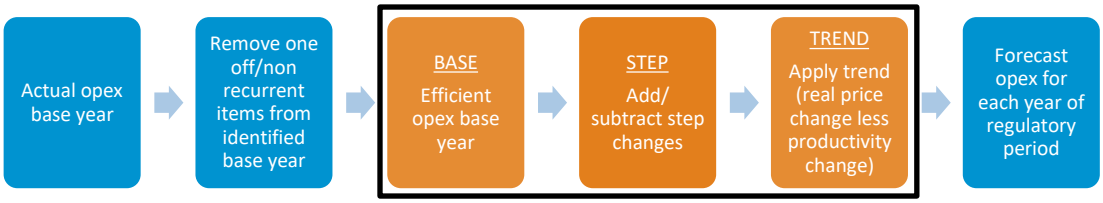
The base-step-trend approach (Figure 4) involves determining an appropriate base-year level of efficient recurrent costs, applying escalations, incorporating material step changes in efficient costs, and recognising expected productivity improvements where appropriate.

We consider that the opex allowance (for fixed and variable) should be set at a broader level, allowing Seqwater to manage its opex cost structure within that allowance. This would involve recognising 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.

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

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

Figure 4 Base-step-trend approach



In accordance with the referral notice, we focused on areas that are material, specifically examining the base year, proposed 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*.[62] Seqwater provided copies of its 2021–25 strategic plan and operational plans from 2017–18 to 2021–22.[63] 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.

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.[64]

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

- a base year reflects fixed and variable 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 costs are:
  - 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
- 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)

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

  - 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.[65]

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 allowance as required to deliver on its priorities and obligations at any given time.

4.2 Seqwater's proposed fixed opex

Seqwater's fixed opex forms the largest part (around 87 per cent) of its annual opex. Fixed opex is incurred regardless of the volume of water produced and delivered to customers. It includes operations and maintenance activities; minor equipment purchases; costs associated with engaging specialist consultants and contractors; corporate overheads; and fixed contract fees.

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

4.2.1 Base year

Seqwater nominated its most recently completed financial year (2019–20) as its base year, with adjustments so it reflects a typical year of operations over the regulatory period. Adjustments involved removing review events, abnormal items and reclassifications of capex and opex.

Table 5 Establishing a typical base year—Seqwater's fixed opex, 2019–20 ($m, nominal)

Base	*Seqwater 2019–20*	*Approved allowance 2019–20*	*Variance*
Fixed opex	256.1		
less review event—Western corridor recycled water project	(5.3)		
less review event—drought response	(7.5)		
less costs externally funded—Toowoomba to Warwick pipeline	(1.2)		
less costs capitalised—grid support	(2.6)		
less costs capitalised—natural assets	(5.8)		
less one-off costs—connect the dots	(4.3)		
less one-off costs—water futures program	(1.1)		
less one-off costs—connect our business	(0.7)		
add one-off savings—net impact of covid	0.9		
Fixed opex adjustments (total)	(27.5)		
Base fixed opex	**228.6**	**215.4**	**13.2**

Sources: Seqwater, Opex forecast summary model, August 2021; QCA, Seqwater Bulk Water Price Review 2018–21, final report, March 2018, p. 34, table 24.

Seqwater's proposed base year allowance for fixed opex is $13.2 million greater than the previously approved allowance.

4.2.2 Step changes

Seqwater submitted 11 step changes to fixed opex (Table 6), amounting to an additional $275.6 million in fixed opex from 2022–23 to 2027–28.[66]

Table 6 Seqwater's proposed fixed opex step changes, 2022–23 to 2027–28 ($m, nominal)

Adjustment	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Luggage Point AWTP operation–operating one train to provide 6 ML of flow	7.8	8.0	8.2	8.4	8.6	8.8	49.7
Natural assets reclassifying from capex to opex and environmental offsets	8.8	10.0	11.0	11.6	11.9	12.2	65.6
Greenhouse gas emissions abatement	1.0	1.0	1.0	1.1	1.1	1.1	6.3
Wivenhoe gates repainting	1.3	3.2	1.4	1.4	–	–	7.4

[66] Seqwater, sub. 1, p. 95.

Adjustment	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Capital planning costs associated with several upcoming large capital projects	4.5	17.5	22.9	20.2	17.9	18.3	101.3
Major projects group overheads – time not allocated to actual capital projects (administrative/training)	0.9	1.0	1.0	1.0	1.0	1.0	5.9
Insurance premium increases	3.9	4.8	5.2	5.7	5.8	5.9	31.3
Drought management - additional staff	0.8	0.8	0.8	0.8	0.8	0.9	4.8
QCA regulatory fee	–	–	–	2.2	–	–	2.2
Negotiating employee agreements	0.3	–	–	0.3	–	–	0.6
Water for SEQ planning project	0.5	–	–	-	–	–	0.5
Total adjustments	**29.8**	**46.3**	**51.5**	**52.7**	**47.1**	**48.3**	**275.6**

Source: Seqwater, Opex forecast summary model, August 2021; QCA calculations.

4.2.3 Efficiency target

Seqwater proposed to incorporate a continuing efficiency target of 0.2 per cent per annum (cumulative) to base year controllable fixed opex across the remainder of the price-path period.[67] Seqwater noted that this target was consistent with the target applied in the 2018–21 regulatory period and in line with recommendations from Frontier.[68, 69]

Seqwater said it was unnecessary to include a 'catch up' efficiency target, given it considered its base year was consistent with the opex allowances we approved in our 2018 review.[70]

Table 7 Seqwater's proposed efficiency savings ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Efficiency savings	(1.4)	(2.0)	(2.6)	(3.1)	(3.7)	(4.3)	(17.0)

Source: Seqwater pricing model 2021.

4.3 QCA draft findings on fixed opex

Our assessment of prudent and efficient fixed opex is shown in Table 8.

Table 8 QCA draft position—fixed opex, 2022–23 to 2027–28 ($m, nominal)

Cost category	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Fixed opex base	238.6	244.2	250.3	256.2	262.3	268.4	1,520.1
Fixed opex steps	14.3	14.4	15.3	18.6	16.4	16.8	95.8
Total QCA - fixed opex	**253.0**	**258.7**	**265.6**	**274.8**	**278.8**	**285.2**	**1,616.0**

[67] Seqwater submitted that 84.6% of its fixed opex within the base year was controllable. Uncontrollable opex included grants, subsidies, partnerships, taxes, regulatory fees, insurance and manufactured water contracts.
[68] Seqwater, sub. 1, p. 109.
[69] Seqwater, sub. 10.
[70] Seqwater, sub. 1, p. 109.

Cost category	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater-proposed fixed opex	276.7	298.0	308.9	315.9	316.4	323.7	1,839.5
Variance	(23.7)	(39.4)	(43.3)	(41.1)	(37.6)	(38.5)	(223.5)

Note: Totals may not add due to rounding.

Sources: Seqwater pricing model 2021; Seqwater supplementary submission; QCA analysis.

4.3.1 Base year

Our draft assessment of the adjustments necessary for Seqwater's base year to reflect a typical year for operations over the regulatory period are outlined in Table 9. These adjustments are consistent with the adjustments Seqwater proposed.

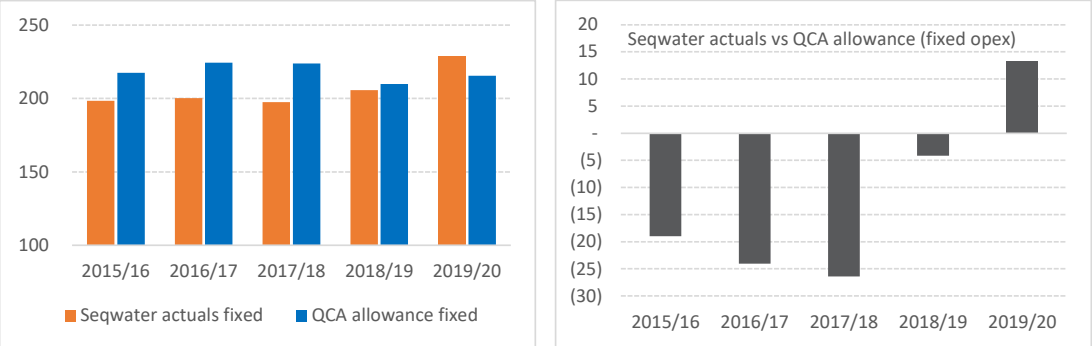
Table 9 QCA draft assessment of Seqwater's base year adjustments, fixed opex ($m, nominal)

Adjustment item	*Seqwater 2019–20*	*QCA assessment*	*QCA 2019–20*
Review event – Western corridor recycled water project	(5.3)	Adjustment accepted. Review event claim discussed in section 9.1.4.	(5.3)
Review event – drought	(7.5)	Adjustment accepted. Review event claim discussed in section 9.1.4.	(7.5)
Costs externally funded – Toowoomba to Warwick pipeline	(1.2)	Adjustment accepted. Report was externally funded and does not form part of Seqwater's regulated expenditure.	(1.2)
Costs capitalised – grid support	(2.6)	Adjustment accepted. We have accepted grid support costs to be capitalised (Chapter 5).	(2.6)
Costs capitalised – natural assets	(5.8)	Adjustment accepted. Classification of natural assets expenditure discussed in section 4.5.2.	(5.8)
One off costs – connect the dots	(4.3)	Adjustment accepted as atypical expenditure.	(4.3)
One off costs – water futures program	(1.1)	Adjustment accepted as atypical expenditure.	(1.1)
One off costs – connect our business	(0.7)	Adjustment accepted as atypical expenditure.	(0.7)
One off savings – net impact of covid	0.9	Adjustment accepted as atypical expenditure.	0.9
Fixed opex adjustments	**(27.5)**		**(27.5)**

Source: Seqwater, Opex forecast summary model, August 2021.

After taking into account the above adjustments, we can compare Seqwater's actual financial performance with its approved allowances. Figure 5 highlights the need for us to consider whether 2019–20 represents a typical year for the forecast regulatory period.

Figure 5 Fixed opex—Seqwater actuals relative to QCA allowance ($m, nominal)



Source: QCA calculations.

We asked Seqwater to provide justification for its fixed opex being higher in 2019–20 than the previously approved allowance. Seqwater sought to provide an explanation for the $13.2 million variance. We sought to understand the efficiency and prudency of this outcome, considering the reasons Seqwater provided for the difference. Our assessment of the reasons is discussed in Table 10.[71]

Table 10 Seqwater explanation of variance to base year (2019–20) fixed opex ($m, nominal)

Function	*Variance*	*Seqwater reasons for variance*	*QCA findings*
Asset maintenance	5.0	Increased operational risk and reactive mains repairs, and a change in cost culture (maintenance improvement strategy) to transition from reactive maintenance to condition-based maintenance.[72]	There is no apparent reason why these activities could not be reasonably met by an efficient entity operating within business-as-usual budget constraints, through prudent prioritisation of expenditures. Moreover, it is unclear if these, or other activities undertaken in 2019–20, should have been completed in prior years when Seqwater underspent opex allowances. There is no clear evidence of external factors or measures showing any deterioration in asset performance for this expenditure to be incorporated into the base year.[73]
Asset management	2.6	Changes in the project management gates for capitalisation.	
Operations	2.9	Increased resourcing requirements associated with implementing its 'control system management system'.	
Major projects group overheads – time not allocated to actual capital projects (administrative/ training)	2.2	Creation of a major projects group.	We accept that Seqwater has been able to justify this level of expenditure as prudent and efficient.
Insurance premiums	1.0	Escalation in insurance premiums.	We accept this expenditure, as prudent or efficient. Seqwater has taken a reasonable approach in managing insurance costs in the base year.

[71] Seqwater document 'reconciliation' from 13 September presentation.
[72] Seqwater, Maintenance expenditure presentation, 6 September 2021.
[73] Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26*, draft report, November 2021, p. 53. (Atkins draft report)

Note: Numbers may not add due to rounding.

We consider Seqwater has not provided sufficient justification of $10.5 million in its proposed base year, relative to previously QCA-approved efficient opex. While Seqwater has budget control measures to track its expenditure against approved allowances, greater accountability for financial performance is required. During 2019–20, Seqwater was actively reporting and tracking expenditures associated with the recently established major projects group and insurance premium escalation, but not for other activities identified in Table 10.[74] This highlights the need for greater accountability in budget performance.

We note that Seqwater consistently outperformed its approved opex allowances from 2015–16 to 2018–19, which totalled $73.6 million. It is unclear whether Seqwater's operational or financial performance in prior years impacted on its 2019–20 financial performance.

In the absence of sufficient justification provided by Seqwater, we need to determine an appropriate base year amount using available information. We considered the following options to set a base year.

- $203.5 million, based on 2018–19 actuals, escalated by inflation to 2019–20 dollars
- $210.3 million, based on an average of actuals from 2017–18 to 2019–20, escalated by inflation to 2019–20 dollars
- $215.4 million, based on the 2019–20 approved allowance from our 2018 review.

A detailed bottom-up assessment could not be undertaken in the timeframes permitted for our review. Ultimately, our intent is for Seqwater to be able to reveal efficient costs.

We have used the 2019–20 approved allowance from our 2018 review, to determine an efficient and prudent base year for fixed opex, including adjustments outlined in Table 11. This provides a base year allowance of $218.6 million. The results are summarised below.

Table 11 QCA draft position—Seqwater's fixed opex, 2019–20 ($m, nominal)

	QCA position 2019–20
Seqwater's efficient base year fixed opex	215.4
Insurance premiums	1.0
Major projects group overheads – time not allocated to actual capital projects (administrative/training)	2.2
Total opex	**218.6**

Sources: Seqwater, Opex forecast summary model, August 2021; QCA analysis.

This is a conservative estimate, compared to the other options identified. This approach has the benefit of being able to incorporate adjustments into the 2019–20 base year we have assessed as efficient and prudent.[75] This should allow Seqwater to manage its assets and deliver bulk water within this funding envelope and prioritise expenditures based on its own management decisions and be accountable for its financial performance.

[74] Seqwater, provision of information: evidence of management oversight of QCA allowance, variations and FTEs.
[75] Using any years prior to 2019–20 could require further assessment of adjustments to remove atypical, one-off expenditure.

4.3.2 Step changes

We have assessed Seqwater's 11 proposed step changes to fixed opex. Our findings are outlined in Table 12.

Table 12 QCA draft position—step changes to Seqwater's fixed opex ($m, nominal)

	Seqwater proposal 2023–28	*QCA draft position 2023–28*	*QCA comment*
Luggage Point AWTP operation - operating one train to provide 6 ML of flow	49.7	Treatment to be determined.	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. Seqwater to provide further information.
Natural assets reclassifying from capex to opex and environmental offsets	65.6	50.0	Previously recovered within capex, we accept these costs to be included in opex (reclassification). Our allowance is based on average level of expenditure incurred over 2018–21. There is limited supporting justification to increase expenditure above this level. We consider Seqwater's step change in relation to environmental offsets is appropriate as they relate to legislative and statutory requirements that have not been previously funded.
Greenhouse gas emissions abatement	6.3	–	While we are open to considering step changes in relation to corporate responsibility—climate change mitigation (prudency), Seqwater has not been able to clearly outline the actions and benefits for us to assess if the expenditure is efficient.
Wivenhoe gates repainting	7.4	–	Capitalised as recently recognised by Seqwater (Chapter 5).
Capital planning costs associated with several upcoming large capital projects	101.3	–	We consider that the capital planning costs that are directly attributable to these projects should be capitalised (section 4.3.2).
Major projects group overheads – time not allocated to actual capital projects (administrative/training)	5.9	5.9	We have accepted Seqwater's proposed opex for time not allocated to actual capital projects (administrative/training) (section 4.3.2).
Insurance premium increases	31.3	31.3	We consider that this is an escalation issue and acknowledge the need to increase insurance costs (prudency). Subject to validation of the estimate provided, we will accept insurance increases as efficient.
Drought management—additional staff	4.8	4.8	We note this provides additional fixed opex that should result in better drought planning during normal operating

	Seqwater proposal 2023–28	*QCA draft position 2023–28*	*QCA comment*
			conditions for when Seqwater enters drought conditions.
QCA regulatory fee	2.2	2.2	Accepted as cyclical activities.
Negotiation of employee agreements	0.6	0.6	
Water for SEQ planning	0.5	0.5	
Total	**275.6**	**95.8**	

Note: Totals may not add due to rounding. Values are subject to further modelling adjustment to reflect our draft position on our inflation forecast (Chapter 6).

Sources: Seqwater, Opex forecast summary model, August 2021; QCA analysis.

Luggage Point advanced water treatment plant

Seqwater proposed to recover an additional $49.7 million over 2023–28 for operating costs associated with Luggage Point AWTP.

While Seqwater should have an opportunity to recover these costs if they are prudent and efficient, Seqwater has provided limited justification for recovering these costs under normal (non-drought) conditions.

We note that Luggage Point AWTP production has direct linkages with operating in drought conditions (Chapter 11), and opex associated with running the Luggage Point AWTP in care and maintenance mode is already included in Seqwater's fixed opex base year (normal operating conditions).

More broadly, it is uncertain whether Seqwater's proposal represents an efficient mode of operation—the additional costs are likely to exceed recommissioning costs on an expected-value basis (i.e. taking into account the frequency of recommissioning).[76] In terms of water security planning, the current version of the WSP does not align with Seqwater's proposal for the recycled water scheme to operate in non-drought conditions once it has been recommissioned. Instead, it says that the mode of operation will be reviewed after recommissioning but will operate in hot standby mode.[77]

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.[78] It is not uncommon for water security planning processes to not align with regulatory processes[79], and Seqwater is best placed to propose workable options.

On this basis, we seek greater clarity from Seqwater as to the best means for it to recover the prudent and efficient costs in this instance. In the absence of adequate justification from

[76] Atkins draft report, p. 76.
[77] Water Security Program, p. 90.
[78] The WSP states that the trigger for recommissioning the Western Corridor Recycled Water Scheme is when south east Queensland water grid storage levels reach 60%. The 60% trigger in the WSP refers to drought response measures.
[79] 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).

Seqwater, we are minded to exclude these costs from fixed opex on the basis that we expect the next version of the WSP to provide greater clarity.

Natural assets reclassifying from capex to opex and environmental offsets

Seqwater proposed to recover an additional $65.6 million over 2023–28 for opex associated with natural assets expenditure and environmental offsets. Whilst we accept it is prudent for Seqwater to incur such costs, we consider $50.0 million to be an efficient level of expenditure. This is based on an average level of natural assets expenditure incurred from 2017–18 to 2020–21 and accepting Seqwater's proposed environmental offsets estimate.

Natural assets expenditure relates to catchment management activities to reduce the risk of pollution impacting on water treatment. In our 2018 review, we accepted Seqwater's position that natural assets expenditure was capital in nature and hence it was assessed as capital expenditure. Seqwater now proposes to expense these costs, based on a subsequent assessment of the nature of the expenditure under the accounting standards.[80] The impact of Seqwater's proposed change in approach will be a reduction in capex but a compensating increase in opex over the regulatory period.[81] Seqwater has not provided sufficient justification as to why natural assets expenditure as opex should be increasing more than what it was investing as capital expenditure.

Seqwater also proposed a step change associated with vegetation offset environmental obligations related to the clearing of land for capital works purposes.[82] Seqwater advised that its proposed costs associated with environmental offsets is moving from a capex phase (planting of trees) to a maintenance phase.[83] We consider Seqwater's step change in relation to environmental offsets is appropriate, as environmental offsets relate to legislative and statutory requirements[84], and the activities relate to identified capital projects.

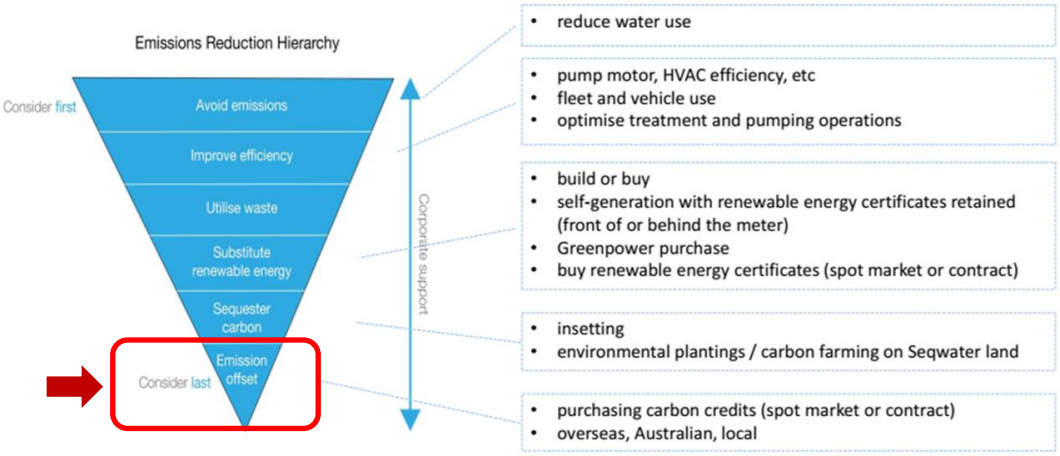
Greenhouse gas emissions abatement

We consider 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).

However, from the justification Seqwater provided for its proposed $6.3 million associated with greenhouse gas emissions abatement, we cannot find this cost efficient. Seqwater's focus in achieving its strategic emissions reduction objectives appears to be through procuring carbon offsets. Seqwater's potential approach is not consistent with its own emissions reduction hierarchy (Figure 6), which makes it clear that avoidance, efficiency and renewable energy should take precedence over emission offsets. This approach aligns with international best practice.[85]

[80] Seqwater owns less than 5% of the source water catchments; therefore, a significant portion of its catchment works is undertaken on private landholdings through its protection partnership program. As such, it exercises limited control over these assets.
[81] Seqwater, sub. 1, pp. 98–99.
[82] Seqwater, sub. 1, p. 99.
[83] Seqwater, response to QCA RFI 150.
[84] These include local government environmental offsets, Queensland Government environmental offsets and Commonwealth Government environmental offsets.
[85] Atkins draft report, pp. 80–81.

Figure 6 Seqwater emissions reduction hierarchy



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

Seqwater has not proposed significant investment in avoidance measures, such as leakage reduction, energy efficiency or renewable generation opportunities.[86] As such, we do not consider the justification for the proposed expenditure is based on achieving least-cost emissions reductions.

In the absence of sufficient justification, we cannot accept Seqwater's proposed costs as efficient.

Seqwater has identified numerous 'spend to save' energy efficiency proposals that could deliver Seqwater significant power cost savings and reduce its greenhouse gas emissions.[87] We consider Seqwater should follow its own emissions reduction strategy and pursue these energy efficiency projects as a priority. To facilitate this, we have provided a capital allowance for Seqwater to do so (Chapter 5).[88]

Wivenhoe gates repainting

Seqwater proposed to recover an additional $7.4 million over 2023–28 for opex associated with the gates at Wivenhoe Dam. Seqwater subsequently advised this project should be treated as capex. We agree and considered this within our forecast capex considerations (Chapter 5).

Capital planning costs associated with several upcoming large capital projects

Our intent is for Seqwater to carry out its major project planning activities at the right time and at an efficient and prudent cost to consumers. With this in mind, we consider the best way to capture these costs is for them to be capitalised, rather than seeking to estimate an opex amount.[89]

We consider there is currently a high level of uncertainty in relation to Seqwater's proposed capital planning costs (in particular, those associated with upcoming dam safety projects), as they relate to projects that are not business as usual, due to their scale and infrequency.

This uncertainty impacts Seqwater's proposed allowance for capital planning costs. For example, Atkins assessed $48.8 million could be a prudent and efficient level, based on the following:

[86] Atkins draft report, p. 81.
[87] Seqwater, response to RFI 173.
[88] Spend to save refers to projects that generate savings that offset the initial investment.
[89] For the purposes of this draft report, we have not revised Seqwater's capex forecast to account for the capitalisation of these costs for projects expected to be commissioned during the regulatory period.

- Wivenhoe and North Pine dam safety upgrade projects are starting in 2024–25.
- No details or justification has been provided for $23.9 million claimed for future projects that are beyond Seqwater's approved capital program.
- Planning for the next major bulk augmentation will occur later in the regulatory period, to allow time for the project identification work to be finalised.
- Wyaralong WTP planning work is progressing, as it is consistent with the WSP.
- Camerons Hill Reservoir storage upgrade and Image Flat WTP upgrade planning activities are likely to be similar in scale to business-as-usual planning activities undertaken by Seqwater. Atkins also noted that the Image Flat WTP upgrade was not expected to be completed until 2037–38.[90]

Rather than us seeking to incorporate a highly uncertain estimate within opex, our draft position is that these costs be capitalised. Seqwater will be able to recover all prudent and efficient costs for planning associated with major projects studies when projects are commissioned.

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

Our draft position is to accept Seqwater's proposed $5.9 million over 2023–28 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.

Insurance premium increases

Seqwater proposed to recover an additional $31.3 million over 2023–28 for opex associated with insurance premiums. We consider Seqwater's proposed expenditure is justified as prudent and, subject to validation of the estimate, we will accept the cost as efficient.[91]

Seqwater submitted that its insurance premium costs increased significantly in 2020–21, and that prices would increase into the future due to the insurance market being in a continual hardened state.[92]

We consider an increase in insurance premiums is more likely an escalation issue as opposed to a step change. In this instance, we acknowledge that there is evidence of insurance cost increases.

Drought management—additional staff

Seqwater proposed to recover an additional $4.8 million over 2023–28 for proactive drought management. We consider Seqwater's proposed expenditure is prudent and efficient.

Seqwater highlighted that the WSP requires it to plan for and respond to drought conditions, including adding resourcing in line with triggers being reached to cater for the demands of drought management. In response, Seqwater has proposed a step change in opex associated with employing permanent staff to focus on drought management.[93]

Rather than increasing or decreasing staffing in line with triggers, Seqwater considered it prudent and efficient to have a team with some permanent staff with relevant drought management

[90] Atkins draft report, pp. 82–83.
[91] For example, an updated estimate from Seqwater's insurance broker.
[92] Seqwater, sub. 1, p. 98.
[93] Seqwater, sub. 1, pp. 96–97.

technical expertise. Seqwater proposed 3.5 additional full-time equivalents (FTEs): one manager, one program manager, one asset readiness engineer and a water sustainability project manager (at 50 per cent of their time). Seqwater considered that this resourcing approach is more efficient and facilitates a more adaptive approach to drought management.[94]

Atkins noted that Seqwater has been preparing a revised WSP in the current period and as such some general activities related to optimisation of drought management are already incorporated in the base year. Atkins also considered Seqwater would be unlikely to request this step change had storage levels not been low at the time of the its submission. However, Atkins acknowledged these costs seem to be associated with being in a drought. Atkins recommended treating these costs as 'contingent' opex.[95]

We propose to accept Seqwater's step change in this instance, given this expenditure is required to meet an existing but only recently triggered regulatory obligation to prepare for drought.[96] We further note that a prudent water business supplying bulk water to a large global city needs to systematically manage the risks of climate change, such as drought, floods and storms, to its ongoing supply obligations.

That said, from this point forward, we do not intend to contemplate further such step changes associated with this issue without substantial justification of changed circumstances. It should not be our role to form a view on the prudency and efficiency of individual resourcing decisions, or to dictate whether specific business management functions should, or should not, be undertaken by Seqwater.

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.

4.3.3 Efficiency target

We do not propose to apply an ongoing efficiency target to Seqwater's controllable opex, where it submits a credible efficiency plan in response to this draft report. Given Seqwater's overspend in its base year relative to its approved allowance from our 2018 review, we consider the priority for Seqwater is to develop an efficiency plan that sets out the pathway to reveal efficient costs over the period, and to identify spend to save initiatives. In the absence of a credible plan, we may apply efficiency targets, although this is not our preferred approach.

Atkins has identified a number of potential opportunities for Seqwater to pursue efficiencies, including:

[94] Seqwater, sub. 1, pp. 96–97.
[95] Atkins draft report, p. 76.
[96] 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.

- migrating to a cloud-based software as a service (SaaS) IT solution—from a prudency perspective, Atkins considered this approach is optimal in terms of managing risks to the business. From an efficiency perspective, Atkins considered this approach is significantly more efficient in terms of total costs when compared with other IT service offerings[97]
- cost savings from the commissioning of the Mt Crosby East works—Atkins considered the new filters should allow longer runs between backwashing to deliver increased output, which should deliver efficiencies in operations and variable costs[98]
- savings in relation to the costs associated with sludge disposal to sewer at the Molendinar and Mudgeeraba plants—Atkins considered the level of current costs appears excessive and not efficient. Atkins considered Seqwater's proposed move to pursue beneficial re-use of treatment plant residuals may enable Seqwater to identify alternative/innovative sludge disposal approaches that drive cost savings for sludge disposal at these plants.[99]

Further to the above, we encourage Seqwater to collaborate with its customers to identify opportunities for efficiency sharing. We consider this approach would incentivise Seqwater to reveal efficient costs.

4.4 Seqwater's proposed variable opex

Variable opex changes with the level of water production. Seqwater's variable opex relates mainly to electricity, chemicals and the disposal of residual waste products from WTPs.

4.4.1 Base year

Seqwater nominated its most recently completed financial year (2019–20) as its base year, with adjustments so it reflects a typical year for operations over the regulatory period. Adjustments involved removing review events and reclassifications of opex to capex (Table 13).

Table 13 Seqwater's proposed variable opex 2019–20 ($m, nominal)

Base	*Seqwater 2019–20*	*Approved allowance 2019–20*	*Variance*
Variable opex (excluding manufactured water)	35.1		
less costs capitalised—grid support	(0.3)		
less review event—drought response	(0.5)		
less review event—feedwater quality events	(1.0)		
Variable opex adjustments (total)	(1.8)		
Base variable opex	**33.3**	**38.3**	**(5.0)**

Sources: Seqwater, opex forecast summary model, August 2021; QCA, Seqwater Bulk Water Price Review 2018–21, final report, March 2018, p. 34, table 24.

[97] Atkins draft report, p. 119.
[98] Atkins draft report, p. 73.
[99] Atkins draft report, p. 72.

Seqwater stated the production cost per megalitre (excluding manufactured water[100]) fell from our approved allowance of $116 to an actual cost of $105 per megalitre in 2019–20.

4.4.2 Step change

Seqwater submitted a step change relating to residual disposal costs associated with its WTPs.

Table 14 Seqwater's proposed variable opex step change 2022–23 to 2027–28 ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Residual disposal costs	0.5	0.5	0.6	0.6	0.6	0.6	3.4

Source: Seqwater pricing model 2021.

4.5 QCA draft findings on variable opex

Our draft position on variable opex is shown in Table 15.

Table 15 QCA's draft position—variable opex ($m, nominal)

Cost category	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Variable opex base	38.3	40.4	42.5	44.6	46.7	48.8	261.3
Variable opex steps	0.5	0.0	(0.9)	(1.7)	(2.1)	(2.4)	(6.5)
QCA total variable opex	**38.9**	**40.4**	**41.6**	**42.9**	**44.6**	**46.4**	**254.8**
Seqwater's total proposed variable opex	38.7	40.7	42.8	44.9	47.0	49.1	263.2
Variance	0.2	(0.3)	(1.2)	(2.0)	(2.4)	(2.7)	(8.4)

Note: Totals may not add due to rounding.

Sources: Seqwater pricing model 2021; QCA analysis.

4.5.1 Base year

Our draft assessment of the adjustments necessary for Seqwater's base year to reflect a typical year for operations over the regulatory period are outlined in Table 16. These adjustments are consistent with the adjustments Seqwater proposed.

Table 16 QCA draft assessment of Seqwater's base year adjustments, variable opex ($m, nominal)

Adjustment item	*Seqwater 2019–20*	*QCA draft assessment, 2019–20*	*QCA 2019–20*
Costs capitalised – grid support	(0.3)	Adjustment accepted as an atypical expenditure. We have accepted grid support costs to be capitalised (Chapter 5).	(0.3)
Review event – drought	(0.5)	Adjustment accepted. Review event claim discussed in Chapter 5.	(0.5)

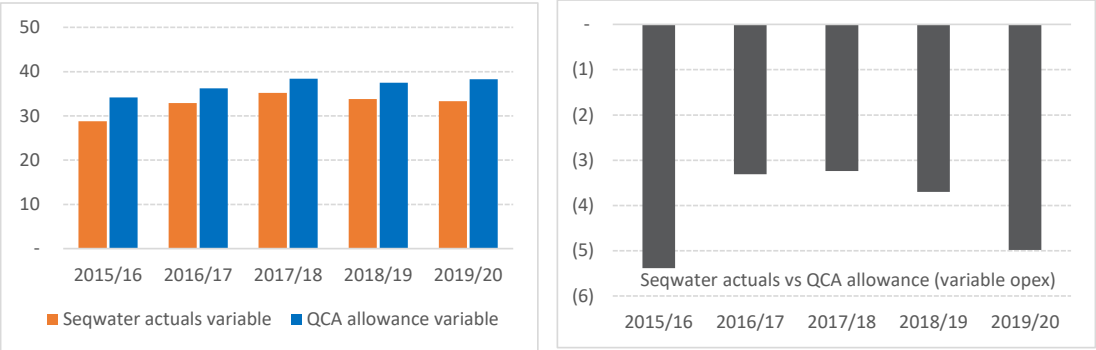
[100] Manufactured water includes water produced by the Gold Coast Desalination Plant and the Western Corridor Recycled Water Scheme.

Adjustment item	*Seqwater 2019–20*	*QCA draft assessment, 2019–20*	*QCA 2019–20*
Review event – feedwater quality event	(1.0)	Adjustment accepted. Review event claim discussed in section 9.1.4.	(1.0)
Fixed opex adjustments	**(1.8)**		**(1.8)**

Source: Seqwater, Opex forecast summary model, August 2021.

After taking into account the above adjustments we can compare Seqwater's actual financial performance with its approved allowances. Figure 7 highlights that Seqwater's variable opex consistently outperformed the approved opex allowances from 2015–16 to 2019–20.

Figure 7 Variable opex—Seqwater actuals relative to QCA allowance ($m, nominal)



Source: QCA calculations.

Given Seqwater's variable opex is lower than the approved allowance, we have accepted this as prudent and efficient revealed costs, with the most recently completed financial year being used to establish the base year as 2019–20 (see Table 17).

Table 17 Variable opex, 2019–20 ($m, nominal)

Base	*Seqwater actual 2019–20*	*Approved allowance 2019–20*	*Variance*
Base variable opex	33.3	38.3	(5.0)

Note: These costs exclude feedwater quality events and manufactured water.

Sources: Seqwater, Opex forecast summary model, August 2021, QCA, Seqwater Bulk Water Price Review 2018–21, final report, March 2018, p. 34, table 24.

Seqwater submitted that variable opex decreased during the current regulatory period partly due to realised energy savings via electricity tariff reductions which they expect to continue.[101]

4.5.2 Step changes

We have assessed various step changes for variable opex, with our findings are summarised in Table 18.

[101] Seqwater, sub. 1, pp. 105–106.

Table 18 QCA draft position—step changes to Seqwater's variable opex ($m, nominal)

	Seqwater proposed 2023–28	*QCA position 2023–28*	*Comment*
Beneficial reuse of WTP residuals	3.4	–	Business-as-usual costs—not of sufficient materiality such that the costs could not reasonably be met by an efficient entity operating within its escalated business-as-usual budget constraints, or through prudent prioritisation of expenditures.
Energy efficiency	–	(10.0)	We have made an allowance for Seqwater to pursue its identified 'spend to save' energy efficiency projects within its overall capex allowance (see Chapter 5). Forecast variable costs have been adjusted to reflect the energy costs emanating from these projects.
Feedwater quality events	–	3.5	We consider feedwater quality events should be treated as business as usual as opposed to being claimed as review events. These events happen regularly and should be managed by Seqwater rather than the risks passed directly to customers (section 12.2).
Total	**3.4**	**(6.5)**	

Note: Totals may not add due to rounding.

Source: QCA analysis

Beneficial reuse of WTP residuals

Seqwater proposed to recover an additional $3.4 million over 2023–28 for opex associated with its residual disposal costs because of contact changes that moved from a volume- to weight-based residuals management haulage contract.

We consider step changes in opex are not intended to include expenditures that are relatively immaterial. We consider Seqwater's decision to move from a volume- to weight- based residuals management contract is a matter for management. It is not a matter for us to resolve.

We do not consider Seqwater's proposed additional opex associated with residual disposal costs is of sufficient materiality such that the costs could not reasonably be met by an efficient entity operating within business-as-usual budget constraints

However, we encourage Seqwater to gain a better understanding of the costs associated with its beneficial reuse of WTP residuals for future reviews.

Energy efficiency

We consider it appropriate to reduce Seqwater's opex by $10.0 million for cost reductions associated with energy efficiency projects and solar energy projects to reflect prudent and efficient forecast costs.

Seqwater has identified and assessed numerous energy efficiency proposals that could deliver significant cost savings in later years of the future determination period.[102] The top initiatives delivering the greatest benefits from Seqwater's energy efficiency opportunity register include:

- Mt Crosby East Bank and Eastbank production optimisation

[102] Seqwater, response to RFI 173. These initiatives were highlighted by Seqwater when requesting fixed opex step change for greenhouse gas abatement measures, including the potential purchase of carbon offsets.

- Mt Crosby Eastbank WTP optimise use of pumps
- Mt Crosby Westbank WTP optimised Dissolved Air Flotation (DAF) usage
- North Pine WTP treatment water pump replacement
- Bundamba Pumping Station—new pumping strategy

Seqwater identified that for an upfront capital cost of $1.5 million, these projects provide energy savings of up to $1 million per annum (real 2019–20 dollars). A further tranche of smaller efficiency schemes identified by Seqwater could deliver further savings of up to $0.5 million per annum (real 2019–20 dollars). We also note potential savings by bringing forward the implementation of solar energy projects identified by Seqwater.[103]

We have made an allowance for Seqwater to pursue its identified 'spend to save' energy efficiency projects within its overall capex envelope (Chapter 5). Seqwater did not include any capital expenditure for solar PV renewable energy projects during the next pricing period and a limited number of energy efficiency investments. We understand that these projects have not proceeded on the basis of internal capital prioritisation processes.[104] Forecast variable costs have been adjusted to reflect the energy cost reductions emanating from these projects.

Feedwater quality events

We propose to allow Seqwater an additional $3.5 million over 2023–28 for opex associated with feedwater quality events. We consider these costs should be treated as business as usual as opposed to being claimed as review events (section 12.2).

Seqwater's variable opex forecast is based on optimum operation of the network with no feedwater quality events.[105] We consider that this approach does not encourage efficient treatment practices to manage variations in raw water quality.

We consider providing an allowance for feedwater quality events would encourage efficiencies in the way they are managed by Seqwater. We consider the expenditure allowance for feedwater quality events should be based on the average feedwater review event cost in 2018–19 to 2020–21, which is $0.5 million per annum (real 2019–20 dollars).

4.6 Seqwater's proposed escalation factors

4.6.1 Fixed opex

Seqwater proposed to escalate fixed opex costs 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) (Table 19). The sources of the escalators are summarised in Table 20.

[103] Atkins draft report, pp. 72.
[104] Seqwater, response to RFI 164 and 173.
[105] The cost of treating water can increase in response to changes in the quality of feedwater due to events such as heavy rainfall.

Table 19 Seqwater's proposed 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	2.25	2.59	2.59	2.59	2.59
Other materials and services (57%)	4.24	1.81	1.89	2.10	2.32	2.38	2.40	2.43
Weighted average	2.50	2.94	2.98	2.16	2.44	2.47	2.48	2.50

Source: Seqwater pricing model 2021; QCA calculations.

Table 20 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) • 10-year historical average of the ABS WPI for Queensland (2024–25 to 2027–28)
Other materials and services (including insurance)	• Actual CPI • Forecast inflation using inflation swaps

Source: Seqwater, sub. 9.

4.6.2 Variable opex

Seqwater proposed to escalate electricity, chemical and other variable costs over the period 2020–21 to 2027–28 using the escalation factors in Table 21. The sources of the escalators are summarised in Table 22.

Table 21 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	4.24	1.81	1.89	2.10	2.32	2.38	2.40	2.43
Other materials and services (including insurance)	4.24	1.81	1.89	2.10	2.32	2.38	2.40	2.43

Source: Seqwater pricing model 2021.

Table 22 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 (including insurance)	• Actual CPI • Forecast inflation using inflation swaps

Source: Seqwater, sub. 9.

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.

4.7 QCA draft findings on escalation factors

Our draft positions on input price escalators are summarised in Table 23.

Table 23 QCA draft 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	2.35	2.35	2.35	Accepted; forecast updated to reflect latest available data
Contractors (service delivery)	4.93	1.81	2.11	2.22	2.27	2.39	2.42	2.31	
Chemicals	4.93	1.81	2.11	2.22	2.27	2.39	2.42	2.31	
Other materials and services (including insurance)	4.93	1.81	2.11	2.22	2.27	2.39	2.42	2.31	
Electricity	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	Accepted with no adjustment

Source: QCA analysis.

CPI inflation

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.[106] We will update these forecasts of inflation to reflect the latest available data with the best information available at the time of our final report. The estimates provided for our draft report are indicative and will change.

Employee and contract labour expenses

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
- the 10-year historical average of the ABS WPI for Queensland for years 2024–25 to 2027–28.

[106] Refer to Table 37.

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 draft report.[107]

Electricity

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.[108]

Seqwater's proposed escalation rate for electricity costs is consistent with our inflation forecast, on average, over the 2023–28 period (Table 37).

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

[107] This includes using Queensland Treasury's WPI forecast for 2024–25.
[108] Seqwater, response to QCA 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 2023–28. 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 $575.2 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).
- Seqwater is proposing a significant capital program for 2023–28 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 $1,351.3 million is a reasonable overall estimate of prudent and efficient expenditure (section 5.4.2).

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 commence transparent and regular reporting of actual capital spend against forecast, detailing drivers and subdrivers 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 24 QCA draft position—capex, 2018–22 and 2023–28 ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22(f)*	*Total*
Actual capex	97.6	106.8	107.8	128.2	134.8	575.2

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027-28*	*Total*
Indicative forecast capex	298.4	139.2	287.5	164.5	177.1	284.6	1,351.3

Note: Values are as commissioned subject to further modelling adjustments to reflect our draft position on the WACC in the estimation of interest during construction (Chapter 6).

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.[109]

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*.[110] Seqwater provided copies of its 2021–25 strategic plan, and operational plans from 2017–18 to 2021–22.[111] 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.

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.

The QCA considers capex is efficient if:

- the scope of the works represents the best means of achieving the desired outcomes after having regard to the options available, including non-network solutions, and substitution possibilities between 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

[109] Referral notice, sections C(5), (7)(a).
[110] Referral notice, section C(5)(c).
[111] Seqwater, response to QCA RFI 25.

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.[112] 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 the QCA 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 the QCA's 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 impose adjustments to cost forecasts 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 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.

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

In contrast, the 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[113], 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.[114]

KPMG found that Seqwater had made progress in its corporate governance arrangements since the 2015 review. While it identified some aspects that it considered could be improved, overall KPMG 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.[115]

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

[113] QCA, *Seqwater Bulk Water Price Review 2018–21*, final report, March 2018.
[114] KPMG, *Seqwater expenditure review prudency and efficiency assessment*, March 2018, pp. 43–65.
[115] 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.

- 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[116]
- 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.[117]

Atkins review

Atkins undertook a further review of Seqwater's frameworks, focusing on incremental changes from the previous review.[118] 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[119]
- **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.[120]
- **asset management functions and systems have been consolidated** with 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[121]
- **development of cost estimation guidelines**, which provides staff, contractors and external consultants with structured guidance for developing cost estimates for projects. Atkins said these guidelines appear appropriate and provide a consistent basis to develop cost estimates.[122]
- **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.[123]

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

[116] 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.
[117] Seqwater, sub. 1, pp. 64–75.
[118] 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).
[119] Atkins draft report, p. 10.
[120] Atkins draft report, p. 23.
[121] Atkins draft report, p. 30.
[122] Atkins draft report, p. 36.
[123] Atkins draft report, p. 34.

improvements to the capital investment lifecycle framework should strengthen processes and support more efficient and optimal outcomes in future.[124]

Atkins also identified some areas for potential process improvement, which we encourage Seqwater to consider.[125]

QCA draft 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 is demonstrating progress and a focus on continued improvement in these areas. Seqwater shows 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.[126]

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.[127]

Seqwater expects to incur $575.2 million in capex during 2017–18 to 2021–22. This is $163.4 million[128] (22.1%) less than our 2018 review estimate of prudent and efficient capex for this period (Table 25). Expenditure for the 2020–21 year is based on actual and estimated expenditure, and 2021–22 represents forecast expenditure.[129]

Table 25 Seqwater's actual capex, compared to QCA 2018 review, 2017–18 to 2021–22 ($m, nominal)

	2017–18	***2018–19***	***2019–20***	***2020–21 (est.)***	***2021–22 (forecast)b***	***Total***
QCA allowance—2018 review	125.1	110.2	87.0	168.4	248.0	**738.7**

[124] Atkins draft report, p. 34.
[125] Atkins draft report, pp. 10–11, 23–38.
[126] Atkins draft report, p. 10; Seqwater, *Strategic plan 2021–25*, n.d., p. 2.
[127] Referral notice, section C(7)(b).
[128] Seqwater stated that this difference falls to $51.3 million with the inclusion of the natural assets and grid support costs that are also proposed to be capitalised.
[129] 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.

	2017–18	*2018–19*	*2019–20*	*2020–21 (est.)*	*2021–22 (forecast)b*	*Total*
Seqwater actual/budget [a]	97.6	106.8	107.8	128.2	134.8	**575.2**
Difference	(27.4)	(3.4)	20.7	(40.2)	(113.1)	**(163.4)**

a Derived from Seqwater's 2021 bulk water pricing model. Includes interest during construction. Seqwater's proposed values from the model include grid support costs that Seqwater proposed to capitalise.

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.

Sources: Seqwater 2021 bulk water pricing model (corrected 22 October 2021); 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.[130] Our understanding of key contributors to the capital underspend is summarised in Table 26.

Table 26 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
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 work 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 2023–26 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).[131]

[130] Seqwater, sub. 1, p. 56.
[131] Seqwater, sub. 1, pp. 59–60.

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 over 70 per cent of the observed underspend of $171.9 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 charges should be offset for the funding already provided, or funding for projects that were not delivered should be excluded from the future capex forecast.[132]

We acknowledge Unitywater's concerns; however, we note that 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 as the return on capital (weighted average cost of capital) and return of capital (depreciation), as these are reconciled with actual capex.

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 on Seqwater's capacity to deliver the forecast capex program for the 2023–28 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 27).

Table 27 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 (AFC) Guidelines. Commissioned in 2020–21.	21.2
Ewen Maddock Dam safety upgrade 2A construction	Stage 2A works to satisfy mandated Acceptable Flood Capacity (AFC) 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 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[133]
- Guidelines for Failure Impact Assessment of Water Dams[134]

[132] Unitywater, sub. 14, p. 3.
[133] Department of Natural Resources, Mines and Energy (DNRME), *Dam safety management guideline*, Queensland Government, October 2020.
[134] DNRME, *Guideline for failure impact assessment of water dams*, Queensland Government, November 2018.

- Guidelines on Acceptable Flood Capacity for Dams[135]
- Emergency Action Plan for Referable Dam Guideline.[136]

As a general principle, where a dam failure would cause excessive 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.[137] The risk associated with failure of dams can change over time, due to downstream population growth, for example. 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 Acceptable Flood Capacity 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.[138] The Queensland dam safety guidelines require Seqwater to progressively complete its dam upgrades to ensure compliance by 1 October 2035.[139]

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.[140] 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.[141]

The project was completed in 2020–21 at a cost of $21.2 million, which is around $8 million less than forecast.[142]

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.[143] Atkins found the project to be prudent and efficient.[144]

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

[135] DNRME, *Guidelines on Acceptable Flood Capacity for Water Dams*, Queensland Government, December 2019.
[136] Department of Regional Development, Manufacturing and Water, *Emergency Action Plan for Referable Dam Guideline*, June 2021.
[137] DNRME, *Guidelines on Acceptable Flood Capacity for Water Dams*, December 2019, p. 1.
[138] Seqwater, responses to RFI 103, 104.
[139] DNRME, *Guidelines on Acceptable Flood Capacity for Water Dams*, December 2019, p. 8.
[140] Seqwater, response to RFI 103.
[141] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 56.
[142] Based on values Seqwater provided (sub. 1, p. 61, table 5.5).
[143] Atkins draft report, p. 104.
[144] Atkins draft report, p. 104.

Northern Pipeline Interconnector. The stage 2A upgrade project involved strengthening of the embankment.[145]

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.[146] 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.[147]

Atkins found the project to be prudent and efficient.[148]

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 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.[149]

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.[150]

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.[151]

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.[152] 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

[145] Seqwater, response to RFI 104.
[146] 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.
[147] Atkins draft report, p. 104.
[148] Atkins draft report, p. 104.
[149] Seqwater, response to RFI 102.
[150] Seqwater, sub. 1, p. 59.
[151] Seqwater, response to RFI 102.
[152] Seqwater, sub. 1, pp. 59–60.

received at the time of amalgamation.[153] 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.[154]

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 capitalised cost for the project.[155] Atkins acknowledged the adjustment is unlikely to be material to prices.[156]

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.[157] 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 Pipeline.[158]

[153] Seqwater, response to QCA RFI 102.
[154] Atkins draft report, p. 101.
[155] Atkins draft report, p. 101.
[156] Atkins draft report, p. 102.
[157] Seqwater, sub. 1, pp. 60–61.
[158] Interviews with Seqwater staff, September 2021.

Seqwater sought to recover a total of $8.5 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.[159]

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.[160]

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. We note that these costs would usually be classified as opex under Seqwater's own capitalisation policy.[161]

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 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 2023–26 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 2023–26 includes around $10 million in remediation, rehabilitation and vegetation management on Seqwater-owned catchment lands.[162]

We address the prudency and efficiency of forecast natural assets operating expenditure for the 2023–28 period in Chapter 4.

5.3.2 QCA draft findings

Based on our review, and considering Atkins' technical advice, we have determined an estimate of prudent and efficient capex of $575.2 million for the 2017–18 to 2021–22 period, as set out in Table 28.

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 adjusted to reflect prudent and efficient actual capex.

[159] Based on Seqwater 2021 bulk water pricing model.
[160] Seqwater, *Capitalisation of grid support costs–Rationale*, presentation to QCA and Atkins, 7 September 2021; Seqwater, response to RFI 167.
[161] Seqwater, *Capitalisation of grid support costs–Rationale*, presentation to QCA and Atkins, 7 September 2021.
[162] Seqwater, sub. 1, p. 83.

Table 28 QCA draft position—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	107.8	128.2	134.8	575.2
QCA draft position capex	**97.6**	**106.8**	**107.8**	**128.2**	**134.8**	**575.2**

Sources: QCA analysis; Seqwater 2021 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.[163] 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 primary and secondary investment drivers, would also allow expenditure allowances to be reviewed at a higher level, by 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

Seqwater proposed a total capex forecast of $1,351.3 million over the remainder of the price path period from 2023 to 2028 (Table 29). Of this, $889.6 million is forecast for the 2022–23 to 2025–26 pricing period, which is 45 per cent more than our recommended expenditure for the preceding four-year period from 2018–19 to 2021–22. Seqwater's forecast capex is 86 per cent higher than its projected actual spend over the same period (Figure 8).

Table 29 Seqwater's proposed capex 2023–28 ($m, nominal, as-commissioned)

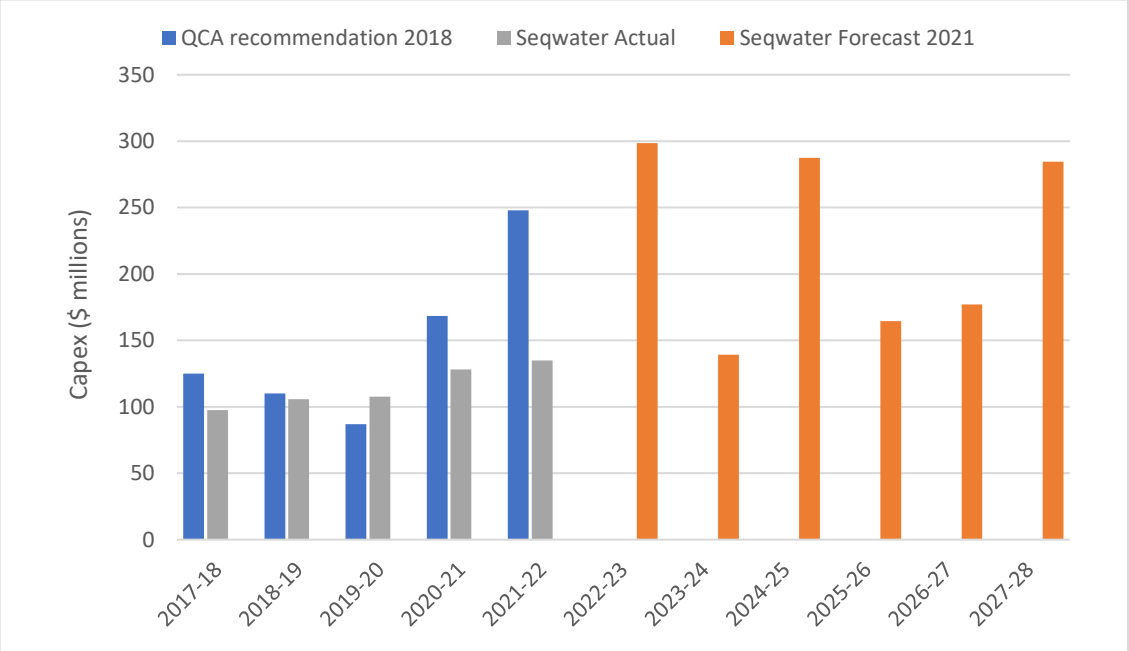
	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027-28*	*Total*
Forecast capex	298.4	139.2	287.5	164.5	177.1	284.6	1,351.3

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), Northern Pipeline Interconnector upgrade ($34m).[164]

[163] Seqwater, response to RFI 30.
[164] QCA analysis; Seqwater 2021 bulk water pricing model.

Figure 8 Seqwater's 2018–22 capex and forecast 2023–28 capex ($m, nominal, as commissioned)

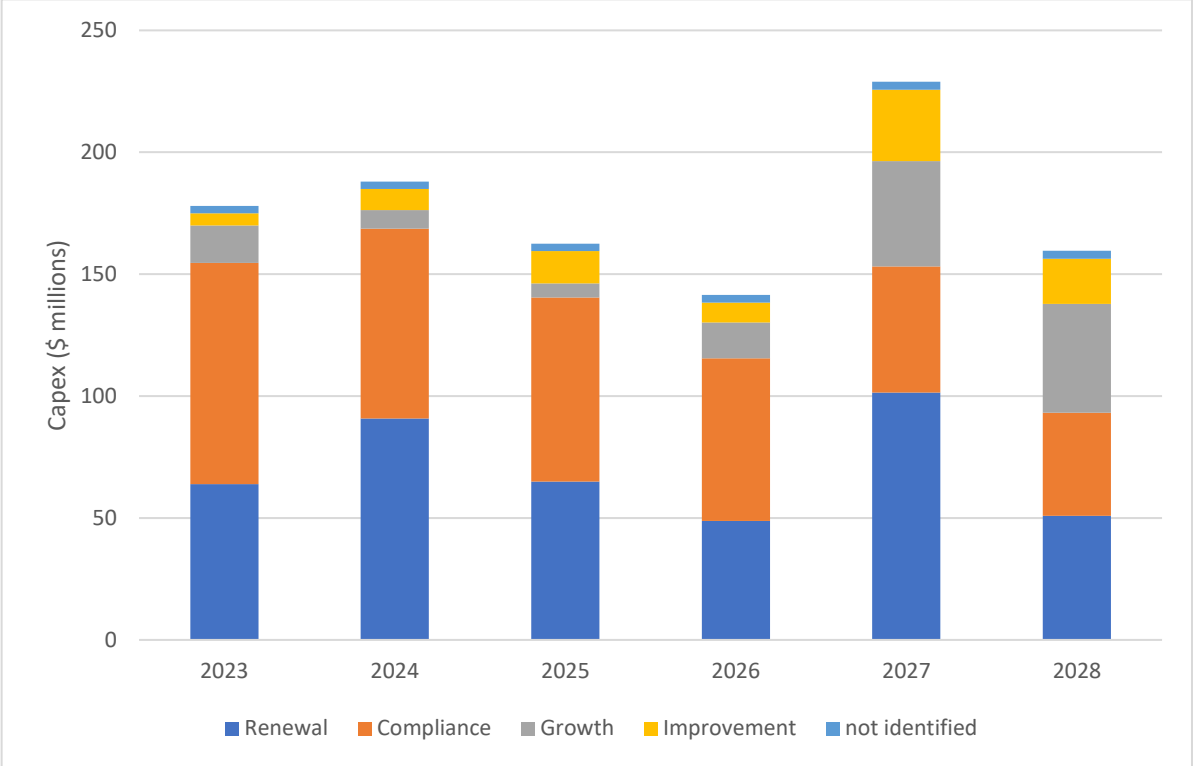


Note: Includes interest during construction (IDC).

Sources: QCA analysis; Seqwater 2021 bulk water pricing model.

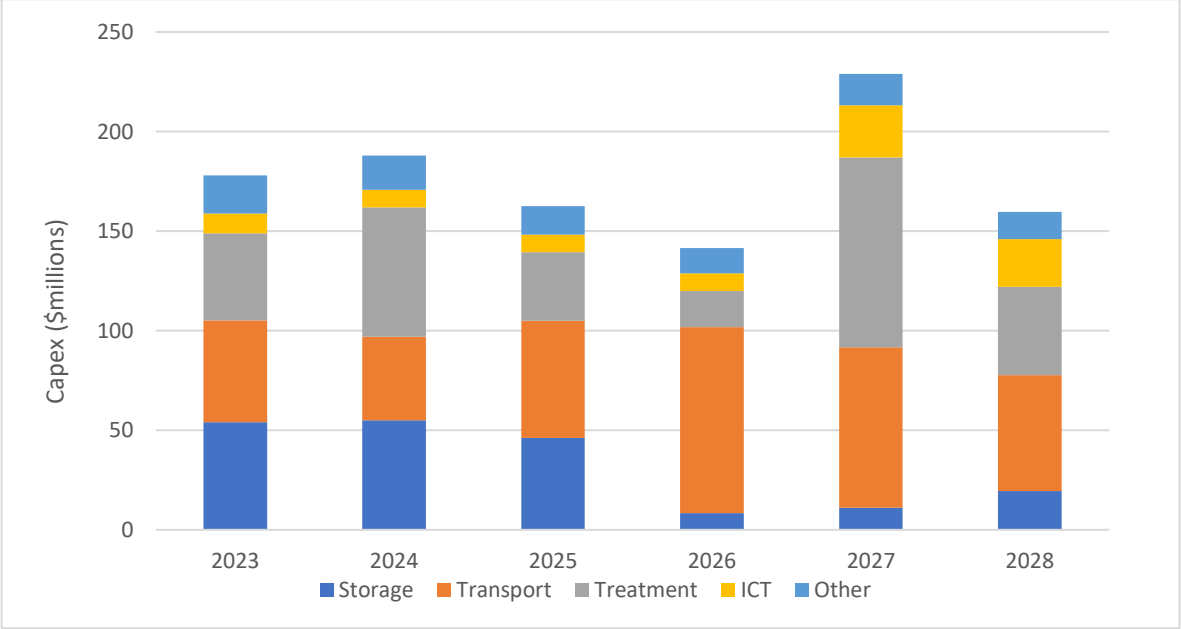
Seqwater said its forward capex program is driven largely by compliance and legal obligations, followed by asset renewals (Figure 9). By asset type, most expenditure is expected to be incurred on water transport infrastructure ($384m, 36%), followed by water treatment ($301m, 28%) and water storage ($194m, 18%) (Figure 10). Figure 9 and Figure 10 present forecast capex on an 'as incurred' basis to better illustrate the drivers of expenditure in each year.

Figure 9 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 10 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 2023–28 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[165] is also included in the 2023–26 capex forecast at a capitalised cost of $108 million. This project was previously expected to be commissioned in 2027 but has progressed with an expected delivery 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 30).

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.

Table 30 Sample projects reviewed ($m, nominal)

Project	*Description*	*Year of delivery/capitalisation*	*Capitalised cost*
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 up-to-date software.	2023–26	26.9

Sources: Seqwater, responses to QCA RFIs 105–108; Seqwater, sub. 1, p. 83; Seqwater 2021 bulk water pricing model.

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

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.[166] 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.[167]

Based on our review of the information available, and Atkins technical advice, we consider the sampled projects are prudent. We note there are some potential areas of improvement and opportunities for efficiencies and we have considered this 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 2023–26 to refurbish the radial and bulkhead gates at Wivenhoe Dam. The project involves paint and rust removal, recoating and replacement of seals. Seqwater initially sought to recover these costs as opex step changes.[168]

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.[169] 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 2023–28 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.[170] 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 2023–28 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.[171] At June 2021, Seqwater's modelling indicated the project remains at gate stage 1 in the investment approvals process (preliminary business case).[172]

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

[166] Atkins draft report, pp. 96–97.
[167] Atkins draft report, pp. 108–115.
[168] Seqwater, sub. 1, p. 101.
[169] Seqwater, *Wivenhoe gates protective treatment refurbishment*, project presentation, 8 September 2021; Seqwater, response to RFI 127.
[170] 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.
[171] Seqwater, sub. 1, p. 57.
[172] Seqwater 2021 bulk water pricing model.

(APMP). Seqwater's operational plan for 2021–22 identifies the project timing and cost as 'to be determined'.[173]

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.[174] In the absence of more certainty on the revised timing of the project, Atkins recommended the forecast capitalisation date be moved to 2027.[175]

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 2023–26 period, prudent and efficient capex will be added to the RAB at the next review. We consider 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.

Energy efficiency investments

Seqwater is a large energy consumer, using around 140 GWh annually. According to Seqwater, its energy consumption is forecast to double by 2030, and operating the GCDP and WCRWS in drought conditions will drive energy demands even higher, upwards of 350 GWh.[176]

Seqwater's Energy Efficiency Opportunities Register (EEOR) 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.[177] However, few projects are being advanced during the 2023–26 period, as Seqwater has prioritised funding toward ageing assets critical to operations.[178]

Seqwater's focus in achieving its strategic emissions reduction objectives appears to be through procuring carbon offsets.[179] This is not the most effective way to use its resources or to achieve emission reductions. This approach is also inconsistent with Seqwater's own emissions reduction strategy which indicates avoidance, efficiency and renewable energy should take precedence over offsets.[180]

We understand these projects could deliver savings of up to $1 million per year, a reduction of 12 GWh energy usage and associated emissions, for a $1.5 million capital outlay. Further smaller efficiency schemes could deliver an additional $0.5 million and 4 GWh saving.[181]

Advancing these capital projects, rather than spending opex on emissions abatement, is more prudent and aligns with Seqwater's own emissions hierarchy.[182]

[173] Seqwater, *Operational Plan 2021–22*, (unpublished) p. 20.
[174] Seqwater, response to RFI 174.
[175] Atkins draft report, p. 112.
[176] Seqwater, response to RFI 79, *Seqwater corporate energy strategy*, July 2021, p. 6.
[177] Seqwater, response to RFI 174, *Energy efficiency opportunity register*.
[178] Seqwater, response to RFI 164 and 173.
[179] Atkins draft report, pp. 28–29.
[180] Atkins draft report, p. 83; Seqwater, *Greenhouse Gas emissions abatement*, presentation, 8 September 2021.
[181] Atkins draft report, p. 72.
[182] Atkins draft report, pp. 115–116.

Solar photovoltaic (PV) investments

Seqwater did not include any capital expenditure for solar PV renewable energy projects during the next pricing period.

Seqwater has identified expenditure of around $14 million in solar PV investment that would realise energy savings estimated to be 12.4 GWh over four years. These projects include installation of solar PV at Landers Shute WTP, North Pine WTP and the GCDP. Seqwater proposed to commence these projects in 2026–27.[183]

Atkins recommended these initiatives be brought forward by three years and commenced within the 2023–26 period. It said that doing so would align with Seqwater's strategy, and present opportunities to realise opex efficiencies quickly, with short payback periods.[184]

Atkins proposed an overall increase in funding of around $17.8 million over the period to enable earlier delivery of solar PV, and energy efficiency projects.

These investments are estimated to deliver ongoing variable operating cost savings of around $8.6 million ($FY20) over the 2023–28 period.[185] These savings have been factored into our findings on operating costs.

Based on our review, we consider there are enduring efficiencies available by advancing these relatively low-cost capital initiatives. We consider a prudent and efficient capex allowance should include adequate funding to deliver these investments, if Seqwater considers that appropriate. We have included an additional $17.8 million in our estimated prudent and efficient capex allowance to support these investments.

Luggage point renewals

Seqwater proposed a total of $18.8 million over the 2023–28 period for renewals capex at Luggage Point advanced water treatment plant (AWTP). 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.[186] 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.[187]

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 2023–28 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.

[183] Seqwater, response to RFI 173.
[184] Atkins draft report, p. 116.
[185] Atkins draft report, p. 73; QCA analysis.
[186] Atkins draft report, p. 120.
[187] Atkins draft report, p. 120.

In its review, Atkins identified opportunities that it considered would deliver 'catchup' capital efficiencies for Seqwater during the 2023–26 period, specifically:

- bundling or packaging of works[188]
- more efficient contingency management[189]
- 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.[190]

In recognition of these opportunities, Atkins proposed a range of annual efficiency factors be cumulatively applied to the broader capex forecast.[191] The total value of Atkins' catchup and continuing efficiencies is $81 million over the 2023–28 period.

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 portfolio-level risk allowances.[192] 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 2023–28 period.[193] 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.[194] 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.[195]

For these reasons, we consider the capex forecast for the 2023–26 period should include some acknowledgement of the potential efficiencies available through the improvements Seqwater has already made, and those it is progressing.

We have considered Atkins' proposed efficiency factors and have chosen not to adopt them at this time. 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

[188] Atkins draft report, p. 123.
[189] Atkins draft report, p. 122.
[190] Interviews with Seqwater staff, 31 August 2021.
[191] Atkins draft report, p. 124.
[192] Seqwater, response to RFI 193.
[193] Seqwater, Provision of information—Bundling of projects, 7 October 2021.
[194] Seqwater, *Asset Portfolio Management Plan 2021*, March 2021, p. 21.
[195] Seqwater, sub. 1, pp. 59–70.

have an opportunity to reveal efficient costs through the initiatives it is implementing before any continuing efficiency assumptions can reasonably be applied. We would look favourably on a genuine and considered attempt from Seqwater to develop and embed a plan to achieve efficiencies in practice, rather than applying necessarily arbitrary efficiency factors.

Capex escalation

Seqwater develops capital cost forecasts at the business case level using real dollars. 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.[196] 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.[197]

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 implications for operating costs and concluded in each case that any relevant opex impacts are appropriately reflected in the opex base year.[198]

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.[199]

We consider that Seqwater has given reasonable consideration to opex–capex trade-offs in the context of the sampled capital projects. We encourage Seqwater to pursue further spend to save initiatives where it is prudent and efficient to do so (see section 4.2.3).

Interest during construction

We reviewed Seqwater's methodology for estimating and applying interest during construction 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.

---

[196] Seqwater, response to RFI 157; Seqwater, sub. 1, pp. 87–88.
[197] We confirmed that the capex escalation factors prepared by Frontier Economics (Seqwater, sub. 9) are not applied (Seqwater, response to RFI 158).
[198] Atkins draft report, appendix A.
[199] Atkins draft report, pp. 10, 23.

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 draft findings

Based on our review, we developed an alternative estimate of forecast capex for the 2022–23 to 2027–28 period (Table 31).

Table 31 QCA draft position—indicative capex estimate for 2023–28 ($m, nominal, as commissioned)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater's proposed capex	298.4	139.2	287.5	164.5	177.1	284.6	1,351.3
QCA adjustments							
Wivenhoe gates refurbishment	0.5	1.2	2.3	1.2	1.2	1.3	7.7
Energy efficiency initiatives	0.3	5.0	4.9	4.2	3.4	–	17.9
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	**294.9**	**142.3**	**151.5**	**166.7**	**334.1**	**282.5**	**1,372.1**
Difference between QCA estimate and Seqwater proposal	(3.5)	3.2	(136.0)	2.2	157.0	(2.0)	20.8

Note: Values are subject to further modelling adjustments to reflect our draft position on the WACC in the estimation of interest during construction (Chapter 6).

Our estimated alternative capex allowance is around $21 million higher than Seqwater's proposed allowance. However, we note there are clear opportunities for Seqwater to realise further efficiencies during the 2023–28 period, which it has not yet quantified (section 5.4.1).

In the absence of an alternative, quantified efficiency challenge proposed by Seqwater, our preliminary view is that the $21 million margin between our estimated allowance and Seqwater's proposed allowance presents a reasonable efficiency target over the period. This is a conservative efficiency assumption when compared with Atkins' proposed efficiency adjustments.

We consider $1,351.3 million is a reasonable overall capex allowance within which Seqwater can operate for the remainder of the price path period.

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.[200]

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.[201]

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 future 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.[202] 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 future and how they can best foster accountability while presenting Seqwater with appropriate incentives.

[200] Seqwater, sub. 1, p. 57.
[201] Seqwater, response to RFI 119.
[202] Seqwater, sub. 1, pp. 69–70.

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.

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 forecast are 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 broad stakeholder endorsement of the capital program would also be persuasive in any future review of capex, be it forecast or ex post. 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.[203]

Summary of QCA draft findings

We consider Seqwater's proposed total forecast capex allowance for the 2022–23 to 2027–28 of $1,351.3 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 commence transparent and regular reporting of actual capital spend against forecast, detailing drivers and subdrivers 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.

[203] Seqwater, sub. 1, pp. 31–34.

6 REGULATORY ASSET BASE

6.1 Opening value of the RAB at 1 July 2022

The referral notice requests that we establish the opening RAB at 1 July 2022 by rolling forward the opening RAB at 1 July 2017.[204]

Seqwater proposed an opening RAB at 1 July 2022 of $8,502.8 million (Table 31).

Table 32 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 inflationary gain	145.6	143.2	(85.3)	352.6	154.9
plus capital expenditure	97.6	106.8	107.8	128.2	134.8
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. Totals may not add due to rounding.

Source: Seqwater's pricing model.

Table 33 provides our RAB roll-forward calculations for the period 2017–18 to 2021–22. The opening value of $8,465.7 million[205] at 1 July 2017 is adjusted for inflation, capital expenditure and depreciation over the period. This produces a closing value of $8,554.0 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 33 QCA draft 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	8,527.1
plus inflationary gain	145.7	143.4	(89.2)	409.7	155.5
plus capital expenditure	97.6	106.8	107.8	128.2	134.8
less depreciation	238.4	245.0	245.9	259.4	263.4
Closing RAB	**8,470.6**	**8,475.8**	**8,248.5**	**8,527.1**	**8,554.0**

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

Source: QCA calculations.

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 34). Actual inflation is

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

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

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 submission.[206]

As actual inflation is not available for 2021–22, we have applied an indicative forecast rate of inflation (see Table 34). 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.[207] The indicative forecast inflation rate has been determined at 1 November 2021. This figure will be updated prior to our final report.

We note that the approach to forecast the inflation rate outlined in the terms of the referral notice, differs the approach set out in our recently published position paper on forecasting inflation. Our position paper would suggest a rate of 2.75 per cent for 2021–22.[208]

Table 34 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 draft position	**1.71**	**1.68**	**-1.05**	**4.93**	**1.81**

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

Source: ABS, Consumer Price Index, Australia, September 2021, cat. no. 6401.0, Table 1: All Groups, Index Numbers and Percentage Changes; QCA calculations.

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.[209] 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[210] (see Chapter 5), consistent with the referral notice.[211] The roll-forward of the RAB reflects our draft 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.[212]

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 assets as applied in our 2018–21 review of Seqwater's bulk water prices.[213] We have accepted

[206] Seqwater, sub. 1, p. 127.
[207] Referral notice, section C(9).
[208] QCA, *Inflation forecasting*, final position paper, October 2021.
[209] The inflationary gain added to the RAB is reported in end-of-year values, while the inflationary gain component deducted from building block costs will be reduced by a cash-flow adjustment to reflect mid-year values.
[210] Expenditure for the 2020–21 year is based on actual and estimated expenditure.
[211] Referral notice, section C(7)(a).
[212] 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.
[213] Referral notice, sections C(6), C(8).

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.[214] 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 35.

Table 35 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 inflationary gain	163.4	184.0	206.4	214.9	219.6	225.5
plus capital expenditure	298.4	139.2	287.5	164.5	177.1	284.6
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: Totals may not add due to rounding.

Source: Seqwater's pricing model.

Table 36 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 36 QCA draft position—RAB roll-forward ($m, nominal)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***
Opening RAB	8,554.0	8,766.0	8,823.6	9,030.4	9,122.0	9,224.6
plus inflationary gain	184.0	195.9	203.7	217.3	222.9	216.1
plus capital expenditure	298.2	139.0	286.6	164.2	176.8	284.0
less depreciation	270.2	277.3	283.5	289.9	297.2	304.7
Closing RAB	**8,766.0**	**8,823.6**	**9,030.4**	**9,122.0**	**9,224.6**	**9,420.0**

Notes: 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).[215] Table 37 provides our indicative forecast inflation rates at 1 November 2021. These figures will be updated, prior to our final report.

We note that the approach to forecast the inflation rate outlined in the terms of the referral notice, differs the approach set out in our recently published position paper on forecasting inflation.[216]

[214] Similar to inflationary gain, the depreciation allowance included in building block costs is reduced by a mid-year cash flow adjustment.

[215] Referral notice, section C(9).

[216] QCA, *Inflation forecasting*, final position paper, October 2021.

Table 37 Forecast inflation rate (%)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Seqwater indicative	1.89	2.10	2.32	2.38	2.40	2.43
QCA indicative (referral notice)	**2.11**	**2.22**	**2.27**	**2.39**	**2.42**	**2.31**
QCA position paper	2.25	2.31	2.38	2.44	2.50	2.50

Source: Seqwater, sub. 1, p. 49; QCA analysis.

6.2.2 Capital expenditure

We have assessed forecast capital expenditure for the period 2022–23 to 2027–28, consistent with the referral notice.[217] Our draft findings on forecast capital expenditure (Chapter 5) 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.

[217] Referral notice, section C(5).

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).[218]

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.[219]

Table 38 provides Seqwater's proposed WACC for the 2023–26 regulatory period. It reflects Seqwater's proposed capital structure of 60 per cent debt (40 per cent equity), it's proposed cost of equity of 7.47 per cent, and the cost of debt advised by QTC.

Table 38 Seqwater's proposed WACC (%)

	2022–23	***2023–24***	***2024–25***	***2025–26***
Capital structure (% debt)	60	60	60	60
Cost of equity	7.47	7.47	7.47	7.47
Cost of debt	4.52	4.34	4.15	4.02
WACC	**5.70**	**5.59**	**5.48**	**5.40**

Source: Seqwater, sub. 1, pp. 47, 49.

We have considered whether Seqwater's WACC proposal is reasonable.

In assessing Seqwater's WACC proposal, 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 applied a top-down assessment of the cost of equity (section 7.1.3).

Overall, we do not consider 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 draft finding on the appropriate WACC to apply to Seqwater is provided in Table 39.

[218] Referral notice, section C(10).

[219] It should be noted that 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)) requires that the rate of return reflect the cost of debt advised by QTC.

Table 39 QCA draft position—WACC (%)

	2022–23	*2023–24*	*2024–25*	*2025–26*
Capital structure (% debt)	60	60	60	60
Cost of equity	6.64	6.64	6.64	6.64
Cost of debt	4.52	4.34	4.15	4.02
WACC	**5.37**	**5.26**	**5.15**	**5.07**

Source: Seqwater, sub. 1, p. 47; 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 proposal.

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.[220] 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.[221] 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 does 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 governments 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.

[220] 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.

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

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 WACC proposal. 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.

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 2023–26 regulatory period.[222] The advice it sought 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.[223]

Seqwater's proposal 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. We accept that a gearing estimate of 60 per cent remains consistent with recent regulatory decisions for Australian water businesses.[224]

We do not consider 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.[225]

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 multiplied by the equity beta).

Seqwater proposed a cost of equity of 7.47 per cent, reflecting:[226]

[222] Seqwater, sub. 1, p. 47.
[223] Seqwater, sub. 1, p. 47; Seqwater, sub. 1, att. 4, pp. 6–7.
[224] 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.
[225] QCA, *Gladstone Area Water Board price monitoring 2020–25 Part A: Overview*, final report, May 2020, p. 82.
[226] Seqwater, sub. 1, p. 49.

- a risk-free rate of 1.72 per cent [227]
- an MRP of 7.5 per cent
- equity beta of 0.766.

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.

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.[228] It stated that this estimate will be updated prior to our final report, based on prevailing market rates.

Seqwater's proposed methodology to estimate the risk-free rate is consistent with our current approach, as outlined in our rate of return review.[229]

Updating the risk-free rate to reflect the more recent 20-day averaging period to 1 November 2021 provides an indicative risk-free rate of 1.74 per cent. This figure will be updated prior to our final report.

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.[230]

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

Market risk premium

The market risk premium (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 2023–26 regulatory period, reflecting advice sought from Frontier.

Frontier considered that estimates of the MRP should take into account the prevailing market conditions. It considered that an approach where the MRP remains stable is inconsistent with evidence that the required return on equity has remained relatively stable, even as government bond yields have fallen.[231]

Frontier's estimate of the MRP was derived applying equal weight to:

- estimates of the MRP that are based on long-run historical data
- estimates of the MRP that are based on current forward-looking market data.

---

[227] As of 31 March 2021. Seqwater intends to update the risk-free rate following our draft report, to reflect prevailing market rates.
[228] Seqwater, sub. 1, p. 45.
[229] QCA, *Rate of return review*, final report, November 2021, pp. 83–86.
[230] Seqwater, sub. 1, pp. 44–45.
[231] Seqwater, sub. 1, att. 2, p. 21.

Historical estimates were determined by applying equal weight to the Ibbotson and Wright methods.[232] Frontier noted that the Ibbotson method assumes that the MRP is constant, such that the total required return on equity rises and falls one-for-one with changes in government bond yields, while the Wright method assumes that the real required return on equity is constant, so that every change in the risk-free rate is absorbed by an offsetting change in the MRP. Frontier considered that movement of the MRP likely lies somewhere in between these two extremes.[233]

Frontier then calculated a standard forward-looking dividend growth model (DGM) estimate.[234]

Our rate of return review recently considered the different methods available to estimate the MRP. Here, we formed the view that the Ibbotson method provides a plausible indication of the risk premium an investor requires on average for investing in the market.[235] The Ibbotson method currently provides a MRP of 6.4 per cent.

We recognise that the MRP is not fixed and there may be instances where applying the Ibbotson method to estimate the MRP does not result in a reasonable cost of equity.

Consistent with our rate of return review, we have considered the prevailing market conditions at the cost of equity level to, amongst other things, take this possibility into account (see section 7.1.3).[236]

While we have not adopted a forward-looking DGM method to estimate the MRP, we have had regard to the outcomes of this method in considering the reasonableness of the cost of equity.

We note that Frontier has raised concerns with the Cornell DGM method we have applied in past reviews.[237] Acknowledging the sensitivity of the DGM method to changes in underlying modelling specifications, we have only used the MRP estimate derived from our DGM method to provide directional guidance at the cost of equity level.

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 debt funding 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.[238]

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

[232] Frontier estimated an MRP of 6.37 per cent applying the Ibbotson method and an MRP of 9.35 per cent applying the Wright method. Seqwater, sub. 1, att. 2, pp. 28, 35.
[233] Seqwater, sub. 1, att. 2, p. 36.
[234] Frontier calculated an MRP of 7.7 per cent applying its forward looking DGM method. Seqwater, sub. 1, att. 2, p. 36.
[235] Our reasons for adopting the Ibbotson method to estimate the MRP are outlined in further detail in our rate of return review. QCA, *Rate of return review*, final report, November 2021, pp. 55–65.
[236] QCA, *Rate of return review*, final report, November 2021, p. 55.
[237] Seqwater, sub. 1, att. 2, pp. 31–34.
[238] Seqwater applied a debt beta of 0.12, gearing of 60 per cent and an estimate of gamma equal to 0.47. Seqwater, sub. 1, p. 47.

appropriate comparators.[239] 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.[240]

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 economic factors.[241] Current regulation continues to provide Seqwater with relatively stable cash-flows through mechanisms which 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.[242] This produces an average and median asset beta of 0.39 and an equity beta of 0.795[243] as a reference point.[244]

We acknowledge Seqwater's interests 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 proposed to maintain a gamma value of 0.47. While not its preferred estimate,[245] it stated the estimate of 0.47 was consistent with our estimate from the final report for the 2018–21 regulatory period.

We considered the appropriate approach to estimating gamma as part of our recent rate of return review. Overall, the approach we adopted in the rate of return review is consistent with the approach adopted in our final report on Seqwater's bulk water prices for the 2018–21 regulatory period. This approach produces an estimate of 0.484.[246]

---

[239] Seqwater, sub. 1, p. 46.
[240] Seqwater, sub. 1, p. 46.
[241] For example, see Incenta, *Estimating Seqwater's firm-specific WACC parameters for the 2018–21 bulk water price investigation*, November 2017, pp. 13–14.
[242] 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.
[243] Applying a debt beta of 0.12 and gearing of 60 per cent.
[244] 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.
[245] Seqwater considered the appropriate approach and estimate to be consistent with advice provided by Frontier, resulting in a gamma estimate of 0.25. Seqwater, sub. 1, pp. 47–48.
[246] Details on our approach are outlined in our rate of return review: QCA, *Rate of return review*, final report, November 2021, pp. 87–84.

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.[247]

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 (see Table 40).

Table 40 Seqwater's cost of debt, as advised by QTC

	2022–23	***2023–24***	***2024–25***	***2025–26***
Cost of debt	4.52	4.34	4.15	4.02

Source: Seqwater, sub. 1, p. 47.

We note that the cost of debt set out under the terms of the referral notice differs to the approach we have outlined in our rate of return review. This would produce an indicative cost of debt of 5.07 per cent at 1 November 2021.[248]

7.1.3 Top-down WACC assessment

A top-down assessment allows us to consider whether the overall WACC proposed by Seqwater is reasonable—there may be cases where our bottom-up assessment of the individual WACC parameters does not result in a WACC that will appropriately compensate Seqwater for the overarching commercial and regulatory risks it faces.

As part of our top-down assessment, we have considered recent WACC decisions by other Australian regulators, for energy and water businesses with similar risk profiles to Seqwater (see Figure 11). This may provide a guide as to whether Seqwater's proposed WACC is reasonable.

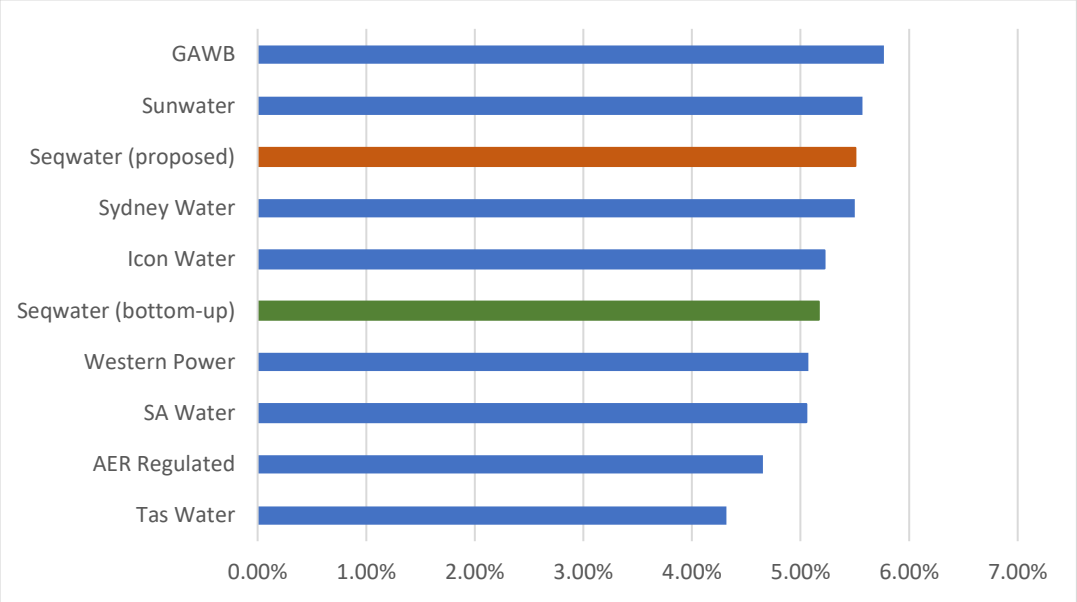
In order to compare the recent WACC decisions, we have sought to 'normalise' the WACC with reference to the same point in time (in this case, 31 July 2021).[249]

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

[248] 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.

[249] A detailed explanation of our approach to normalisation can be found in our recent rate of return review: QCA, *Rate of return review*, final report, November 2021, pp. 95–97.

Figure 11 Normalised WACC—comparison of relevant regulated energy and water businesses across Australia (normalised at 31 July 2021)[a]

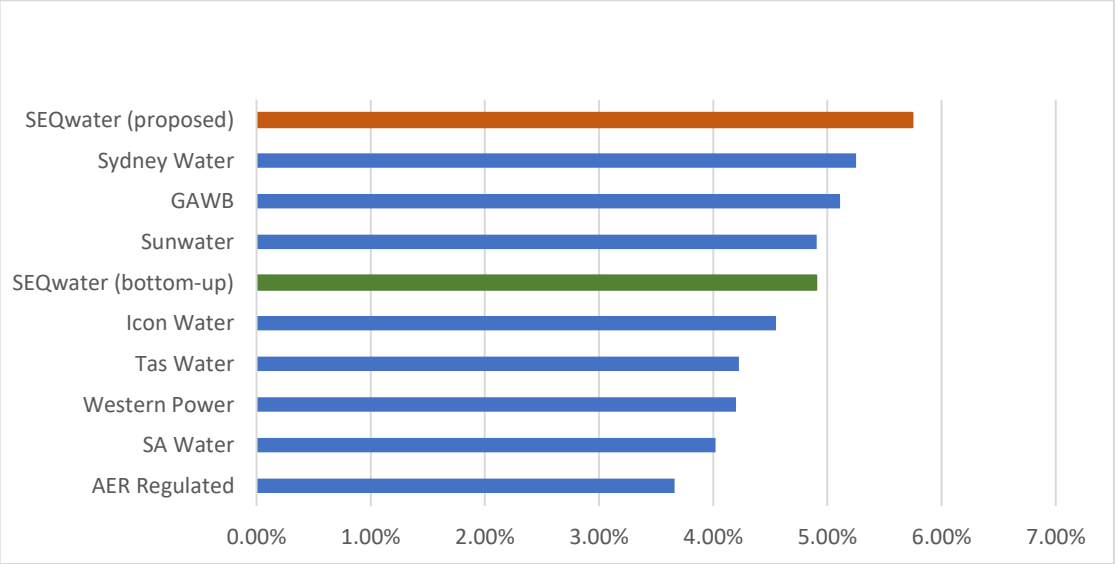


Notes: (a) Note that when interpreting normalisation results, various assumptions must be made. For example, uncertainty around the cost of debt methodology applied by other regulators has meant that in many cases, our best estimate of the cost of debt reflects the most recently published estimate. Note 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. Seqwater's WACC estimates (proposed and bottom-up) are for the period 2022–23.

Source: Various regulatory decisions; IPART, *WACC model*, spreadsheet, August 2021, viewed 1 November 2021; QCA calculations.

Once normalised, Seqwater's WACC proposal sits towards the upper end of the comparators presented. While GAWB and Sunwater's WACCs are higher, this largely reflects differences in the method to estimate the cost of debt. In this regard, 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. The second largest equity margin (Sydney Water) is 50 basis points lower than Seqwater's (see Figure 12).

Figure 12 Equity margin—comparison of relevant regulated energy and water businesses across Australia



In conducting our top-down assessment of the WACC, we have also considered prevailing market conditions. In this regard, we note that:

- our current, forward-looking estimate of the MRP, calculated using our DGM method, provides a MRP estimate of 6.7 per cent
- consideration of S&P/ASX 200 volatility index does not indicate heightened investor risk aversion at this time
- there has been a recent increase in the risk-free rate estimated using 10-year Commonwealth Government bond yields. This increase has reduced the difference between our bottom-up estimate of the risk free rate (1.74%) and the five-year (1.89%) and ten-year (2.56%) historical averages.

Overall, we do not consider that Seqwater's risk profile, nor the prevailing market conditions justify Seqwater's WACC proposal of 5.71 per cent (at 1 November 2021).[250]

Having regard to the top-down assessment, we consider that our bottom-up estimate of 5.37 per cent[251] (at 1 November 2021) is appropriate to apply to Seqwater.

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.[252]

7.2.1 Return on assets

The return on assets is calculated by applying the WACC to the regulated asset base. Our draft allowance is provided in Table 41. Our allowance differs to Seqwater's, due to the differences in the WACC and our RAB findings (see Chapter 6).

Table 41 Return on assets ($m, nominal)[a]

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater proposal	492.9	489.8	486.8	487.7	485.5	491.2	2,934.0
QCA draft position	**467.1**	**464.5**	**461.5**	**461.6**	**458.9**	**464.1**	**2,777.7**

a Excludes working capital.

Sources: Seqwater's pricing model; QCA analysis.

7.2.2 Working capital requirement

Seqwater stated that its working capital requirement for the 2023–26 regulatory period was calculated applying the approach used in its 2018–21 review.[253]

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.

[250] For the period 2022–23. The WACC will change over the regulatory period, reflecting differences in the cost of debt applied.
[251] For the period 2022–23.
[252] Referral notice, section A(2)(a)(ii).
[253] 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 draft position on working capital requirement is provided in Table 42. It differs from Seqwater's proposal, due to differences in the WACC, total revenue (see Chapter 10) and operating expenditure (see Chapter 4).

Table 42 QCA draft position—Working capital allowance ($m)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater proposal	7.1	7.6	8.2	8.9	9.2	9.6	50.7
QCA draft position	**6.5**	**6.7**	**6.8**	**7.1**	**7.3**	**7.6**	**42.1**

Sources: Seqwater's 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.[254] Tax liabilities, including tax equivalent payment liabilities, are legitimate costs that should be recovered through bulk water charges.

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 apply the corporate tax rate—adjusted for the value of dividend imputation credits (gamma)—to taxable income. This approach requires 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:

- using forecast revenue (including price path debt repayments) in the taxable income calculation

[254] 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).

- 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).[255]

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).[256] 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.[257] 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, 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.[258]

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 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.

[255] Seqwater, sub. 1, pp. 50–52.
[256] 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, meaning their value diminishes over time.
[257] Urban Utilities was concerned about the upward pressure put on prices by using a total revenue approach (sub. 13, p. 2).
[258] Seqwater, sub. 1, pp. 50–51, sub. 8, pp. 13–14.

Seqwater's 2020–21 annual report identifies tax losses of $3,273 million being carried forward as at 30 June 2021.[259] 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 draft 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.[260]

Seqwater noted that we were not asked to include a tax allowance until our 2018 review and 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 indicate that we should assume Seqwater was exempt from paying tax before 2018.[261] 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 could be used to reduce tax payable in future.[262]

Seqwater went on to argue that the source of tax losses before 2018 reflected a government policy decision to set prices below efficient costs, and specifically referred to the decision to apply a cost of debt return. Seqwater 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.[263]

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

---

[259] Seqwater, *Annual Report 2020–21*, September 2021, p. 64.
[260] Seqwater, sub. 1, pp. 52, 54, sub. 8, pp. 12–14.
[261] The referral notice for the 2015 review said that bulk water costs were to include (but not be limited to) specified costs.
[262] 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.
[263] Seqwater, sub. 1, p. 52.

Summary and draft position

Our draft position is to maintain our approach from 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 Seqwater's proposed allowance (Table 43), mainly due to Seqwater's proposal to propose a revenue-based approach without using 2008 as the starting point for the calculation of tax losses.

Table 43 QCA draft position—Tax allowance ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Seqwater's proposal	2.9	66.4	86.1	109.1	124.7	139.9	529.1
QCA draft position	**-**	**-**	**-**	**-**	**6.7**	**18.1**	**24.8**

8 TOTAL COSTS

In this chapter, we set out our draft position on the costs to be recovered from bulk water customers. To determine building block costs, we add together our proposed operating expenditure, return on assets, depreciation (net of indexation), and allowances for working capital and tax. We then deduct the costs associated with providing irrigation services and the revenue Seqwater expects to receive from other sources, to obtain the adjusted building block costs to be recovered from bulk water customers.

8.1 Building block costs

To determine building block costs, we calculate 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 in assets to provide bulk water services, reflecting our assessment of capital expenditure (capex), the value of Seqwater's regulatory asset base (RAB), and an appropriate rate of return (Chapters 5 to 7)
- a return of assets (depreciation)—the cost of capital investments over the useful life of the assets (Chapter 7)
- 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 obligations (Chapter 7).

Based on our findings in earlier chapters, our draft position on building block costs is provided in Table 44.

Table 44 QCA draft position—Building block costs ($m, nominal)

	2022–23	***2023–24***	***2024–25***	***2025–26***	***2026–27***	***2027–28***
Operating expenditure	291.9	299.0	307.2	317.7	323.3	331.6
Return on assets	452.7	450.5	447.9	448.4	445.9	450.7
Return of capital (depreciation net of indexation)	86.2	81.4	79.8	72.6	74.3	88.6
Working capital allowance	6.5	6.7	6.8	7.1	7.3	7.6
Tax allowance	-	-	-	-	6.7	18.1
Total	**837.1**	**837.7**	**841.7**	**845.7**	**857.5**	**896.7**

Source: QCA analysis. Return on assets includes an adjustment for mid-year cash flow.

8.2 Cost and revenue offsets

In accordance with the referral notice[264], we deduct from bulk water costs the costs associated with providing irrigation services and the revenue Seqwater receives from other sources.[265] The purpose of these deductions is to prevent Seqwater from over-recovering its bulk water costs.

This section discusses cost and revenue offsets that we calculate based on the assumption that Seqwater is operating under normal (non-drought) conditions. Seqwater 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.[266] 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).

Our draft view is that Seqwater has correctly applied the cost allocation approach to derive the offsets for each irrigation water supply scheme (WSS) and distribution system[267], although we identified some minor errors in Seqwater's calculations, which we have corrected.

Table 45 QCA draft position—irrigation cost offset ($m, nominal)

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

WSS: Water supply scheme.

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.[268]

Power station revenue

Seqwater has agreements with two large customers to supply water to their power stations:[269]

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

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

[264] Referral notice, sections A(5), C(18)–(19).
[265] Excluding revenue received in relation to hydroelectric power stations (referral notice, section C(18)(c)).
[266] QCA, *Rural irrigation price review 2020–24, Part C: Seqwater*, final report, January 2020, p. 52.
[267] Seqwater, sub. 1, pp. 12, 88, 131; Seqwater's pricing model.
[268] Seqwater, sub. 1, pp. 130–131. Seqwater identified some minor errors in its initial forecast and subsequently provided corrected figures (Seqwater, response to RFI 23).
[269] Seqwater, response to RFIs 23, 202.

water, but only if certain conditions are met.[270] Under the agreements, the charges increase annually by the inflation rate, but there are also provisions to periodically review and amend 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 assumes 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 in drought conditions.[271]

Based on the information Seqwater provided—including the supply agreements, demand assumptions and revenue calculations—our draft 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 its own sources are depleted.[272] Seqwater's agreement with the council includes fixed charges and variable charges, and the agreement was recently extended to 2030 on existing terms. As with the power station agreements, the charges increase annually by the inflation rate, and there are also provisions for the charges to be reviewed and amended periodically.

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, our draft position is 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 and a large industrial customer, and revenue from leasing of land and houses. Based on the information Seqwater provided, we consider Seqwater's revenue forecast from other sources is reasonable, with one exception.[273]

We have not accepted 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.

---

[270] One condition is that government approval must have been obtained to supply recycled water into Wivenhoe Dam for drinking water purposes—we understand that approval has not yet been obtained (Seqwater, sub. 1, p. 121).

[271] Seqwater, response to RFIs 23, 202; Stanwell Corporation Limited, *Annual Report 2020/21*, September 2021, p. 45.

[272] Seqwater, response to RFIs 23, 202; Toowoomba Regional Council, *Current water supply sources*, TRC website, 2021, viewed 4 November 2021.

[273] For consistency with other revenue sources, we converted Seqwater's foregone revenue adjustment for the large industrial customer (Incitec Pivot) into an equivalent revenue offset. Incitec Pivot recently announced that it will close its Gibson Island manufacturing facility in December 2022 (Incitec Pivot Limited, *Gibson Island manufacturing operations to cease in December 2022*, ASX release, 8 November 2021). We ask Seqwater to consider and comment on the impact of this announcement in response to this draft report.

Summary

Our draft position on revenue offsets is summarised in Table 46.[274] 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 46 QCA draft position—revenue offsets ($m, nominal)

Revenue source	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Power stations	13.5	13.8	14.1	14.5	14.8	15.2
Toowoomba Regional Council	5.6	5.7	5.8	6.0	6.1	6.3
Other[a]	6.0	6.1	1.6	1.6	1.7	1.7
Total	**25.1**	**25.6**	**21.6**	**22.1**	**22.6**	**23.2**

a Revenue from other sources falls in 2024–25, because Seqwater's agreement with the large industrial customer ends on 30 June 2024.

Notes: Figures may not add due to rounding.

Summary—total offsets

Our draft position on cost and revenue offsets is provided in Table 47.

Table 47 QCA draft 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	25.1	25.6	21.6	22.1	22.6	23.2
Total	**28.2**	**28.9**	**24.9**	**25.5**	**26.1**	**26.7**

a Excludes capital expenditure allocation (see Chapter 5).

Notes: Figures may not add due to rounding.

8.3 Adjusted building block costs

Our draft position on the costs to be recovered from bulk water customers (after applying the cost and revenue offsets) is provided in Table 48.

Table 48 QCA draft position—adjusted building block costs ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*
Building block costs	837.1	837.7	841.7	845.7	857.5	896.7
less cost and revenue offsets	28.2	28.9	24.9	25.5	26.1	26.7
Adjusted building block costs	**808.9**	**808.8**	**816.8**	**820.3**	**831.4**	**870.0**

[274] We updated Seqwater's proposal for the latest forecast inflation rates. These rates are indicative and will be updated in our final report (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 as 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 an opening price path debt balance at 1 July 2022 by rolling forward the price path debt balance of $2,415 million at 1 July 2017. The opening balance reflects adjustments for the following:

- updated building block costs[275] by adjusting for the updated capital costs based on rolling forward the RAB
- updated rate of return and interest costs for the relevant actual cost of debt as advised by QTC
- the difference between Seqwater's actual and forecast demand-related variable costs
- prudent and efficient costs arising from review events
- foregone revenue resulting from pricing amendments or decisions
- the difference between Seqwater's actual revenue and forecast revenue.[276]

After applying these adjustments, our draft position is to establish an opening balance of $2,328.1 million at 1 July 2022 (Table 49).[277]

Table 49 QCA draft 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	2,438.9
plus updated building block costs	798.7	848.7	1,044.2	564.9	829.5
plus variable cost adjustment	-	1.8	2.2	-	-
plus review event costs[a]	2.4	3.5	14.3	30.8	23.0
plus foregone revenue	-	-	1.2	2.1	2.0
plus price path debt interest costs	122.1	124.9	130.1	126.7	119.7
less actual revenue	856.5	931.3	990.0	1,018.0	1,085.0
Closing balance	**2,482.6**	**2,530.3**	**2,732.3**	**2,438.9**	**2,328.1**

[a] Includes costs that do not meet the drought response review event definition, which we intend to assess further.

Note: Totals may not add due to rounding.

[275] The term 'maximum allowable revenue' in the referral notice is equivalent to the term 'building block costs' in this report.

[276] Referral notice, sections C(12)–(13).

[277] The opening balance at 1 July 2022 is the same as the closing balance as at 30 June 2022.

Source: QCA analysis.

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). Adjustments were also made to reflect an updated to the rate of return for the actual cost of debt and offsets to reflect actual revenue from other sources (sections 9.1.2 and 9.1.6 below).

9.1.2 Updated cost of debt—rate of return and interest costs

We have updated the rate of return and interest costs for the relevant actual cost of debt advised by QTC (Table 50).

Table 50 Actual cost of debt—price path debt and rate of return (%)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*
Cost of debt—price path debt					
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
Cost of debt—rate of return					
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	4.80

Adjustments are reflected in Table 49 above in the line items for 'price path debt interest costs' and 'updated building block costs'.

9.1.3 Demand-related variable cost adjustment

We have made an adjustment to account for the impact of the difference between forecast and actual demand on variable costs (Table 51).

Table 51 QCA draft position—adjustment for demand-related variable costs ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Demand-related variable cost adjustment	–	**1.8**	**2.2**	–	–	**4.0**

Source: QCA analysis.

9.1.4 Review event costs

In accordance with the referral notice, we have provided an allowance for Seqwater to recover prudent and efficient costs of review events in the current period.[278] There are five review event categories—emergency, law or government policy, cost of debt, drought response and feedwater quality.[279] Seqwater proposed to recover costs associated with the following two categories:

- drought response—measures to respond to regional and localised drought conditions (total claimed: $72.0 million)

[278] Referral notice, sections A(2)(vii), C(12)(c).
[279] Referral notice, section C(14); 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.

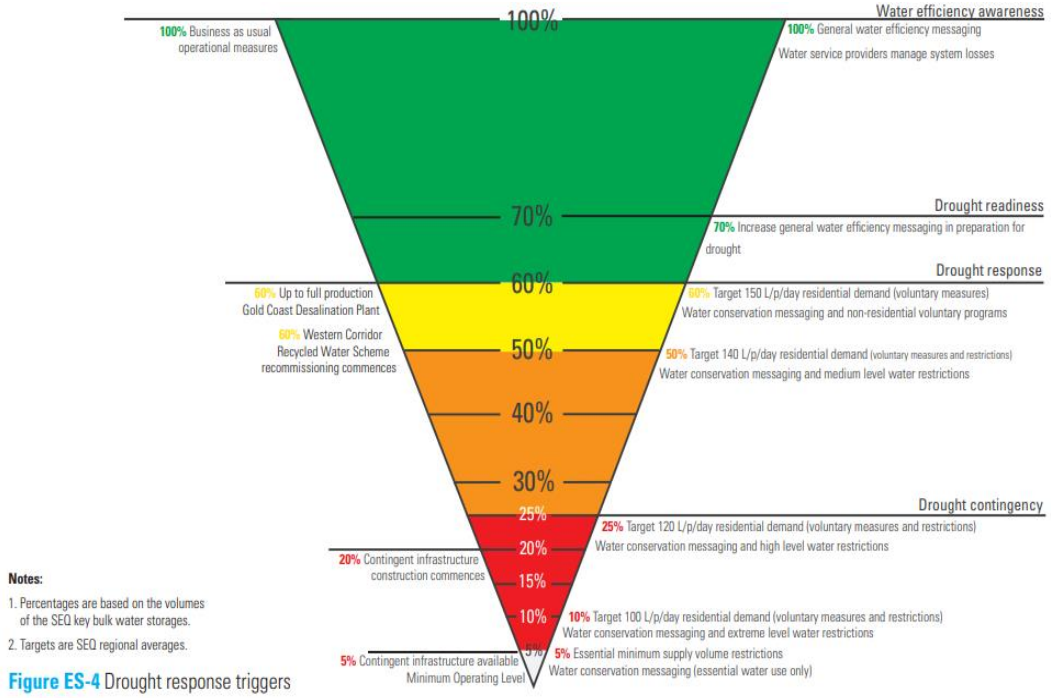
- feedwater quality—four rainfall events that reduced water quality and increased treatment costs (total claimed: $2.0 million).[280]

Drought response event

To recover costs as a drought response review event, Seqwater must demonstrate a change in prudent and efficient costs as a result of taking drought response measures in accordance with the Water Security Program (WSP).[281, 282]

Seqwater's approach to managing and responding to droughts is set out in the WSP. The program includes triggers and actions, based on combined dam levels.[283] Regional triggers reflect the combined level of Seqwater's key bulk water storages[284], and actions and measures associated with those triggers aim to meet long-term level of service objectives.[285] The trigger for taking drought readiness measures is when dam levels drop to 70 per cent, and the trigger for taking drought response measures is when dam levels drop to 60 per cent (Figure 13).[286]

Figure 13 Overview of regional triggers and actions



Source: Seqwater Water Security Program, p. 10.

[280] Seqwater, sub. 1, pp. 91, 112–124. Seqwater revised its drought response claim after providing its submission (response to RFIs 134, 135, 159).

[281] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, pp. 80–81.

[282] Separately, we intend to assess the prudency and efficiency of costs incurred by Seqwater for activities related to getting ready for drought.

[283] Seqwater, sub. 1, pp. 113–114.

[284] Twelve dams make up the key bulk water storages— see Seqwater, *Water for life, South East Queensland's Water Security Program 2016–2046*, version 2, March 2017, p. 139. (Seqwater Water Security Program)

[285] The objectives are set by the government under the Water Regulation 2016—Seqwater, sub. 11, p. 8; Seqwater Water Security Program, pp. 73–74, 90–91.

[286] There are also sub-regional triggers and actions (primarily for the northern sub-region) based on declining dam levels at a sub-regional level (Seqwater Water Security Program, pp. 170–171), and each off-grid community has its own drought response plan (Seqwater Water Security Program, pp. 124–125, 206–306 (appendix N)).

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 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. Dam levels are currently 55 per cent.[287]

Seqwater claimed costs associated with various measures in the drought readiness and drought response phases, as well as costs that were incurred before the drought readiness trigger was reached.[288] The key cost items related to Seqwater's two manufactured water assets—the Gold Coast Desalination Plant and the Western Corridor Recycled Water Scheme.[289] Seqwater's total claim was $72.0 million, but costs later in the period are forecast rather than actual costs (Table 52).[290]

Table 52 Seqwater's claim—drought response review event ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Total costs claimed	**1.9**	**3.2**	**13.3**	**30.5**	**23.0**	**72.0**

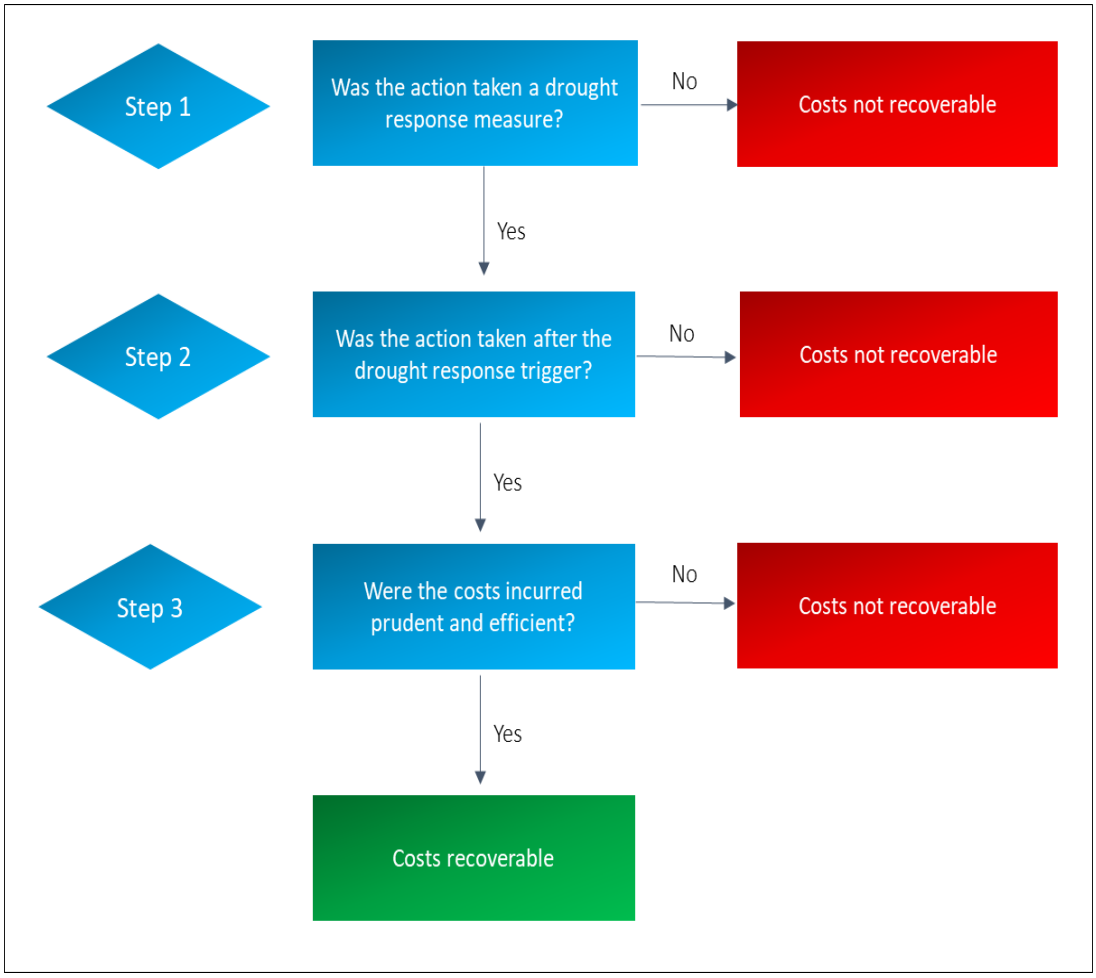
Note: Figures may not add due to rounding.

Source: Seqwater response to RFIs 134, 135, 159.

To assess Seqwater's claim and form a view on whether the costs are recoverable as a review event, we adopted a staged assessment approach (Figure 14).

[287] Seqwater, *Historic dam levels*, Seqwater website, 2021, accessed 15 November 2021.
[288] Seqwater, sub. 1, pp. 91, 113–124.
[289] Seqwater, sub. 1, pp. 120–122.
[290] Seqwater initially claimed $80 million (sub. 1, p. 124) but subsequently revised its claim to $72 million, mainly driven by updated numbers for 2021–22 (response to RFIs 134, 135, 159).

Figure 14 Assessment approach—drought response review event



Step 1—Was the action taken a drought response measure?

Seqwater's cost claim was split into two categories—drought response measures and drought readiness measures. Seqwater submitted that costs in both categories meet the review event definition:

> [T]he costs relating to drought response measures pertain to all drought response measures, where actions were required in response to declining [dam] levels – including drought readiness as per the Water Security Program.[291]

In our view, drought readiness measures do not meet the definition. The drought response plan in the WSP specifies triggers and measures at all dam levels up to 100 per cent (Figure 14). Statements in the WSP clearly distinguish between the drought response phase and other phases, including drought readiness:

> Seqwater must set triggers for the:
>
> ● drought response level (drought response actions commence) – this level is 60% [Key Bulk Water Storages].
>
> ...

[291] Seqwater, response to RFIs 134, 135, 159.

> [P]ublic communication about drought response will occur before the drought response level is reached. Communication about water efficiency will increase at 70% to provide enough time to build engagement momentum before the drought response level.[292]

Even if we accepted that drought readiness measures met the definition, we have been unable to identify many of the measures that Seqwater claims are associated with drought readiness in the WSP. The only measures we were able to identify are increased water efficiency messaging and some specific measures relating to off-grid communities.[293]

Costs must be drought response measures according to the WSP to satisfy the review event definition.[294] Our draft position is to exclude $3.2 million from Seqwater's review event claim on the basis that the costs are not associated with taking drought response measures (see Table 53).

Table 53 QCA draft position—costs excluded: not a drought response measure ($m, nominal)

Action	*2017–18 to 2021–22*
Northern drought—contingency strategy	0.2
GCDP readiness test	0.2
WCRWS readiness activities	0.5
Confirming need for WCRWS in drought	0.4
Fixed term team resourcing	0.9
Water efficiency messaging (preparing for drought)	0.6
Water grid asset awareness videos	0.2
Other[a]	0.2
Total	**3.2**

GCDP: Gold Coast Desalination Plant. WCRWS: Western Corridor Recycled Water Scheme.

***a** Includes the following actions: Baroon Pocket options report, drought risk appetite assessment and drought information dashboard.*

Step 2—Was action taken after the drought response trigger?

Next, we assessed whether the drought response measures were undertaken before or after the drought response trigger had been reached.

We found that Seqwater undertook some actions ahead of the trigger.[295] 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[296], when dam levels were well above the drought response trigger at around 78 per cent.[297] 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.

[292] Seqwater Water Security Program, p. 88.
[293] Seqwater Water Security Program, pp. 10, 206–306 (appendix N).
[294] Atkins draft report, appendix C.
[295] Atkins draft report, p. 63–64.
[296] Seqwater response to RFIs 134, 135, 139.
[297] Seqwater, *Historical dam levels*, Seqwater website, 2021, accessed 15 November 2021.

- 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.[298]

Atkins recommended excluding costs associated with actions taken ahead of the drought response trigger *unless* the action would have been taken when the trigger was eventually met. Atkins recommended shifting these costs from the year the cost was incurred to the year it should have been incurred, but also qualified this recommendation:

> [T]his should not be interpreted as support for the prudency of carrying out activities ahead of the WSP triggers. Had the drought broken and/or the trigger for the activity not subsequently been met, we would not have recommended allowing this expenditure in the drought review event.[299]

However, we consider that the review event test is whether Seqwater took the drought response measure in accordance with the WSP, not whether the measure would have been taken in accordance with the program if it had been taken when the trigger was eventually met.

Carrying out an activity in advance of the drought response trigger *may* lead to costs being incurred for longer (e.g. earlier operation of the partially recommissioned recycled water scheme). However, this *may* not always be imprudent or against the public interest and indeed there *may* be cases where it is prudent and in the public interest for cost to be incurred earlier.

The costs of actions taken in advance of the drought response trigger do not meet the review event definition. Our draft position is to exclude $9.0 million from Seqwater's review event claim on this basis (see Table 54).

However, it is critical to ensure that in applying the regulatory framework that details such as formal wording of review events determined ex ante do not incentivise Seqwater to not act prudently in the public interest (see section 12.2). As such, we are interested in stakeholder views on:

- whether taking the action before the trigger was prudent and in the public interest
- whether the costs incurred in taking the actions were the minimum costs necessary
- whether the review event definition should be revised to ensure that Seqwater acts prudently and in the public interest in relation to drought or other operational events.

We will consider stakeholder views on this matter further prior to providing our final report to the ministers.

Table 54 QCA draft position—costs excluded: drought response trigger not reached ($m, nominal)

Action	*2017–18 to 2021–22*
Recommissioning one train at Luggage Point (WCRWS)	1.5
Operating one train at Luggage Point (WCRWS)	6.9
Reinstating WCRWS pipework	0.4

[298] Seqwater, sub. 1, pp. 95–96, 118; 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.
[299] Atkins draft report, p. 63.

Action	*2017–18 to 2021–22*
Water efficiency rebate program	0.1
Other[a]	0.1
Total	**9.0**

WCRWS: Western Corridor Recycled Water Scheme. WTP: Water treatment plant.

a *Includes the following actions: contingency supply assessment (Banksia Beach), contingency supply planning (Lake Manchester), Kilcoy water treatment plant raw water pumping investigation, and installing orifice plate at Lake Manchester Outlet.*

Step 3—Were the costs incurred prudent and efficient?

The final step is to assess the prudency and efficiency of the costs incurred as a result of taking the drought response measures.

In addition to the decision to recommission one train at the Luggage Point AWTP in December 2017 (discussed above), Seqwater recently decided to recommission two additional trains to increase supply to industrial customers in drought, which would reduce demand on Wivenhoe Dam.[300] The additional water is expected to be available from April 2022.[301] We seek further information from Seqwater justifying the prudency of this decision. Noting that recent production from the first Luggage Point train (around 8 ML per day) had been consistently lower than full capacity (around 23 ML per day), it is unclear whether there is sufficient demand from industrial customers to justify a further increase in supply capacity.[302]

Recommissioning the additional trains would increase capacity by 46 ML per day to 70 ML per day[303], but the use of recycled 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.[304]

For the purposes of estimating the revenue offset for the drought allowance (Chapter 11), Seqwater forecast demand from Toowoomba Regional Council and major industrial customers (including Stanwell and CleanCo for their power stations) to be around 52 ML per day.[305] We do not have enough information to establish whether these forecasts are reasonable, and it is not clear whether all the demand would be met by recycled water. Demand under normal conditions is expected to be much lower at 9 ML per day, as most industrial demand is driven by the impact of drought on customers' own water sources, which they draw on in normal conditions (see Chapter 8).

To justify the prudency of the decision, Seqwater should provide plans that demonstrate high confidence in the utilisation of the additional capacity by industrial customers or provide relevant information that would justify the decision on other grounds.[306]

Based on information received to date, we have also been unable to form a view on the overall efficiency of Seqwater's proposed costs. We consider that further examination of the costs of operating and maintaining the recycled water scheme and desalination plant is warranted in

[300] Seqwater, sub. 1, p. 96.
[301] Seqwater, sub. 11, p. 14.
[302] Atkins draft report, p. 92–93.
[303] Seqwater, sub. 11, p. 14.
[304] Seqwater, sub. 1, p. 121, Seqwater, Western Corridor Recycled Water Scheme, Recycled Water Management Plan Annual Report 2019–20, December 2020, pp. 7, 11.
[305] Seqwater, response to RFIs 23, 200, 201, 202.
[306] Atkins draft report, pp. 92–93.

particular, given that Seqwater obtains these services from a single supplier.[307] While we have not been able to identify any inefficient costs for the purposes of this draft report, we intend to examine the costs further and seek more information from Seqwater justifying the efficiency of its claim.

Nevertheless, an adjustment should be made for the costs saved from requiring less water from dams.[308] As the review event provides for Seqwater to recover the *change* in costs resulting from taking an action, it is appropriate to make an adjustment to account for these cost savings. However, we have not yet made an adjustment, as Seqwater advised that it would undertake further work to provide an estimate of the cost savings in response to our draft report.[309]

Summary

We have excluded $12.1 million from Seqwater's review event claim because the costs do not meet the review event definition. They resulted from taking measures that were not drought response measures, or they were undertaken too early according to the drought response triggers in the WSP. However, as discussed above, we are not yet satisfied that the remaining costs are prudent and efficient and seek further information from Seqwater to justify its claim. As Seqwater's proposed costs for 2021–22 are based on a forecast, we also expect to review these costs again as part of the next review, as actual expenditure may vary from forecast depending on the evolution of the drought.

Table 55 QCA draft position—drought response review event (indicative only, subject to further assessment) ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Seqwater's proposal	1.9	3.2	13.3	30.5	23.0	72.0
less costs excluded	1.9	3.2	5.5	1.5	0.0	12.1
Costs recoverable (indicative only)	**–**	**–**	**7.8**	**29.0**	**23.0**	**59.8**

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. We also acknowledge that Seqwater may not have been adequately compensated for drought readiness costs through the current opex allowance.

We are therefore minded to allow Seqwater to recover costs that do not meet the review event definition, but only if Seqwater can justify the costs were prudently and efficiently incurred to prepare for drought. We have included an indicative allowance for the purposes of the draft report (Table 56), but we require further explanation and justification from Seqwater before we can accept these costs.

Table 56 QCA draft position—Seqwater's proposed drought readiness/preparedness costs (indicative only, subject to further review) ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Indicative costs	**1.9**	**3.2**	**5.5**	**1.5**	**0.0**	**12.1**

[307] Atkins draft report, p. 64.
[308] Atkins draft report, p. 63–64.
[309] Seqwater, response to RFI 206.

Feedwater quality events

The cost of treating water can increase in response to changes in the quality of feedwater due to events such as heavy rainfall. Seqwater claimed $2.0 million associated with four separate rainfall events that reduced water quality and increased treatment costs.[310] Atkins assessed Seqwater's claim and found the costs to be prudent and efficient and consistent with the review event definition.[311] On this basis, we accept Seqwater's review event claim (Table 53).

Table 57 QCA draft position—feedwater quality review event ($m, nominal)

Review event	*2017–18*	*2018–19*	*2019–20*	*2020–21*	*2021–22*	*Total*
Feedwater quality event	**0.5**	**0.2**	**1.0**	**0.3**	**-**	**2.0**

Source: Seqwater, sub. 1, pp. 123–124; Atkins draft report, pp. 65–66.

9.1.5 Foregone revenue

In accordance with the referral notice, we have made an adjustment to account for any foregone revenue resulting from pricing amendments or decisions.[312]

Seqwater proposed to recover foregone revenue associated with a government decision to approve a discounted bulk water charge for a large industrial customer.[313] The purpose of the discount was to prevent the customer from inefficiently bypassing the network to obtain water from an alternative supply source.[314]

Having reviewed the information and calculations provided by Seqwater[315], our draft position is that Seqwater's proposed foregone revenue adjustment is appropriate (Table 58).[316]

Table 58 QCA draft position—adjustment for foregone revenue ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21a*	*2021–22a*	*Total*
Foregone revenue adjustment[b]	**–**	**–**	**1.2**	**2.1**	**2.0**	**5.3**

a *Based on forecast consumption.* ***B*** *Calculated by subtracting revenue received from the customer (reflecting the discounted price) from revenue that would have been received had the customer paid the (undiscounted) bulk water price.*

Source: Seqwater, response to RFI 23.

9.1.6 Adjustments for actual revenue

Seqwater earns revenue from bulk water charges and other sources. Under the referral notice, we have been asked to adjust for the difference between Seqwater's actual revenue and forecast revenue for the period 1 July 2017 to 30 June 2022. While Seqwater only proposed to make an adjustment for bulk water revenue, we consider that making an adjustment for Seqwater's revenue from other sources (which is applied as an offset to bulk water costs) is consistent with the terms of the referral notice.

[310] Seqwater, sub. 1, p. 124.
[311] Atkins draft report, p. 65.
[312] Referral notice, sections A(3), C(12)(d).
[313] The discount took effect in October 2019 (Seqwater, response to RFIs 23, 200), so it was not captured in the forecast of revenue offsets from our last review.
[314] Seqwater, sub. 1, p. 128; Seqwater's pricing model.
[315] Seqwater, response to RFI 23.
[316] Although we have updated the 2021–22 figure for the approved 2021–22 bulk water price.

Bulk water revenue

Seqwater's actual revenue from bulk water sales was higher than forecast, because demand was higher than forecast. The additional revenue is returned to bulk water customers through a reduction to the price path debt balance (Table 59).

Table 59 QCA draft position—adjustment for actual bulk water revenue ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22[a]*	*Total*
Forecast revenue	848.1	889.6	940.4	987.8	1,026.6	4692.5
Actual revenue	856.5	931.3	990.0	1,018.0	1,085.0	4,880.8
Difference[b]	**(8.4)**	**(41.7)**	**(49.6)**	**(30.2)**	**(58.4)**	**(188.3)**

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.

Revenue from other sources (revenue offsets)

Revenue that Seqwater receives from other sources is deducted from bulk water costs. Actual revenue was higher than forecast over the period (and in each year, except 2017–18). While we note Seqwater's proposal to offset drought response review event costs by the additional revenue earned from power stations[317], we consider the additional revenue earned from power stations and other sources is captured by the end-of-period revenue adjustment. The additional revenue is returned to bulk water customers through a reduction in the price path debt balance (Table 60).[318]

Table 60 QCA draft position—adjustment for revenue offsets ($m, nominal)

	2017–18	*2018–19*	*2019–20*	*2020–21*	*2021–22 [a]*
Forecast revenue	26.7	15.2	15.5	15.9	16.3
Actual revenue	24.4	27.7	29.8	31.9	35.8
Difference [b]	**2.3**	**(12.5)**	**(14.3)**	**(16.0)**	**(19.6)**

[a] Updated forecast.

[b] Calculated by subtracting actual revenue from forecast revenue.

Source: QCA model for 2015 and 2018 reviews; Seqwater, response to RFI 202.

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—our draft position is to establish an opening balance of $2,328.1 million as at 1 July 2022 (see section 9.1 above)
- the interest costs—where Seqwater's cost of debt estimate as advised by QTC (5.15 per cent per year to 2027–28) is applied to the debt balance

[317] Seqwater, sub. 1, p. 128.

[318] We do not adjust for revenue Seqwater receives for supplying irrigation services, because the costs of providing irrigation services are excluded from bulk water costs (in accordance with the referral notice, sections A(5), C(19)). Making a revenue adjustment as well would result in Seqwater under-recovering its costs. We also do not adjust for revenue related to the hydroelectric power stations, as this revenue source does not offset bulk water costs (in accordance with the referral notice, sections A(5), C(19)).

- price smoothing constraints (Chapter 10) and full repayment of price path debt by 2027–28.

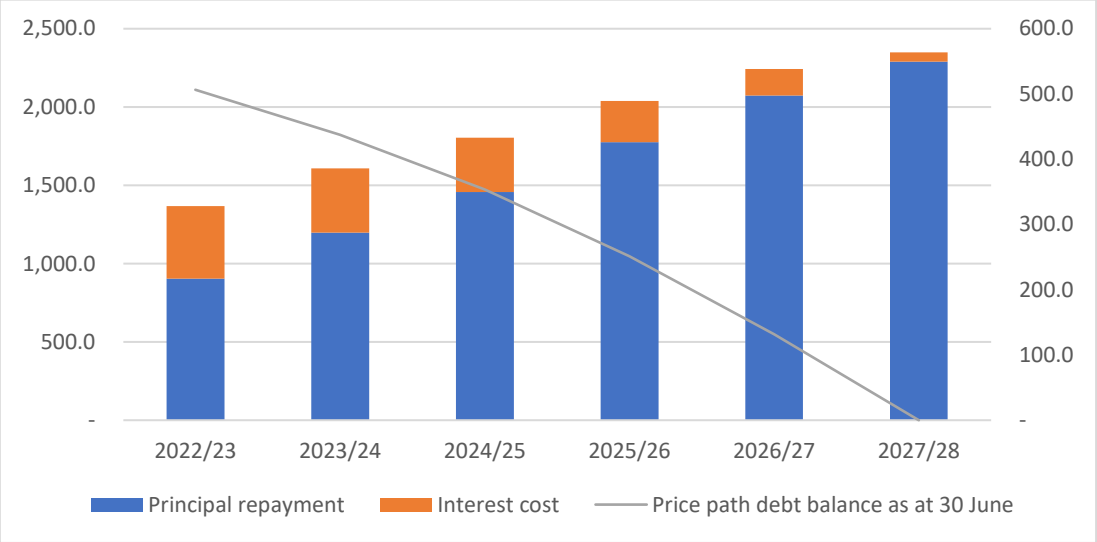
Our draft position on the annual price path debt repayments is provided in Table 61, and the price path debt repayment profile is shown in Figure 15.

Table 61 Draft position—price path debt repayment ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Principal	216.9	287.4	350.1	426.0	498.0	549.7	2,328.1
Interest costs	111.5	98.9	82.9	63.4	40.3	14.0	411.1
Total	**328.5**	**386.3**	**433.0**	**489.5**	**538.3**	**563.6**	**2,739.1**

Source: QCA analysis; Seqwater's pricing model.

Figure 15 Price path debt repayment profile ($m, nominal)



10 TOTAL REVENUE AND PRICES

In this chapter, we summarise our draft position on the total revenue requirement and provide our draft recommendations on bulk water prices.

Our draft position on the revenue to be recovered through bulk water prices (Table 62) is the sum of adjusted building block costs (Chapter 8) and the price path debt repayment (Chapter 9).

We consider this provides sufficient revenue to recover prudent and efficient costs of providing bulk water supply services and repay the price path debt.

Table 62 Draft position—total revenue requirement ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*2026–27*	*2027–28*	*Total*
Adjusted building block costs	808.9	808.8	816.8	820.3	831.4	870.0	4,956.3
Price path debt repayment	328.5	386.3	433.0	489.5	538.3	563.6	2,739.1
Total revenue requirement	**1,137.4**	**1,195.1**	**1,249.8**	**1,309.7**	**1,369.7**	**1,433.7**	**7,695.4**

Source: QCA analysis; Seqwater's pricing model.

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.

Table 63 QCA draft recommendations—bulk water prices

	2022–23	*2023–24*	*2024–25*	*2025–26*
QCA bulk water price ($/kL)	**3.295**	**3.359**	**3.425**	**3.491**
Seqwater's bulk water price ($/kL)	3.431	3.642	3.867	4.105
Difference (%)	(4.0)	(7.8)	(11.4)	(14.9)

Source: QCA analysis; Seqwater's pricing model.

Based on our draft recommendations, prices would increase by 2 per cent each year.[319] However, the increase is only indicative, because our final recommendations may change to reflect new or updated information and feedback on our draft report.

Draft recommendation 1

Bulk water prices should be set according to the prices in Table 63 above.

[319] Percentage change in 2022–23 is relative to the current (2021–22) price.

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 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.[320]

We have been asked to recommend an allowance that is consistent with the following parameters:

- It 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.
- It 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.
- It is to remain constant in real terms (i.e. increase by inflation only) for the duration of the regulatory period.[321]

While Seqwater has been operating under drought conditions since July 2021[322] and at other times over the last few years, the drought allowance is independent of current operating conditions. If the government decides to apply the allowance during the regulatory period, it may 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.[323] 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—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 for the entire period.[324]

[320] Referral notice, sections A(4), C(15)–(16).
[321] Referral notice, section C(17).
[322] Seqwater, sub. 11, p. 6.
[323] Seqwater, sub. 11, pp. 19–21.
[324] Seqwater, sub. 11, p. 20.

These are the key measures associated with reaching the 60 per cent drought response trigger in the WSP (see Figure 13 in Chapter 9).[325] Seqwater did not propose to include an allowance for other drought response costs[326], because they were less certain and not as material.[327]

Seqwater's proposal also included a drought demand forecast, an allowance to cover the expected revenue shortfall from lower demand, and a revenue offset to reflect additional revenue expected from other sources.

11.2 Our assessment and draft recommendations

To form a view on an appropriate drought allowance, we first assessed 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.[328] Seqwater chose this period because water conservation messaging was being delivered at this time and some demand management measures were active.[329] 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.[330]

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.[331]

We acknowledge the difficulties in forecasting demand under drought conditions. Such forecasting requires making assumptions 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.

[325] Seqwater Water Security Program, p. 10.
[326] 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).
[327] Seqwater, sub. 11, p. 19.
[328] Seqwater, sub. 11, p. 18. Seqwater also expressed this as 249 litres per person per day 'total' consumption rate (*Seqwater pricing submission QCA interview demand presentation*, September 2021, p. 11).
[329] Seqwater, *Seqwater pricing submission QCA interview demand presentation*, September 2021, p. 11.
[330] Atkins draft report, p. 51.
[331] Atkins draft report, p. 51.

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 given that differences between forecast and actual drought demand would be expected to be reconciled through an end-of-period adjustment.[332]

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 million in drought costs over the regulatory period. The costs reflect the full recommissioning and then operation of the recycled water scheme and the operation of the desalination plant (Table 64).

Table 64 Seqwater's proposal—drought costs ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Capital charges: • WCRWS (recommissioning plants)	(0.6)	(0.3)	3.1	6.7	8.9
Operating costs: • GCDP (operating plant) • WCRWS (recommissioning & operating plants)	 27.8 38.3	 28.4 39.2	 29.1 53.8	 29.8 59.6	 115.1 191.0
Total	**65.5**	**67.2**	**86.0**	**96.1**	**315.0**

WCRWS: Western Corridor Recycled Water Scheme. GCDP: Gold Coast Desalination Plant.

Source: Seqwater, sub. 11, p. 4; Seqwater's pricing model.

In terms of capital expenditure, Seqwater proposed to include $109 million to undertake full recommissioning of the recycled water scheme (Table 65).[333] We understand the capital expenditure is an input to determine the proposed capital charge component of Seqwater's proposed costs. These costs were not identified or explained in Seqwater's supplementary submission and were only identified on review of modelling it subsequently provided.

[332] Subject to the continued provision of an ex post revenue adjustment in referral notices.
[333] Seqwater, *Drought calculations spreadsheet*, August 2021.

Table 65 Seqwater's proposed recommissioning capital expenditure for the recycled water scheme ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
WCRWS recommissioning	35.6	36.3	37.2	–	109.1

Source: Seqwater, drought calculations spreadsheet, August 2021.

Seqwater also proposed around $3 million of renewals capital expenditure each year associated with the Luggage Point AWTP (which is part of the recycled water scheme), noting that Seqwater is planning to recommission the remaining two Luggage Point trains in the current year (2021–22). However, Seqwater proposed to recover these costs through bulk water prices, as a cost of operating under normal conditions.

We do not consider there is any justification for incurring these costs under normal conditions (discussed in Chapter 5). There is a stronger case to include the costs in the drought allowance, although we query the prudency of recommissioning additional trains if demand from industrial customers is insufficient relative to the additional supply that will be created (Chapter 9).

Recommissioning the recycled water scheme is consistent with the drought response trigger in 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.[334] While 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, we intend to scrutinise the prudency of recommissioning decisions if we are asked to undertake an ex post assessment of costs (through the review event and capex assessment mechanisms).

While Atkins recommended including an allowance for additional drought response costs[335], we acknowledge Seqwater's submission that these costs are less certain and unlikely to be sufficiently material to justify including them in the drought allowance. For the purposes of establishing an ex ante allowance that we expect will be subject to an ex post adjustment, we consider there is greater value in assessing the major cost items for prudency and efficiency. We also note that this is consistent with the request in the referral notice to focus on cost areas that are material.[336]

We also need Seqwater to clarify whether the forecast accounts for cost savings from switching supply from conventional sources to manufactured water sources.[337] Seqwater advised that it would undertake further work to provide an estimate of the cost savings for the drought response review event in response to our draft report (Chapter 9). We also seek further information from Seqwater on expected cost savings for the drought allowance if those savings have not already been captured.

We recognise the difficulty of obtaining an accurate estimate of the prudent and efficient costs of responding to drought. Among other things, costs will depend on:

- the severity and progression of the drought

[334] Seqwater, sub. 1, p. 121.
[335] Atkins draft report, p. 94.
[336] Referral notice, section C(17)(a).
[337] Atkins draft report, p. 93–94.

- 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
- possible amendments to Seqwater's drought response strategy in the next version of the WSP.[338]

The allowance is designed to work in conjunction with the review event mechanism (Chapter 12), which provides a level of protection against inefficient costs being passed through to customers. Nevertheless, if the drought allowance is applied during the regulatory period, customers will be financially impacted in the meantime. We need to be satisfied that Seqwater has made a genuine attempt to estimate efficient costs to inform our recommendations.

Based on information received to date, we are not currently able to form a view on whether the proposed costs are reasonably prudent and efficient.

Without prejudging the issue, nor endorsing Atkins view, we note Atkins said it had limited confidence in the efficiency of the costs proposed, particularly in relation to the recommissioning of the WCRWS:

> The level of detail provided for many of the costs, especially related to recommissioning, is very limited. As the activities mainly involve work to be carried out by a single supplier, we consider that there is a significant possibility of inefficiency. It is not clear to us that this risk has been mitigated by benchmarking, market-testing, or applying efficiency challenge to the recommissioning costs.
>
> We also consider that, given the significance of the expenditure, Seqwater should demonstrate that the expenditure is efficient before approving and committing to it by undertaking benchmarking, market-testing, and/or applying efficiency challenges.[339]

To enable us to test the reasonableness of Seqwater's proposal for the purposes of recommending a drought allowance, we expect Seqwater to provide greater detail and more justification on the prudency and efficiency of its cost forecast. For the purposes of this draft report, and purely as an interim measure until we can assess the costs further, we have adopted Seqwater's cost forecast without adjustment.

Table 66 QCA interim position— drought costs ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Drought costsa	**65.5**	**67.2**	**86.0**	**96.1**	**315.0**

[a] *Subject to further review.*

Revenue shortfall due to lower demand

Seqwater proposed an allowance that reflects its estimated revenue shortfall 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.[340]

[338] Seqwater advised that the next version of the WSP will contain an updated drought response strategy, including updated triggers (sub. 11, p. 8).
[339] Atkins draft report, p. 93.
[340] Seqwater, sub. 11, pp. 18–19.

Table 67 QCA draft position—revenue shortfall ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Revenue shortfalla	**57.3**	**67.9**	**80.2**	**93.3**	**298.7**

a Based on draft recommended bulk water prices.

Additional revenue from other sources

Seqwater expects to earn additional revenue from selling more water to Toowoomba Regional Council 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. Seqwater proposed an incremental revenue offset of around $10 million each year to account for higher water sales to both customers.[341]

While there are provisions in the Stanwell agreement to charge higher prices for recycled water under certain conditions, Seqwater applied the standard prices contained in the agreement. Given uncertainty about whether the higher prices will apply, we consider that using the standard prices is reasonable. Based on the information provided by Seqwater, including the supply agreements and revenue calculations, our draft position is that Seqwater's revenue forecasts seem to be generally reasonable for the purposes of our draft report (see Table 68).[342] However, as discussed in section 9.1.4, we do not have enough information to establish whether the demand forecasts underpinning these calculations are reasonable, and we seek further justification from Seqwater.

Table 68 QCA draft position—revenue offset ($m, nominal)

Source	*2022–23*	*2023–24*	*2024–25*	*2025–26*	*Total*
Revenue offset	**9.8**	**9.9**	**10.0**	**10.3**	**40.0**

Note: figures may not add due to rounding.

We expect future bulk water prices would be adjusted to reflect actual revenue if the referral notice for the next review continues to provide for an end-of-period revenue adjustment (explained in Chapter 9).

Summary—revenue requirement

Table 69 reflects our draft position on an indicative revenue requirement for operating under drought conditions. We have adopted Seqwater's cost forecast without adjustment but intend to review it further.

Table 69 QCA draft position—indicative revenue requirement ($m, nominal)

	2022–23	*2023–24*	*2024–25*	*2025–26*	*Total*
Drought costs—subject to further review	65.5	67.2	86.0	96.1	315.0
plus revenue shortfall	57.3	67.9	80.2	93.3	298.7
less additional revenue from other sources	9.8	9.9	10.0	10.3	40.0
QCA total	**113.1**	**125.2**	**156.2**	**179.1**	**573.6**

[341] Seqwater, response to RFI 23, sub. 11, pp. 4, 19.
[342] Values will be subject to a further modelling adjustment in the final report to reflect the latest inflation forecast (see Chapter 6).

Source: QCA analysis; Seqwater's pricing model.

11.2.3 Converting revenue requirement into an annual drought allowance

The final step is to convert the indicative 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 the allowance remains constant in real terms over the regulatory period.[343]

As we have so far been unable to form a view on the prudency and efficiency of Seqwater's cost forecast, our draft recommendation on the drought allowance (Table 70) is provided for indicative purposes only. Our final recommendation may change, based on further analysis.

Table 70 QCA draft recommendation—indicative drought allowance

	2022–23	***2023–24***	***2024–25***	***2025–26***
QCA indicative drought allowance ($/kL)	**0.406**	**0.416**	**0.425**	**0.435**
Seqwater's drought allowance ($/kL)	0.431	0.440	0.450	0.461
Difference (%)	(5.6)	(5.5)	(5.5)	(5.5)

Source: QCA analysis; Seqwater's pricing model.

Draft recommendation 2

The drought allowance should be set according to Table 70 **above.**

[343] Using our inflation forecast from Chapter 6.

12 CUSTOMER IMPACTS, FUTURE REVIEW EVENTS AND OTHER MATTERS

In this chapter, we consider:

- the impact of our draft 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 draft recommendations on households and businesses. It is important to note that the impacts are indicative only, because our final recommendations may change to reflect updated information and feedback on our draft report, and the government will ultimately decide whether to accept our final recommendations.

Based on our draft recommendations, bulk water prices would increase by 2 per cent for each of the next four years. Adding the drought allowance would increase the bulk water price by a further 12 per cent. 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 charges make up a significant proportion of total water bills. For example, Urban Utilities reported that bulk water charges were around 40 per cent of an average water and sewerage bill in 2020–21.[344] Retailers were concerned about the impact of large price increases on their customers.[345] Some retailers suggested ways of mitigating those impacts, including extending the price path debt repayment period[346] and limiting price increases to CPI.[347] Unitywater was concerned about potentially adverse impacts on customer sentiment, which it considered may work against compliance with drought response measures and acceptance of alternative water sources.[348]

We acknowledge retailers' concerns, but 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 10).

However, price increases—and the potential addition of a drought allowance during periods of low water availability—may cause affordability concerns for some customers, particularly those that require a large amount of water to meet their basic needs, such as large low-income

[344] Excluding developer charges (see Urban Utilities, *2020/21 Annual Report*, p. 18).
[345] Redland City Council, sub. 12, p. 1; Unitywater, sub. 14, pp. 1, 2, 5; Urban Utilities, sub. 13, pp. 1–2.
[346] Urban Utilities, sub. 13, p. 2.
[347] Redland City Council, sub. 12, p. 1.
[348] Unitywater, sub. 14, p. 2.

families.[349] Nevertheless, the pricing system is generally an inefficient and ineffective way of addressing these concerns, because it is unable to target support to those in need.

Social equity and affordability concerns are best addressed through targeted measures, such as better consumer protection, broader income support measures and government and retailer hardship programs.[350] Box 2 summarises the key support measures currently available to water customers. It is a matter for government to determine the ongoing appropriateness of support measures to meet social equity and affordability objectives.

[349] Research by IPART in NSW found that household size (the number of people living in a house) was a key driver of water usage (IPART, *Residential water usage in Sydney, Hunter and Gosford, Result from the 2015 household survey*, September 2016, p. 4).

[350] 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[a] that is available to small customers[b] that cannot pay their bill because of financial hardship. The hardship policy 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

In certain circumstances, lessors can recover water consumption charges (including bulk water charges) from tenants. Information about tenants' rights in relation to paying for water is available at www.rta.qld.gov.au.

a South East Queensland Customer Water and Wastewater Code, version 1, April 2017, s. 18. b Small customers are residential customers and non-residential customers that consume less than 100 kilolitres of water per year (South East Queensland Customer Water and Wastewater Code, version 1, April 2017, s. 3).

12.2 Review event mechanism—future reviews

To establish the opening price path debt balance as at 1 July 2022, we make several end-of-period adjustments in accordance with the referral notice (see Chapter 9).[351] 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.[352]

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 have been asked to advise on the appropriateness of the current list of review events to guide future reviews.[353]

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.[354]

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 of costs being 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.[355]

[351] Referral notice, sections A(3), C(12).
[352] 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.
[353] Referral notice, section C(14).
[354] For the mechanism to operate symmetrically, both increases and decreases in costs are passed through to customers.
[355] Unitywater (sub. 14, p. 5) supported applying the review event mechanism to deal with abnormal costs.

Assessing current review events

Our draft recommendation is that most of the review events remain appropriate and should be retained, but two review events should be removed—cost of debt events and feedwater quality events.[356]

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). 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.[357]

We note that this cost of debt approach differs to the approach we adopted in our recently completed rate of return review.[358] When estimating the cost of debt, we usually aim to reflect the debt management strategy of a benchmark efficient firm. 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.[359]

The decision to use the actual cost of debt is a government policy decision. As a result, we consider 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.

Drought response event

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), it can recover those costs as a drought response review event.

Our draft 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 costs when a drought occurs and the costs of responding to the drought are known with more certainty. However, given the government's request for a recommendation on a drought allowance (Chapter 11), we need to consider whether the review event definition remains appropriate.

If the drought allowance is applied during the regulatory period, it should reduce the need for a large end-of-period cost adjustment. The drought response review event should provide for any under- or over-recovery of costs arising from the application of the drought allowance to be passed through to end customers and ensure that only prudent and efficient costs are passed through.

To achieve this, we propose amending the review event definition to clarify that the following costs cannot be recovered:

[356] Seqwater (sub. 1, p. 139) supported retaining the current review events and did not propose adding any new events.
[357] Referral notice, sections A(3), C(12)(b).
[358] QCA, *Rate of return review*, final report, November 2021.
[359] The principle that a government-owned business should not have a competitive advantage over private sector firms due to government ownership.

- costs already recovered through the application of the drought allowance during the regulatory period. These costs would be identified as part of an ex post assessment of actual drought response costs and subject to an under- or over-recovery adjustment.
- costs associated with preparing for drought or getting ready for drought—because our proposed cost allowances provide for Seqwater to recover drought readiness costs, and preparing for drought is one of Seqwater's core business-as-usual activities.

It is also critical that the definition does not incentivise Seqwater to act imprudently or against the public interest. We discuss this issue further and seek stakeholder views in section 9.1.4.

Our preliminary view is that amendments are not necessary to address potential changes between the current and next version of the WSP (expected to be published in March 2022), as the definition is likely to be sufficiently flexible if the concept of drought response is retained.[360] However, we welcome feedback from stakeholders. The government may wish to consider whether the definition remains appropriate after the next version of the water security program is published, if it is not available for us to consider before we provide our final report.

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 has 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.[361]

In the last 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.[362] 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.

Our draft position is to provide 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 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. However, we expect that these types of events would be covered by the emergency review event (discussed below).

[360] According to Seqwater (sub. 11, p. 8), the next version 'will contain an updated drought response strategy and will again include drought response triggers and actions'.
[361] Atkins draft report, pp. 46, 60–61.
[362] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 80.

Other events

Our draft 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 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.

However, we consider both definitions should be amended to improve clarity and to 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.[363] 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. 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 changes in law or government policy are largely outside of Seqwater's control.

Summary

Our draft recommendations are summarised in Table 71. 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.

Consistent with our previous recommendations, within-period price adjustments may be 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 likely to be necessary for drought response events, because the drought allowance could be applied instead.

Table 71 QCA draft recommendations—future review events

Event	*Retain event?*	*Within-period adjustment?*	*Amend definition?*	*Proposed definition*
Cost of debt	No	n/a	n/a	n/a
Drought response	Yes	No—unnecessary given drought allowance.	Yes	A change in prudent and efficient costs caused by Seqwater taking drought response measures in accordance with the Water Security Program, but excluding: • costs already recovered through the drought allowance • costs associated with drought preparedness or readiness.

[363] In accordance with the referral notice for this review, we make a separate end-of-period adjustment to account for differences between forecast and actual revenue (see section 9.1.6), although the continuation of this adjustment in future is at the discretion of the government.

Event	*Retain event?*	*Within-period adjustment?*	*Amend definition?*	*Proposed definition*
Feedwater quality	No	n/a	n/a	n/a
Emergency	Yes	Yes—material cost impacts only.	Yes	A change in prudent and efficient costs caused by an emergency event (such as a flood or cyclone), but only if Seqwater is not at fault.
Law or government policy	Yes	Yes—material cost impacts only.	Yes	A change in prudent and efficient costs caused by a change in law or government policy.

Draft recommendation 3

Future review events should be set to reflect Table 71**.**

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.[364] Seqwater said the lack of certainty about whether the mechanism will continue to apply is a significant risk to the firm's financial sustainability.[365] Urban Utilities indicated that it supported Seqwater's proposal.[366]

As we have only been 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.

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.[367]

Seqwater has obtained government approval to supply a large customer at a discounted price to prevent the customer from bypassing the network.[368] In accordance with the referral notice[369], 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:

[364] Referral notice, sections A(3), C(12).
[365] Seqwater, sub. 1, pp. 10, 135–140, sub. 11, p. 22.
[366] Urban Utilities, sub. 13, p. 3.
[367] Seqwater, sub. 1, p. 143.
[368] Seqwater, sub. 1, pp. 11, 128, 141, 143.
[369] Referral notice, sections A(5), C(18)(d).

- 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.[370]

Seqwater asked that we recommend to 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.[371] Urban Utilities supported Seqwater's proposed framework, as it considered this would provide greater clarity and certainty to retailers and end customers.[372]

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 its 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.[373] However, as was the case then, we have not been 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.

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.[374] 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.[375]

Seqwater suggested that we recommend a concealed leaks discount on bulk water charges, 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 charges for other customers.[376] Seqwater said the

[370] Seqwater said the criteria were modelled on the framework for granting of prudent discounts on electricity transmission network charges in the National Electricity Rules (Seqwater, sub. 1, pp. 11, 141, 143–144).
[371] Seqwater, sub. 1, pp. 11, 144–145.
[372] Urban Utilities, sub. 13, p. 3.
[373] QCA, *Seqwater bulk water price review 2018–21*, final report, March 2018, p. 84.
[374] Seqwater, sub. 1, pp. 11, 141–143.
[375] Seqwater, sub. 1, p. 142.
[376] Seqwater said an end-of-period adjustment was likely to be required, given the uncertainty associated with the forecast (Seqwater, sub. 1, pp. 11, 130, 141, 143, response to RFIs 23, 202).

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.[377]

Retailers are already required to provide financial relief to customers affected by concealed leaks[378], although they have discretion to determine eligibility criteria and the level of relief provided.[379, 380] Urban Utilities supported Seqwater's proposal, noting that it would align with retailers' policies and result in better outcomes for customers impacted by concealed leaks.[381] 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.[382]

It is not within the scope of our review to make a recommendation about the appropriateness of Seqwater's proposal. We have been 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 government.

We note that 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.[383]

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, and the discount may reduce the incentive for customers to avoid leaks by appropriately maintaining water infrastructure on their properties.

Measures that provide direct support to customers that cannot afford to meet their basic water needs are likely to be less distortionary and better target concerns about affordability and financial hardship.

[377] Seqwater, sub. 1, p. 142.
[378] See Queensland Government, *South East Queensland Water and Wastewater Customer Code*, version 1, April 2017, s. 19.
[379] Seqwater, sub. 1, pp. 11, 130, 142.
[380] See, for example, the concealed leaks remission policy Urban Utilities developed—Urban Utilities, *Concealed leak policy*, version 7, October 2021.
[381] Urban Utilities, sub. 13, pp. 2–3.
[382] Redland City Council, sub. 12, pp. 1–2.
[383] Under clause 8 of the supply agreements.

APPENDIX A: 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 B: 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, 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
Redland City Council	12	Initial submission	August 2021
Urban Utilities	13	Initial submission	August 2021
Unitywater	14	Initial submission	August 2021

Note: All submissions are available on our website.

APPENDIX C: 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 72 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. 11) 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 consider Seqwater's operating environment and its regulatory obligations. Our assessment considers whether Seqwater can 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 RAB and opex cost escalation (for example, Chapter 4). We determine the forecast rate of inflation using the methodology specified in the referral notice (Chapter 6) and establish 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.[384] 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 consider the impact of our draft recommendations on customers (Chapter 12). However, the impacts are indicative only, because our final recommendations may change to reflect updated information and feedback on our draft report, while the government will ultimately decide whether to accept our final recommendations. We recommend prices in accordance with the government's price path, which aims to smooth price impacts over time to mitigate customer impacts. However, as prices are fully volumetric, the bulk water component of bills for customers with higher usage will increase by more (in dollar terms) than the bills of customers with lower usage. This may raise affordability concerns for some customers, for example, large low-income families.
(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 frameworks (Chapter 11).
(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.

[384] See, for instance, Seqwater, *Water for life, South East Queensland's Water Security Program 2016-2046*, Version 2, March 2017, pp. 10, 45–49.

Section 26 matter		*QCA consideration*
(2)	Any water pricing determinations	Not applicable, as there are no water pricing determinations in effect.[385]

[385] 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.

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
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

REFERENCE LIST

Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26*, draft report, November 2021.

Department of Natural Resources, Mines and Energy (DNRME), *Guideline for failure impact assessment of water dams*, Queensland Government, November 2018.

—— *Guidelines on Acceptable Flood Capacity for Water Dams*, Queensland Government, December 2019.

—— *Dam Safety Management Guideline*, Queensland Government, October 2020.

Department of Regional Development, Manufacturing and Water, *Emergency Action Plan for Referable Dam Guideline*, June 2021.

Essential Services Commission of South Australia (ESCOSA), *SA Water regulatory determination 2020*, final determination: statement of reasons, June 2020.

Independent Competition and Regulatory Commission (ICRC), *Regulated water and sewerage services prices 2018–23*, final report, May 2018.

Incenta, *Estimating Seqwater's firm-specific WACC parameters for the 2018–21 bulk water price investigation*, report for the QCA, November 2017.

Incitec Pivot Limited, *Gibson Island manufacturing operations to cease in December 2022*, ASX release, 8 November 2021.

Independent Pricing and Regulatory Tribunal NSW (IPART), *Sydney Desalination Plant prices from 1 July 2023*, IPART website, n.d., accessed 15 November 2021.

Residential water usage in Sydney, Hunter and Gosford, Result from the 2015 household survey, September 2016.

—— *Review of prices for Sydney Water*, final report, June 2020.

KPMG, *Seqwater expenditure review prudency and efficiency assessment*, March 2018.

Office of the Tasmanian Economic Regulator (OTTER), *2018 Water and sewerage price determination investigation*, final report, May 2018.

Productivity Commission, *Australia's Urban Water Sector*, inquiry report no. 55, August 2011.

Queensland Competition Authority (QCA), *SEQ Bulk Water Price Path 2015–18*, final report, March 2015.

—— *Seqwater Bulk Water Price Review, 2018–21*, final report, March 2018.

—— *Gladstone Area Water Board price monitoring 2020–25 Part A: Overview*, final report, May 2020.

—— *Rural irrigation price review 2020–24*, Part C: Seqwater, final report, January 2020.

—— *Rate of return review*, final report, November 2021.

Queensland Government, *Project Assessment Framework*, Policy Overview, July 2015.

Seqwater, *Operational Plan 2021–22*, n.d.

—— *Strategic plan 2021–25*, n.d.

—— *Water for Life, South East Queensland's Water Security Program*, version 2, March 2017.

——*2019 Water Security Program Annual Report*, December 2019.

—— *Western Corridor Recycled Water Scheme, Recycled Water Management Plan Annual Report 2019–20*, December 2020.

—— *Historic dam levels*, Seqwater website 2021, accessed 15 November 2021.

—— *Annual Report 2020–21*, September 2021.

Stanwell Corporation Limited, *Annual Report 2020/21*, September 2021.

Toowoomba Regional Council, *Current water supply sources*, TRC website, 2021, accessed 4 November 2021.

Urban Utilities, *2020/21 Annual Report*, n.d.

—— *Concealed Leak Policy,* version 7, October 2021.