sunwater

Irrigation pricing proposal

1 July 2025 to 30 June 2029

Appendix F Electricity Costs Technical Paper

Appendix F
Electricity Costs Technical paper

1. Background and context

1.1 Key points

- Sunwater realised significant savings in electricity costs during the current price path period. A key driver of these cost savings was Sunwater's decision to procure its electricity requirements through a Whole of Government (WoG) electricity supply arrangement[1], which resulted in Sunwater paying much lower wholesale electricity costs than it would have if these sites were assigned to an applicable regulated retail electricity tariff.
- Actual electricity consumption in the base year (2022-23) does not reflect a normal year due to the influence of a major La Nina weather event. To address this issue, Sunwater proposes an adjustment to electricity costs in the base year of around $1.2 million to align with 16-year historical average annual electricity usage.
- Baseline and forecast electricity costs for the major pumping station sites have been produced using a comprehensive bottom-up model that takes account of the retail tariff structure and the extent of electricity usage at each site.
- The proposed fixed and variable split for annual electricity costs has been derived on the basis of a comprehensive bottom-up model of each major pumping station site that takes account of the fixed and variable nature of the electricity usage and the underlying retail electricity tariffs of each site. Consistent with the previous QCA pricing review, Sunwater proposes to treat the electricity costs relating to the smaller sites as fixed in nature.
- Forecast annual electricity cost escalators for each distribution system and water supply scheme have been calculated using a comprehensive bottom-up approach that takes account of electricity retail tariff increase and the extent of electricity usage at each site.
- Sunwater proposes to introduce an Electricity Cost Pass-Through (ECPT) mechanism in the next price path period in eligible schemes where there is sufficient evidence of broad and informed customer support for doing so. On the basis the feedback received using the GoVote platform, Sunwater proposes to respect the positive support for the ECPT in the following schemes:
    - Bundaberg Distribution Scheme
    - Burdekin-Haughton Distribution Scheme
    - Lower Mary River Distribution Scheme
    - Mareeba-Dimbulah Distribution Scheme (Channel – Relift tariff group)
    - Upper Condamine Bulk Water Supply Scheme (North Branch – medium priority and North Branch – risk A tariff groups).
    - Eton Bulk Water Supply Scheme.
- Sunwater will continue to gather and respond to feedback and will keep the QCA informed of any material change to customer support for this proposal.
- Sunwater does not propose to apply the ECPT mechanism to Barker Barambah scheme (Redgate Relift – medium priority tariff group) in the next price path period on the basis that the feedback gathered using the GoVote platform is strongly suggestive that these customers do not support this proposal.

[1] https://www.csenergy.com.au/news/new-energy-contract-delivers-savings-and-sustainability

- Our proposed ECPT mechanism represents an important 'stepping stone' to a more light handed and less costly regulatory regime, where Sunwater passes through no more or less than the actual electricity costs incurred to irrigation customers in the form of new Part E and Part F charges.

1.2 Sunwater's current electricity retail tariff arrangements

The QCA guidance indicates that the pricing proposal should describe and justify the proposed forecasting approach, including electricity tariffs (and recent consumption) for each of the large connection points (e.g pumping stations) in each scheme.

Sunwater procures its electricity requirements in two ways – through regulated retail tariffs set by the QCA and contestable retail pricing contracts that are negotiated with Retailers.

Sunwater has over 184 sites on retail electricity tariffs. Many of these sites are classified by Ergon Energy as small customers using less than 100 MWh per annum. There are also a significant number of large customer sites that are typically pumping stations. Sunwater has assigned many of these sites to a contestable retail pricing contract under a WoG electricity supply arrangement, where the wholesale electricity costs are fixed until 31 December 2028. The remaining pumping station sites are assigned to a regulated retail tariff with a demand charge, such as Ergon Energy regulated retail Tariff 44 and Tariff 24A.

It should also be noted that Sunwater actively manages its electricity costs by ensuring that its sites are assigned to the least cost network and regulated retail tariffs given their historical electricity consumption and demand characteristics. Our proposed annual tariff optimisation process for the next price path period is summarised below:

- To identify the eligible regulated retail tariffs for a site in accordance with the terms and conditions set out in published price guide or equivalent document.
- To estimate the annual retail bill outcome under each eligible regulated retail tariff for a site using the available historical electricity consumption data, noting that at least 4 years of historical data is required to support a tariff change request.
- To compare the estimated annual retail bill outcome across eligible regulated tariffs for a site, noting that a comparison is also made at this stage of the available contestable retail pricing option(s).
- In addition, Sunwater also compares its retail tariff analysis with the outcomes using Ergon Energy's analysis tool for validation purposes, noting that Ergon's calculator tool is based on a 12-month forecast usage pattern.
- If the above tariff analysis reveals an opportunity for a site to save material electricity costs by switching to another retail tariff, then Sunwater will submit a tariff change request application to the Retailer. The Retailer will assess this application in accordance with its published tariff assignment and reassignment policy. If the application is approved, the Retailer will reassign this site to the requested cheaper retail tariff.
- If the above tariff analysis reveals that an available contestable pricing option is at a lower cost, then a review of the risks of movement off regulated tariffs to the contestable arrangements is done. Should the cost improvement and benefits outweigh the risks Sunwater submits this change request for inclusion of this site into the given contestable arrangement. Note that once a site has moved off gazette tariffs, it cannot return.

While a site may be reassigned to another electricity retail tariff in the future as a result of the annual tariff optimisation process, Sunwater has assumed for the purposes of forecasting electricity costs in the next price path period that all of its sites will remain on the retail electricity tariff that applied in the base year for the duration of the next price path period.

1.3 The nature of Sunwater's electricity usage and costs

To deliver the regulated water services that customers want requires that Sunwater consumes significant volumes of electricity. The biggest contributor to our electricity costs is the need to pump water, predominantly in distribution systems such as Bundaberg and Burdekin-Haughton. In bulk schemes, key drivers of electricity costs are the need to balance off-stream storages (Bowen Broken, Dawson Valley and Eton bulk water supply schemes) or pump water to supplement stream flows (Barker Barambah – Redgate Relift and Upper Condamine bulk water supply schemes).

Sunwater also consumes relatively small amount electricity at the bulk water supply scheme level. As shown in the table below, Sunwater has a significant number of small sites across its bulk water supply schemes that, on average, consume immaterial amounts of electricity. Table 1 shows that many of these sites are assigned to the Ergon Energy small business flat regulated retail tariff (Tariff 20), but there are also a significant number of unmetered sites on regulated retail tariffs relating to street lighting, water gate controllers and Supervisory Control and Data Acquisition (SCADA).

Table 1 – Actual electricity consumption and tariff arrangements for other sites - 2022-2023

Meter Type	Tariff Code	Retail Electricity Tariff Name	Description	Number of sites	Annual Electricity (kWh) Consumption
Unmetered	Tariff 91	Business flat primary tariff for unmetered supplies	Water Gates Controller	25	2275
Unmetered	Tariff 71	Business flat primary tariff for street lighting	Street lighting	14	3,083
Unmetered	Tariff 91	Business flat primary tariff for unmetered supplies	SCADA	8	9,104
Unmetered	Tariff 91		Other	4	561
Metered	Tariff 20	Small business flat primary tariff	Various	75	442,957
Metered	Tariff 11	Residential flat rate primary tariff	Various	2	589
Metered	Tariff 44	Large business monthly demand primary tariff	Various	1	140,782
Total				**129**	**599,351**

1.4 Comparison of actual electricity costs against QCA electricity cost allowance in current price path period

The QCA guidance indicates that the pricing proposal should explain the business's operating expenditure performance over the period 2020-21 to 2023-24, including:

- *A year-on-year comparison of actual operating expenditure (using the latest forecasts for 2023-24) with our approved operating expenditure allowance.*
- *Explanation of key drivers for any significant variations between approved and actual opex*
- *Any significant cost savings or cost increases.*

In February 2020, the QCA determined lower bound cost-reflective prices for Sunwater's irrigation water charges covering the 2020/21 to 2023/24 regulatory period based on what it considered to be prudent and efficient costs of providing this regulated service.

One of the key challenges shared by SunWater and our customers is managing the cost of electricity. There has been a significant increase in retail electricity prices in recent years, due mainly to a sharp increase in wholesale electricity costs of electricity, which are reflective of high international prices for gas and coal due in part to the war in Ukraine, as well as uncertainties surrounding the availability and reliability of coal-fired power plants and their impacts on the supply-demand balance in Queensland.

In spite of these unanticipated cost pressures, Sunwater realised material savings in its electricity costs compared to the QCA allowance during the current price path period. These cost savings were driven primarily by Sunwater entering into a long-term WoG electricity supply arrangement from 1 January 2020. Under this contestable retail pricing contract, Sunwater is paying much lower wholesale electricity costs than it would otherwise have if these sites were assigned to regulated retail tariff arrangements.

It should also be noted that Sunwater's electricity costs have to some extent been impacted by the recent increases in wholesale electricity costs given that many of its smaller sites are assigned to regulated retail electricity tariffs.

2. Explanation of proposed methodology for forecasting prudent and efficient electricity costs in next price path period

The QCA guidance indicates that the pricing proposal should describe and explain the business's proposed forecasting approach, including the methodology used to develop baseline opex, including identified risks.

Sunwater's proposed methodology for developing a baseline electricity cost for the next price path period is based on the base-step-trend approach.

- **Step 1:** Estimation of baseline electricity costs – this step involves estimating the fixed and variable electricity costs in the base year using actual or historical data reflective of expected recurrent expenditures over the next price path period.
- **Step 2:** Estimation of the step changes to baseline electricity costs to exclude expenditures that are non-recurrent in nature and to include expenditures that, while not currently incurred, can reasonably be expected to be incurred in the next price path period.
- **Step 3:** estimation of the annual escalators to apply to electricity costs over the next price path period and to account for any cost savings or efficiencies expected to be realised

Each of the above steps are discussed in detail below.

3. Sunwater's proposed base year electricity costs

The QCA guidance indicates that the pricing proposal should describe and justify the proposed forecasting approach, including the methodology used to develop the baseline opex, including identified risks; justification that the baseline opex at the total business and scheme level reflects annual recurrent expenditure expected to be incurred over the price path period and a description of, and rationale for, a proposed split between fixed and variable electricity costs.

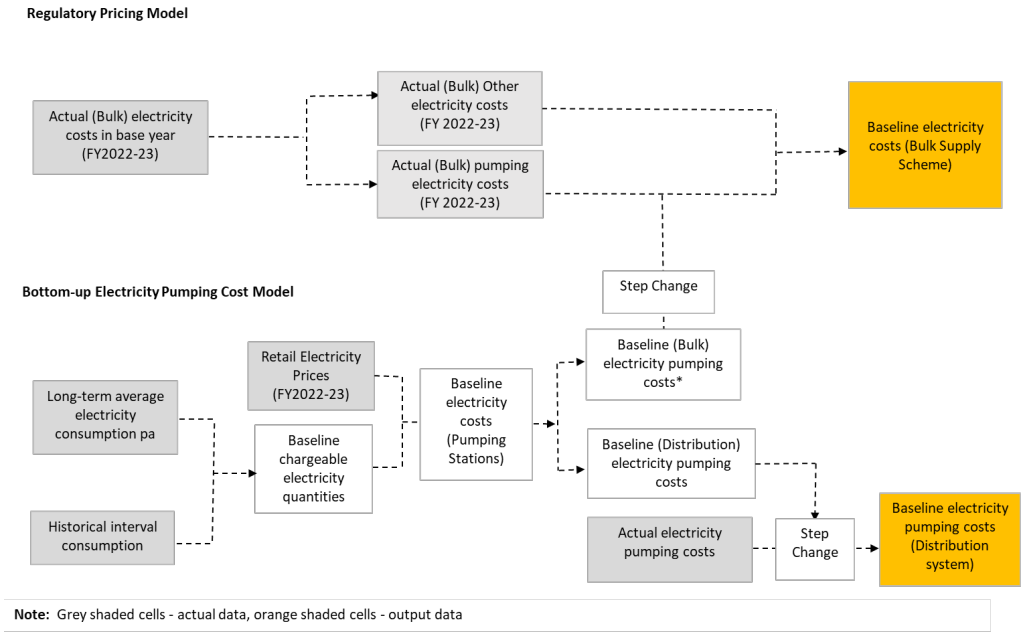
Sunwater proposed methodology for estimating the baseline electricity costs for the next price path period is based on a bottom-up approach for the electricity costs associated with the major pumping station sites. Under this approach, electricity costs are estimated for each individual pumping station site on the basis of the underlying retail tariffs and the associated chargeable quantities (e.g kWh electricity consumption, and kW/kVA demand). Sunwater believes that a more complicated forecasting approach is justified given that these sites typically account for over 95% of Sunwater's total annual electricity costs.

Sunwater's bottom-up electricity cost model produces an estimate of the baseline electricity costs for each distribution system as well as the baseline electricity costs for the bulk supply schemes where applicable.

It is also important to note that Sunwater incurs electricity costs in bulk supply schemes that are not included in the bottom-up electricity cost model. Sunwater has not undertaken a bottom-up analysis of these costs given that these sites consume relatively small amounts of electricity. Nevertheless, the actual electricity costs associated with smaller sites have been included in the calculation of baseline electricity costs in the regulatory model for completeness.

Figure 1 provides an overview of Sunwater's proposed approach to estimating the baseline electricity costs for each distribution system and Barker Barambah (Redgate relift) and Upper Condamine bulk water supply schemes.

Figure 1: Illustrative overview of Sunwater's proposed estimation approach to baseline electricity pumping costs



Note: Grey shaded cells - actual data, orange shaded cells - output data

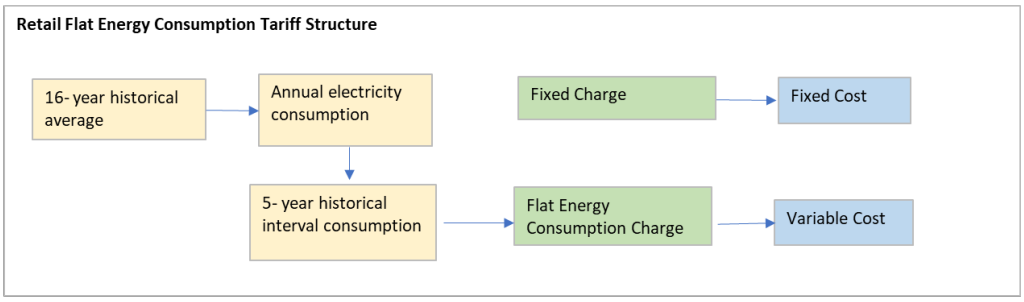
The following sections provide an understanding of the key elements of Sunwater's proposed approach to estimating baseline electricity costs for the next price path period. The focus is on explaining our bottom-up modelling approach given the materiality of the pumping related electricity costs.

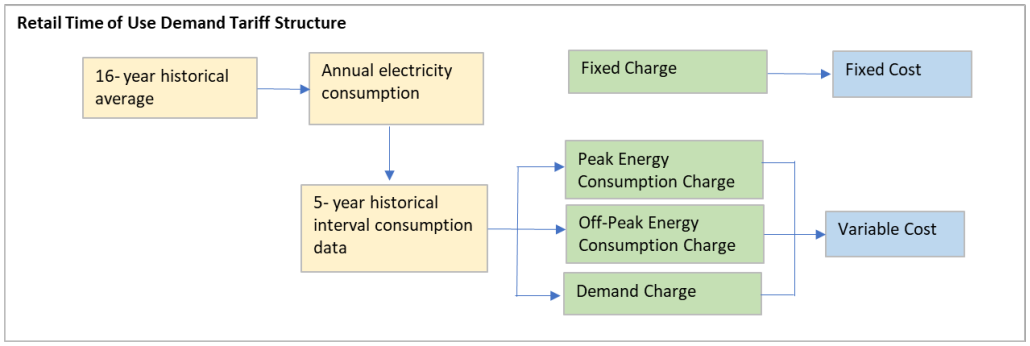
The key steps under this approach are to:

- Estimate the baseline electricity consumption and demand (if applicable) for each individual pumping station site reflective of a typical or representative year.
- Translate the baseline electricity consumption into the chargeable quantities under the retail electricity tariff applying to each individual pumping station site.

Figure 2 illustrates Sunwater's approach to estimating baseline electricity costs for sites under two hypothetical retail tariff structures.

Figure 2: Proposed baseline estimation approach to fixed and variable split costs





3.1 Proposed estimation approach to chargeable quantities in base year at NMI level

Sunwater proposes to use the 2022-23 financial year as the base year for its pricing proposal. However, it should be noted that actual electricity costs in 2022-23 are not reflective of the annual recurrent electricity costs expected to be incurred over the next price path period due the influence of a significant La-Nina weather event. The extent that actual electricity consumption by the irrigation scheme pumping stations in 2022-23 varies from long-term historical average levels by Scheme is shown in Table 2.

Table 2 – Comparison of actual electricity consumption – Base year Vs Long-term historical average

Scheme	Electricity usage		
	Base year (kWh)	*16-year avg (kWh)*	*Variance (kWh)*
Barker Barambah	566	41,358	40,792
Bowen Broken Rivers	321,605	514,100	192,495
Bundaberg Distribution	17,058,990	21,659,379	4,600,389
Burdekin-Haughton Distribution	19,619,375	23,191,665	3,572,291
Eton Supply	36,519	1,270,791	1,234,273
Dawson Valley	28,926	189,778	160,852
Lower Mary Distribution	288,871	989,753	700,882
Mareeba-Dimbulah Distribution	1,786,152	1,898,182	112,030
Upper Condamine	455,963	355,331	-100,632
Total	**39,596,967**	**50,110,337**	**10,513,372**

Due to the impact of the La-Nina weather event it is necessary for Sunwater to estimate its baseline electricity consumption using a long-term historical average, rather than actual electricity consumption in the base year.

It should be noted that Sunwater has also used the available 5 years of interval energy consumption data for each major pumping station site to estimate the load profile for the purpose of translating the annual baseline electricity consumption for each site into chargeable quantities (e.g peak and off-peak) reflective of the structure of the retail electricity tariff applying to each site in the base year.

3.2 Sunwater's approach to deriving fixed and variable electricity costs

Sunwater's proposed allocation of baseline electricity costs into fixed and variable components is derived from our bottom-up electricity pumping cost model. As previously explained, the fixed and variable costs under this approach are estimated on the basis of the retail electricity tariff structures that apply to each major pumping station site. This approach recognises that an important driver of the extent that our baseline electricity costs are fixed in nature is the structure of the retail electricity tariffs. For simple retail flat anytime energy tariffs, the fixed component is typically modest as the variable energy consumption charge is set well below the marginal economic costs of supplying network capacity at peak times. However, the fixed component will be higher for cost reflective retail tariff structures that have a high reliance on fixed charges or charges, such as capacity charges that are difficult for Sunwater to avoid by changing electricity usage.
Table 3 shows the proposed fixed and variable split in percentage terms that applies to our proposed electricity costs by bulk water supply scheme.

Table 3 – Proposed Fixed and variable electricity cost split for electricity costs by bulk supply scheme

Scheme	Fixed % of baseline electricity cost
Barker Barambah (excluding Redgate relift)	100%
Barker Barambah (Redgate Relift)	Varies
Bowen Broken River	100%
Boyne River and Tarong	100%
Bundaberg	100%
Burdekin-Haughton	100%
Callide Valley	100%
Chinchilla Weir	100%
Cunnamulla Weir	100%
Dawson Valley	100%
Eton[2]	100%
Lower Fitzroy	100%
Lower Mary (excluding Tinana Barrage and Teddington Weir)	100%
Lower Mary (Tinana Barrage and Teddington Weir)	Varies
Macintyre Brook	100%
Mareeba-Dimbulah	100%
Ngoa-MacKenzie	100%
Pioneer River	100%
Proserpine River	100%
St George	100%
Three Moon Creek	100%
Upper Burnett	100%
Upper Condamine (excluding North Branch relift)	100%
Upper Condamine (North Branch relift)	Varies

[2] Sunwater proposed a fixed/variable % split for electricity costs incurred in the Eton scheme for the purpose of calculating Part E and Part F charges under the ECPT mechanism.

The above table highlights that Sunwater proposes to treat baseline electricity costs as being fixed for the majority of bulk water supply schemes. Whereas, the baseline electricity costs are variable in all of the distribution systems. This approach is consistent with the approach taken in the previous QCA irrigation pricing review.[3]

Table 4 shows the proposed fixed and variable split in percentage terms that applies to our proposed baseline electricity costs by distribution system.

Table 4 – Proposed Fixed and variable electricity cost split for baseline electricity cost by distribution system

Distribution System	Fixed % of baseline electricity cost
Bundaberg	Varies
Burdekin-Haughton	Varies
Lower Mary	Varies
Mareeba-Dimbulah	Varies

4. Proposed step change to baseline electricity costs

With reference to baseline operating expenditure, QCA guidance indicates that the pricing proposal should include prudent and efficient incremental costs (step changes) that it expects to incur over the price path period 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 or broadly accepted changes in community expectations in relation to corporate responsibility; are not already funded through other components of other approved allowances; represent cyclical activities that are not within annual business-as-usual budgets; are of sufficient materiality such that the costs could not be reasonably met by an efficient entity operating within business-as-usual budget constraints.

Sunwater's proposes to make a step change adjustment to the actual electricity consumption of the major pumping station sites in the base year of financial year 2022-23. Sunwater believes that this step change is necessary to robustly estimate baseline electricity costs as the actual electricity consumption of these sites in the base year is not representative of annual recurrent electricity costs expected to be incurred over the next price path period due to the temporary impact of a major La Nina weather event.

Sunwater proposes to make no step change adjustments to actual electricity costs incurred in the other sites included in the base year electricity costs. This is because the electricity consumed at these sites is not likely to be materially impacted by variations in weather given the nature of the electricity use at these sites and that many of these sites are not metered.[4]

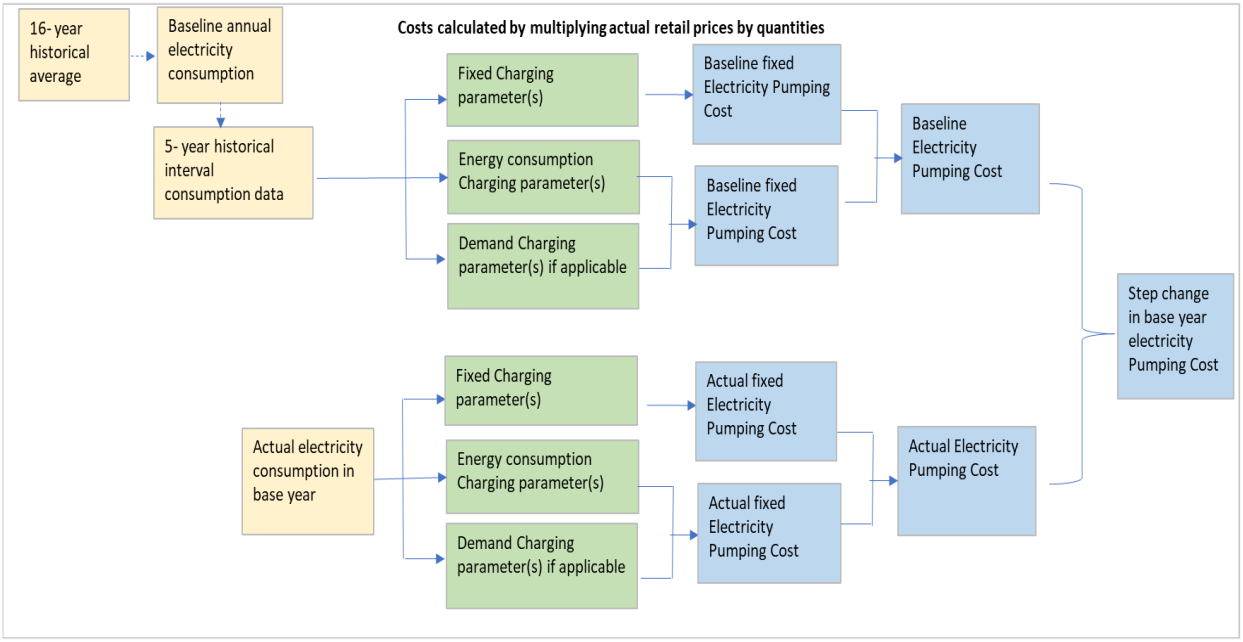
4.1 Proposed methodology for estimating the step change in electricity costs

Sunwater's proposed approach to estimating the step change adjustment to the base year electricity costs of the major pumping station sites is a bottom-up approach, as illustrated in the figure below.

[3] The QCA relied on the Assessment of fixed and variable cost drivers undertaken by INDEC. This report is available from: Irrigation prices 2012–17 (qca.org.au)

[4] AEMO applies apparent load to unmetered sites, like public lighting, tariff lights, for billing purposes.

Figure 3 - Proposed estimation methodology for the step change to base year electricity costs



As highlighted in the figure above Sunwater's proposed approach to estimating the step change is based on a detailed bottom-up calculation of the retail tariff costs in the base year for each major pumping station site. Under this approach, the proposed step change is the difference in actual electricity costs in the base year and the electricity costs that would have been incurred if the electricity usage of the major pumping station sites matched the long-term historical average. It is important to note that Sunwater believes that the actual electricity retail tariffs applying to the major pumping station sites in the base year are representative of the tariff arrangements that will apply to these sites in the next price path period.

4.2 Proposed step change in baseline electricity costs

On the basis of proposed estimation methodology discussed above, Sunwater proposes a step change in total electricity costs of around $1.2 million in the base year.[5]

5. Sunwater's proposed annual electricity price escalators

QCA guidance indicates that the pricing proposal should adjust baseline opex and step changes for trend growth over the next price path period using cost escalators, usage growth (if applicable) and efficiency gains. The pricing proposal should describe and justify the proposed forecasting approach, including a description of, and rationale for, cost escalation factors proposed for each tariff.

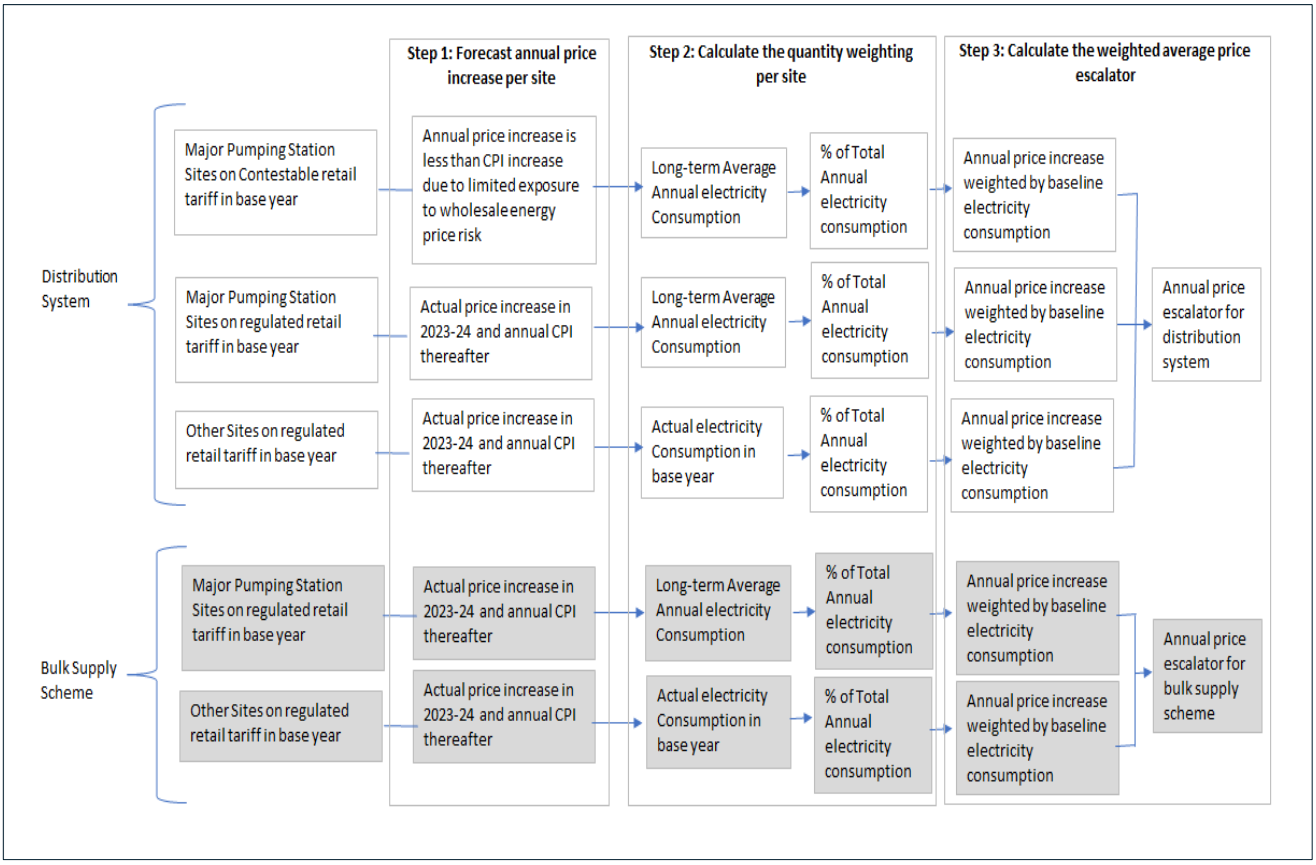
Sunwater's proposes to apply separate electricity price escalators to electricity costs in bulk water supply schemes and distribution systems in recognition of the different retail electricity tariff arrangements that apply to major pumping station sites compared to smaller sites. For example, many of the major pumping station sites are on a WoG electricity supply arrangement [6]where the wholesale electricity cost is fixed until the final year of the next price path period. In contrast, the smaller sites are on regulated retail tariffs that are exposed to annual movements in wholesale electricity prices.

[5] Note that Sunwater has estimated the step change outside the regulatory model using a detailed bottom-up calculation.
[6] New energy contract delivers savings and sustainability - CS Energy

5.1 Proposed methodology for estimating the annual electricity price escalators

Sunwater's proposed methodology for estimating separate annual electricity price escalators for bulk supply schemes and distribution systems to apply to the next price path period is a bottom-up approach, as illustrated in the figure below.

Figure 4 - Proposed estimation methodology for annual electricity price escalators



As illustrated in the figure above, Sunwater's general approach is to escalate electricity prices by forecast annual CPI over the next price path period, except where there is actual electricity price information available. For example, Sunwater has calculated the retail price increase for each site in 2023-24 using the actual increase to retail electricity tariffs on 1 July 2023. This is a more accurate approach than using a general price index such as the forecast CPI.

Sunwater has generally applied a less than CPI increase to the major pumping station sites under a WoG electricity supply contract in recognition that these sites are not exposed to wholesale electricity cost risk until this contract expires on 31 December 2028. Given the uncertainty beyond this date, Sunwater has applied forecast CPI as the electricity price escalator for these major pumping station sites in the final year of the next price path period.

The annual electricity price escalators by scheme are calculated by weighting the forecast of electricity prices for each site by the corresponding forecast of annual electricity consumption by site. For the major pumping sites, Sunwater has used the historical average electricity consumption as the quantity weight in the weighted average calculation given that actual electricity consumption is not representative due to impact of a major La Nina weather event. For the other sites, that are typically on a regulated retail tariff, Sunwater has used the actual baseline electricity consumption as the quantity weight in the weighted average calculation.

5.2 Proposed annual electricity price escalators

Table 6 shows the proposed annual electricity price escalators for our bulk water supply schemes for the remaining years of the current price path and the four years of the next price path period.

Table 5 – Proposed Electricity Cost Escalators by bulk water supply scheme

Distribution System	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Burdekin	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Proserpine	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Bundaberg	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Barker Barambah	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Upper Burnett	26.84%	3.10%	2.98%	2.87%	2.75%	2.50%
St George	25.36%	3.10%	2.98%	2.87%	2.75%	2.50%
Upper Condamine	16.10%	2.70%	3.00%	2.90%	3.10%	2.50%
Bowen Broken	16.00%	3.10%	2.98%	2.87%	2.75%	2.50%
Eton Supply	4.67%	2.61%	2.58%	2.55%	2.88%	2.50%
Pioneer	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Callide	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Dawson	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Lower Fitzroy	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Nogoa	26.00%	3.10%	2.98%	2.87%	2.75%	2.50%
Three Moon	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Mareeba	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Macintyre Brook	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Boyne	26.80%	3.10%	2.98%	2.87%	2.75%	2.50%
Lower Mary	13.30%	2.90%	3.00%	2.90%	2.90%	2.50%

Table 6 shows the proposed annual electricity price escalators for our distribution systems that have been estimated using our proposed methodology discussed above.

Table 6 – Proposed Electricity Cost Escalators by distribution system

Distribution System	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Burdekin-Haughton	2.38%	2.00%	2.10%	1.80%	2.10%	2.50%
Bundaberg	1.60%	2.50%	2.20%	2.10%	2.30%	2.50%
Mareeba-Dimbulah	17.90%	3.00%	3.00%	2.90%	2.80%	2.50%
Lower Mary	13.30%	2.90%	3.00%	2.90%	2.90%	2.50%

6. Proposed Electricity Cost Pass Through mechanism

QCA guidance indicates that if proposing an adjustment mechanism to account for potential changes in cost associated with uncertain events beyond their control, the businesses should describe and justify the nature of the event and the likely materiality of costs associated with the event; why the proposed mechanism is appropriate for dealing with the event; how the proposed mechanism would work; how the mechanism avoids material price impacts on customer.

6.1 Background and context

Sunwater proposed an Electricity Cost Pass Through ECPT mechanism in the previous QCA irrigation pricing review.[7] The rationale for this proposal was to address concerns that the existing approach, where the QCA determines an electricity allowance, may deliver an outcome that is contrary to the interests of customers in an environment where future electricity prices are highly uncertain. Following the QCA decision not to approve this proposal in their determination, Sunwater consulted with customer representative groups and irrigation customers to determine their level of interest in undertaking an ECPT trial. Following this consultation, Sunwater submitted a recommendation to the Queensland Government to proceed with ECPT trials in the following schemes:[8]

- Barker Barambah Bulk Water Supply Scheme (Redgate Relift – medium priority tariff group)
- Bundaberg Distribution Scheme
- Burdekin-Haughton Distribution Scheme
- Lower Mary River Distribution Scheme
- Mareeba-Dimbulah Distribution Scheme (Channel – Relift tariff group)
- Upper Condamine Bulk Water Supply Scheme (North Branch – medium priority and North Branch – risk A tariff groups).

The Queensland Government subsequently approved the ECPT trial on this basis.

Sunwater has completed this three-year ECPT mechanism trial on 30 June 2023. Even though the trial was asymmetric in the sense that Sunwater only passed through electricity cost savings to customers, the trial still provided evidence that a ECPT mechanism has the potential to benefit customers by ensuring that they pay no more than the actual cost incurred. The trial also gave Sunwater a better understanding of the costs of administering this type of mechanism. For more information on the results of Sunwater's ECPT mechanism trial refer to our website, see link: Electricity Cost Pass-through Trial - Sunwater

On the basis of the insights and learnings gained from the ECPT trial, as well as the recent feedback that received directly from customers and their representatives during the engagement process for this pricing proposal, Sunwater proposes a ECPT mechanism for the next price path period for the eligible schemes that voted in support of this proposal.

Based on feedback received from customers prior to 30 November Sunwater is:

- NOT proposing an ECPT mechanism for the Barker Barambah, Burdekin, Eton, Lower Mary, Mareeba and Upper Condamine schemes.
- Proposing an ECPT mechanism for the Bundaberg scheme, noting that support in this scheme may be qualified / may change during the review phase.

6.2 Underlying rationale for an ECPT mechanism

Sunwater believes that a ECPT mechanism has merit in eligible schemes where the majority of customers have expressed a clear preference to pay no more or less than the actual electricity costs incurred by sunwater to provide the service wanted by customers.

[7] Sunwater 2019, Sunwater: Irrigation price review submission 1 July 2020 to 30 June 2024, Section 6.7, page 72.
[8] Note that customers in the Eton scheme decided not to participate in the electricity cost pass-through trial.

A key insight from our ECPT trial is that a pass-through mechanism has the potential to deliver a better outcome for customers than the current approach where the QCA determines an electricity cost allowance and bundles these costs into existing charges. The ECPT trial also showed that a pass-through mechanism also provided customers with improved transparency over the electricity usage, electricity tariffs and actual electricity costs.

There could also be broader economic efficiency reasons to adopt a ECPT mechanism, including the potential long-term economic welfare benefits to be realised from the introduction of unbundling electricity costs into cost reflective Part E and Part F charges.

Sunwater acknowledges the QCA concerns over the pass-through of electricity costs to customers and their preference to apply such mechanisms in limited circumstances.[9] It is important for the QCA to consider our ECPT proposal as a "stepping stone" towards a more light-handed and less costly economic regulatory regime, rather than as a traditional cost pass-through triggered by the occurrence of a pre-defined event. Nevertheless, Sunwater has made a genuine effort to address the QCA's concerns by including a comprehensive reporting and review process in our ECPT proposal. This will improve transparency and empower customers and their representatives to raise concerns with the knowledge that there is an effective process in place to address these concerns.

6.3 Proposed design of the electricity cost-pass through mechanism

Sunwater worked closely with customer and their representatives to develop our ECPT proposal. For example, Sunwater adopted a quarterly ECPT mechanism in response to concerns that an annual mechanism had the potential to create unacceptable bill shocks on customers. The design of our ECPT proposal was also influenced by the insights and learnings obtained from our ECPT trial.

The key design features of our ECPT proposal are shown in Table 7 below.

Table 7 – The key design features of proposed ECPT mechanism

Design Feature	Description
Fully symmetrical pass-through	Changes in actual electricity prices and costs impact both Sunwater and customers equally
Opt-in at scheme level	The ECPT mechanism is to apply in the next price path period only to eligible schemes where Sunwater has obtained sufficient evidence during its engagement process of broad and informed customer support.
All electricity costs in scope	The calculation of Part E and Part F charges under the ECPT mechanism is proposed to be based on total electricity costs.
Price setting / pass-through at regular intervals	Pass-through of changes in price are implemented in a timely manner (e.g. quarterly price setting)
Agreed performance reporting with clearly defined review pathways	An agreed review mechanism with a potential trigger for review. Adverse findings could trigger asymmetric pass-through outcome.

[9] QCA 2023, Guidelines for pricing proposals, Rural irrigation price review 2025-29, March, Page 37

The rationale and justification for each proposed design feature of the ECPT mechanism are discussed in more detail below:

(i) Proposed full symmetric exposure to cost and price risk

Sunwater believes that it is appropriate for the ECPT mechanism to expose customers to total price and volume related risks associated with electricity costs. This is a fundamental design concept underlying Sunwater's proposal as without this design feature it is impossible to design cost reflective Part E and Part F charges. It is also necessary to design the ECPT mechanism in this way to ensure that the irrigation customers pay no more or less than the actual electricity cost incurred by Sunwater. This outcome is necessary to address the concerns raised by some customer representatives over the current approach, where the QCA determines an annual electricity cost allowance for the next price path period, in an environment of significant uncertainty over future electricity prices and costs.

(ii) Proposed opt-in at a scheme level

Sunwater believes that the ECPT mechanism should be opt-in at the individual scheme level. This means Sunwater will only propose a ECPT to apply to a water supply scheme in the next price path if there is adequate evidence of broad and informed support from customers for doing so. On this basis, Sunwater is proposing that ECPT mechanism to apply to all eligible schemes in the next price path period, except Barker Barambah scheme. Sunwater believes there is merit in allowing Barker Barambah to voluntarily opt-in to the ECPT mechanism during the next price path period if adequate support were to emerge over time.

(iii) Proposed scope of electricity costs covered by the ECPT mechanism

Sunwater believes that it is important that the ECPT mechanism is based on total electricity costs incurred to provide the regulated service to irrigation customers. This means that the electricity pass-through cost is calculated on the basis of the actual costs incurred for electricity transmission, electricity distribution, retail components (including environmental and market fees) and any applicable government levies. This approach ensures that the Part E and Part F charges under the ECPT mechanism are as cost reflective as possible.

(iv) Proposed methodology for setting Part E and Part F charges

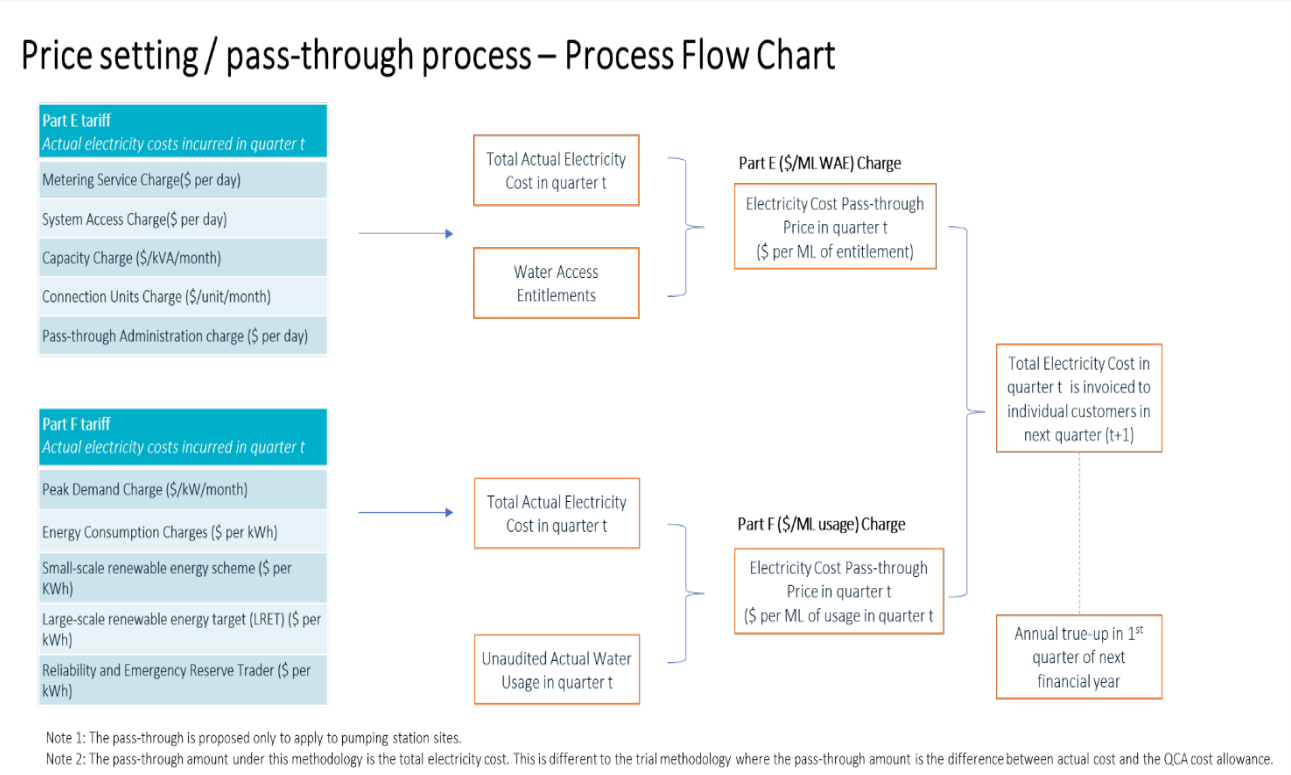
An important design feature of Sunwater's proposed ECPT mechanism is the introduction of Part E and Part F charges in the next price path period. Sunwater believes that it is important to unbundle electricity costs from the existing charges to more clearly convey price signals to our customers relating to the electricity cost component of our cost to serve. While the responsiveness of irrigation customers to these price signals is unknown, it is conceivable that progressing tariff reform in this way could enhance economic welfare over the longer term, particularly if future reforms sharpen these price signals to encourage irrigators to better manage their demand for water to minimise the extent that Sunwater is required to operate pumping stations during the more expensive times of the day and year.

The proposed methodology for calculating these charges is designed to be as cost reflective as possible in the sense that there is direct link between the actual electricity cost incurred by Sunwater and the Part E and Part F charges payable by irrigation customers. Importantly the cost reflectivity aspects of our price-setting methodology also extend to ensuring that the Part E charge is reflective of fixed electricity costs[10] and the Part F charge is reflective of variable electricity costs[11], as illustrated in the figure below.

[10] Fixed electricity costs relate to costs that are not related to the water usage decisions of customers. In other words, Sunwater is required to incur these costs regardless of the level water usage.

[11] Variable costs in this context relate to electricity costs that vary in accordance with water usage. This is an important aspect of our proposal from an allocative efficiency perspective as it ensures that customers will make their marginal water usage decisions on the basis of the marginal electricity cost of supplying water to these customers.

Figure 5 -Proposed methodology for setting Part E and Part F charges



The other aspect to our proposal price-setting approach under the proposed ECPT mechanism is our proposal to set the Part E and Part F on a quarterly basis with up to a three-month lag in the billing of customers. This approach was adopted to address the concerns of some customer representatives over the potential impact associated with an annual ECPT mechanism, such as approach taken for the trial where the annual ECPT pass-through amount is invoiced in the March quarter of the following financial year.[12]

(v) Proposed reporting and review process

An important design feature of Sunwater's proposed ECPT mechanism is the reporting and review process. The proposed steps in this process are discussed below.

Step 1: Sunwater to publish an annual report on the ECPT mechanism

The purpose of this report is to provide customers and their representatives with all the information that they require to assess whether the actual electricity costs passed through to customers in the previous financial year is reasonable and in accordance with the price-setting methodology. The information contained in this annual report is proposed to include the following:

- the pass-through amount and true-up amount (if any) for the review year and the underlying calculations.
- a comparison of electricity prices with prior year prices
- an overview of Sunwater's tariff strategy and upcoming price changes relevant to selected tariffs

[12] For more information about this approach, refer to our ECPT trial approach, see link Electricity Cost Pass-through Trial - Sunwater

- a comparison of the annual water and electricity usage against previous years.
- additional information as necessary to explain high usage or irregular water and electricity usage relationships.

Step 2: Customer feedback

The next step in the process is for customers and their representatives to review the annual report published by Sunwater and raise any concerns of inefficient or imprudent electricity usage or retail tariff selection. Examples of potential areas of customer concern could relate to the tariff optimisation process in the situation where Sunwater did not appropriately take account of a new retail tariff, changes to existing tariff structures or tariff eligibility criteria.

Step 3: Sunwater responds to customer concerns

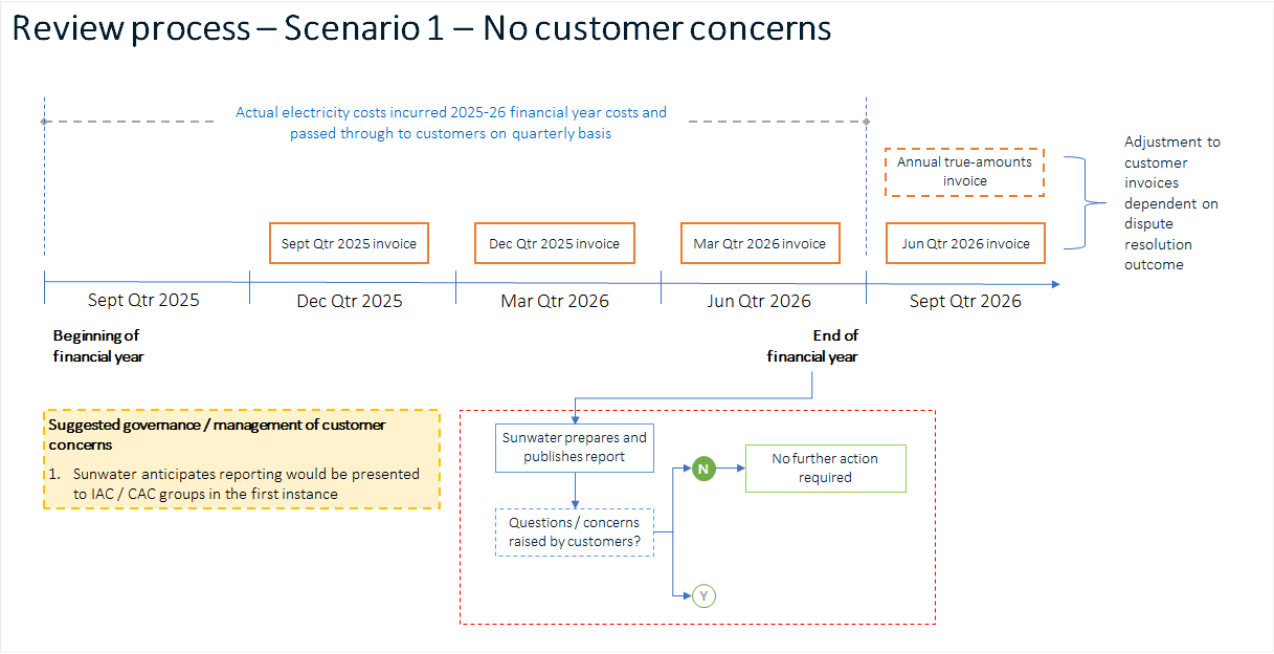
Sunwater provides a response to any customer concerns. This response may include providing additional information and analysis.

Step 4: External review/dispute resolution

If customers remain concerned over the efficiency and prudency of the actual electricity costs incurred by Sunwater, then customers have the option under the proposed ECPT mechanism of initiating a formal dispute resolution and review process.

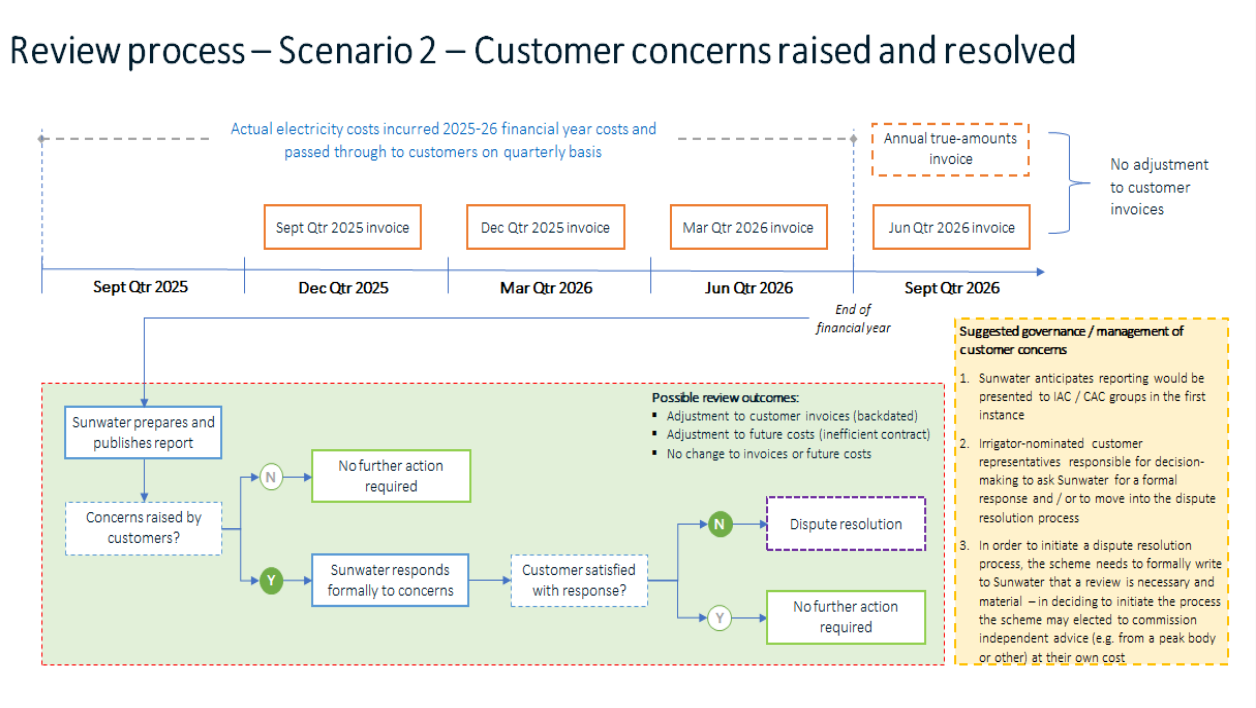
This review process could result in no customer concerns being raised, as illustrated in Scenario 1 in the figure below.

Figure 6 – Proposed review process – Scenario 1 – No customer concerns raised



This review process could result in customer concerns being raised and resolved with no further action taken, as illustrated in Scenario 2 in Figure 7 below.

Figure 7 – Proposed review process – Scenario 2 – Customer concerns raised and resolved



The following table outlines the proposed steps and time limits associated with the dispute resolution process under the proposed ECPT mechanism.

Table 8 – The proposed dispute resolution process under the proposed ECPT mechanism

Description of key elements of proposed dispute resolution process	
(a)	Parties to be defined as Sunwater and Irrigator elected representatives (minimum of 2) of the scheme IACs (Irrigation Advisory Committees) or CACs (Customer Advisory Committees).
(b)	If any dispute arises between the Parties to this agreement the Parties will first attempt to resolve the dispute by negotiation.
(c)	If the dispute is not resolved within 30 business days of the referral of the dispute to the Parties for negotiation, then either Party to the dispute may refer the dispute to mediation. Timeframes may be varied by agreement of the Parties.
(d)	If the dispute is not resolved within 30 business days of mediation, then either Party may refer the dispute to arbitration. Timeframes may be varied by agreement of the Parties.
(e)	The Arbitrator shall be drawn from a list comprising of entities or individuals that are appropriately qualified in mediation/negotiation and independent. The membership of this list can be refreshed from time to time with the mutual agreement of Sunwater and the Queensland Farmers Federation.
(f)	Sunwater's costs associated with the negotiation, mediation and arbitration process will be eligible for recovery through the electricity pass-through charges. Sunwater will bear the upfront cost associated with engaging a mediator/arbitrator. For clarity these costs will be eligible for recovery through the electricity pass-through charges.
(g)	An arbitrated decision will be valid and binding on the Parties.

The following section addresses the specific questions and issues raised by the QCA in their guidance.

(i) What are the key risks associated with material changes in allowable costs outside the control of the business?

While Sunwater is committed to minimising actual electricity costs to the extent that it is prudent and efficient to do so, Sunwater accepts that there is a residual risk that actual electricity costs could increase materially in the future due to events outside of its control, such as unanticipated developments in the wholesale energy market and regulatory decisions made by the Australian Energy Regulator and the Queensland Competition Authority. It is important to note in this regard that Sunwater's exposure to future electricity cost risk in the next price path period is reduced to an extent due to the wholesale energy price applying to electricity use at our large pumping station sites being fixed until 1 January 2029 when the existing WoG electricity supply arrangement expires.

(ii) What are the proposed mechanisms to mitigate these risks, including the rationale for why the proposal reflects an appropriate sharing of risk

Sunwater proposes to introduce an ECPT mechanism (see below for details) in eligible schemes where there is sufficient evidence of broad and informed customer support for doing so. Sunwater believes that the support for this proposal reflects that majority of customers in eligible schemes (except Barker Barambah scheme) that participated in the engagement process:

- have a strong revealed preference to pay no more or less than the actual electricity cost incurred by Sunwater to provide the services that our customers want.
- Believe that the proposed ECPT mechanism will deliver an outcome that better matches their revealed risk preferences compared the current approach, where the QCA sets prices based on a forecast electricity cost allowance for the new price path period, particularly in an environment where there is significant uncertainty over future electricity costs.

Sunwater acknowledges that there is a risk that future developments in the energy market could result in a material and sudden increase in actual electricity costs incurred by Sunwater and it is important that the design of the ECPT mechanism mitigates this risk to the extent that it is economically and equitably desirable to do so. It is for this reason that Sunwater worked closely with customer representatives to include in the design of the proposed ECPT mechanism a robust dispute resolution and review process, supported by comprehensive reporting obligations. These additional design features ensure that customers and their representatives have an effective avenue to raise any concerns that they have in relation to the pass-through of electricity costs under this mechanism and for these concerns to be appropriately considered within a reasonable timeframe. Sunwater envisages that there may be limited circumstances where the full pass-through of actual electricity costs to customers is not justified under the ECPT mechanism.

(iii) justification and supporting information for the proposed expenditure, if proposing to recover costs incurred to manage a particular risk, including the nature and scale of the risk and the reasons the mitigation strategy is prudent and efficient.

Sunwater proposes to absorb the set-up and on-going administration costs associated with the proposed ECPT mechanism. In other words, Sunwater is not seeking to recover these costs from customers in the next price path period.