

# 2019-23 Water and Sewerage Pricing Submission - Customer Summary

13 July 2018



# Overview

## Message from Essential Energy's CEO

This overview summarises Essential Energy's proposed four-year plan for operating and delivering Essential Water's water and sewerage services to around 10,000 customers in the Broken Hill area from 1 July 2019 to 30 June 2023.

Our plan has been shaped in consultation with customers and stakeholders to ensure we continue to deliver safe and reliable water supply and sewerage services, meet our legislative and environmental obligations and maintain customer service standards and price affordability.

To help further inform our business decisions, I encourage you to provide feedback on our submission at:

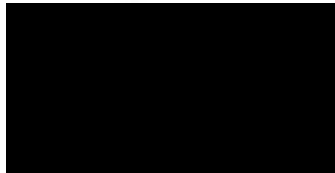
[www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Metro-Pricing/Prices-for-Essential-Energy%E2%80%99s-water-and-sewerage-services-in-Broken-Hill-from-1-July-2019](http://www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Metro-Pricing/Prices-for-Essential-Energy%E2%80%99s-water-and-sewerage-services-in-Broken-Hill-from-1-July-2019)

Our submission can be viewed at:

<https://engage.essentialenergy.com.au/essential-water-ipart-submission>.



Thank you,



**John Cleland**  
**Chief Executive Officer**

## Our pricing proposal

This document provides a summary of our 2019-23 pricing proposal.

### Detailed chapters

Our proposal comprises this 'plain English' overview, twelve detailed chapters that cover the standard elements of a regulatory pricing proposal and detailed models and attachments.

The chapters, attachments and models provide the information required to enable full scrutiny by IPART in order to determine our prices for 2019–23.

All expenditure and revenue forecasts throughout the proposal are expressed in 'real' 2018-19 dollars (that is, they exclude inflation), with historical financials being in nominal dollars (that is, they include inflation). Comparisons between actual and allowed expenditures during the current regulatory period are stated in 2018-19 dollars to ensure a like-for-like comparison. Bill impacts are shown in nominal dollars unless otherwise stated.

### Our pricing website

A user-friendly and customer-focused website provides an interactive way for our customers to explore the key parts of our proposal.

The website also provides links to the overview document and the attachments.

Our proposal is available at <https://engage.essentialenergy.com.au/essential-water-ipart-submission>.



## Introduction

Essential Energy's water and sewerage business, Essential Water, provides water and sewerage services to a population of approximately 18,000 people in the communities of Broken Hill, Menindee, Sunset Strip and Silverton.

We own and operate the Broken Hill area's network of dams, water treatment plants, sewage treatment plants, reservoirs, water and sewage pumping stations, mains and other related infrastructure.

We deliver drinking water to approximately 10,500 customers and sewerage services to approximately 9,700 customers.

The prices we charge for water and sewerage services in the Broken Hill region are regulated by the Independent Pricing and Regulatory Tribunal of NSW (IPART). IPART's current determination began on 1 July 2014 and expires on 30 June 2019.

Our pricing proposal for the next regulatory period – over four years, from 1 July 2019 to 30 June 2023 – has been developed in consultation with our customers.

It sets out Essential Water's proposed service levels, operating expenditure (opex) and capital expenditure (capex) programs, together with expected prudent and efficient costs, revenue requirements and pricing arrangements for water and sewerage services.

This overview provides a user-friendly summary of our 2019-23 pricing proposal, with further detail contained in separate chapters and attachments.

### Overarching objectives

In light of significant challenges facing the business and the community (outlined below), this submission is designed to balance the following objectives:

- deliver a safe and reliable water supply and sewerage service,
- maintain customer service standards,
- keep prices low, and
- achieve a reasonable commercial return for our shareholder.



## Our commitment

Essential Water is committed to providing safe, reliable, quality water and sewerage services at an affordable price for the 2019-23 determination period, while accommodating a generational shift in bulk water supply arrangements.

As discussed in our submission, we have successfully navigated our way through a fundamental re-prioritisation of our operations to connect the new Wentworth to Broken Hill pipeline, which has required changes to the design and ongoing maintenance of our existing water assets.

Our proposal has been informed by targeted consultation with customers and stakeholders and is in line with the key priorities identified in this process.

We face a number of significant challenges in proposing prices that are affordable to the community and that also enable us to maintain our service performance and achieve financial viability.

These challenges include:

- supplying a community affected by significant affordability pressures,
- the Wentworth to Broken Hill pipeline promises improvements in water security and availability, but its connection and integration requires additional investment in our network. Additionally, the future costs imposed on our network are uncertain and there is a risk that we may be unable to recover these costs through existing funding arrangements,
- the Wentworth to Broken Hill pipeline does not alleviate the need to invest and maintain our distribution network, the costs of which are rising,

Essential Water is a loss-making business and is effectively subsidised by Essential Energy's electricity business. Prior to the current regulatory period, Essential Water received direct government funding of approximately \$1.7 million per annum to

offset these losses. This funding arrangement ceased in 2013,

- water forecasts were set too high at the 2014 determination and, when combined with two years of drought and associated water restrictions, have led to a revenue shortfall in the current regulatory period. Setting prices on a lower volume base will place additional strain on prices for the 2019-23 regulatory period,
- the need to invest in a new sewage treatment plant to replace the existing plant which is approaching 80 years of age,
- we face cost increases with limited ability for efficiency gains, such as for rising electricity and chemical costs that are largely beyond our control, and
- we have built efficiencies into our expenditure programs, but efficiencies alone are insufficient to keep prices at current levels while also maintaining acceptable service standards.

We have met these challenges by improving our asset management and business practices to find significant on-going reductions in our operating and maintenance costs.

This is reflected in proposed operating expenditure that is three per cent **below** IPART's allowances from the 2014 determination in constant dollar terms.

We are also proposing a responsible capital expenditure program that focuses on renewing ageing infrastructure to meet customer service standards and our legal (including environmental) obligations.

Our challenge is to continue to address customer affordability, while also ensuring we have sufficient funding to meet our service standard obligations and achieve financial sustainability.

The prices proposed in this submission are aimed at meeting this challenge.

## Objectives

Essential Water operates its water supply functions under the *Water Management Act 2000* and the *Water Management (General) Regulation 2011*.

Our objectives are to:

- provide safe and reliable drinking water in accordance with the Australian Drinking Water Guidelines,
- provide water and sewerage services that meet customers' needs for reliability, quality, environmental protection and performance,
- maintain a water and sewerage system that is safe for the community, customers and employees,
- provide a service for the discharge of trade waste,
- provide a high level of customer service, and
- minimise costs to Essential Water and the consequential impacts on customer prices.

## Our current tariff structure

Our current 2017-18 water tariffs for residential and commercial customers comprise:

- a fixed availability charge of \$328 per annum, plus
- a flat water usage charge of \$1.80 per per kilolitre (kL).

Our sewerage tariffs comprise:

- for residential customers,
  - a fixed availability charge of \$536 per annum, and
- for non-residential customers,
  - a fixed availability charge of \$765 per annum, multiplied by a discharge factor (70 per cent) calculated for each representative business type, and
  - a flat sewerage usage charge of \$1.28 per kL.



## Our customers

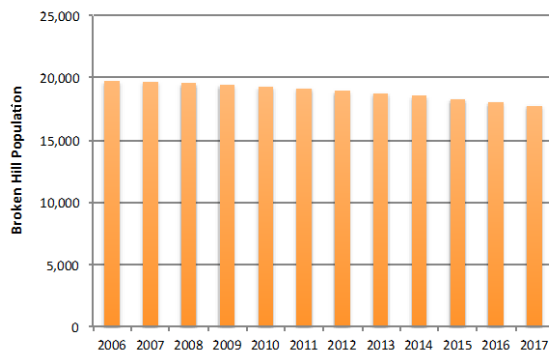
According to the Australian Bureau of Statistics (ABS), there are approximately 17,780 people living in Broken Hill.

Of these, 49 per cent are male and 51 per cent are female. Aboriginal and/or Torres Strait Islander people make up more than eight per cent of the population.

On average, the population in Broken Hill has decreased by one per cent each year since 2006.

The ABS data indicates that this is one of the fastest declining population centres in Australia.

### Population of Broken Hill 2006-2016



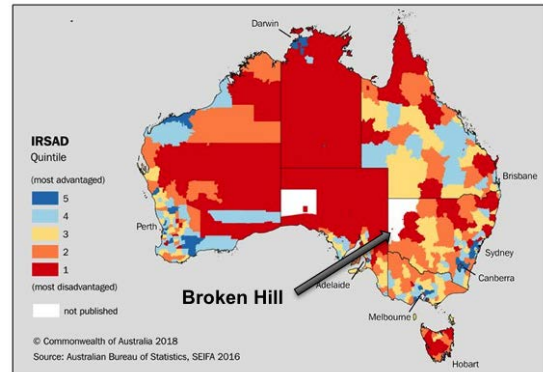
Source, Australian Bureau of Statistics (ERP) data

Broken Hill also has a high proportion (22 per cent) of its population that is 65 years of age or older. This is considerably higher than the State and national averages of about 16 per cent, and results in a relatively high proportion of Broken Hill's population being on a fixed income.

ABS analysis of 'Relative Socio-economic Disadvantage' in 2018 shows that Broken Hill placed in the lowest 10 per cent band in Australia (ranking 1,303 out of 13,691 state suburbs) and in NSW (ranking 372 out of 4112 state suburbs), with a score of 902 out of 1,000.

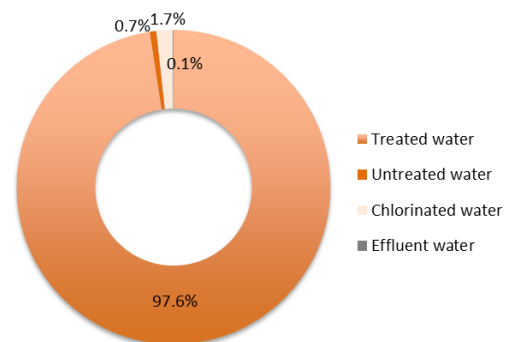
Addressing affordability and the impacts on disadvantaged customers will continue to be an important issue for the community, and Essential Water has taken this into account in developing its proposal. We have closely scrutinised our expenditure plans to ensure

they are both necessary and efficient, to minimise the pressure on prices.



## Customer numbers

Approximately 10,500 customers receive their water supply from Essential Water.



Approximately 98 per cent of customers receive treated water, while one per cent of our customers receive untreated water and two per cent receive chlorinated water.

Residential customers make up 91 per cent of our water customers, and 93 per cent of our sewerage customers.

The mines play an important role in the local economy and are responsible for reducing tariffs to other customers by about a third, due to the application of IPART's mines pricing framework.

## Our environment

Essential Water's service area is one of the driest in the state and experiences extreme climate variations and frequent droughts.

Australian Bureau of Meteorology (BOM) data illustrate that, over the past 12 months, rainfall in the Broken Hill region has been less than 200 millimetres, consistent with longer term rainfall statistics.

As outlined in Chapter 1 'Context and background', over the past 126 years the median annual rainfall in Broken Hill has been 204 millimetres, ranging from a low of 65 millimetres in 2002 to a high of 712 millimetres in 1974. This is one of the lowest rates in NSW.

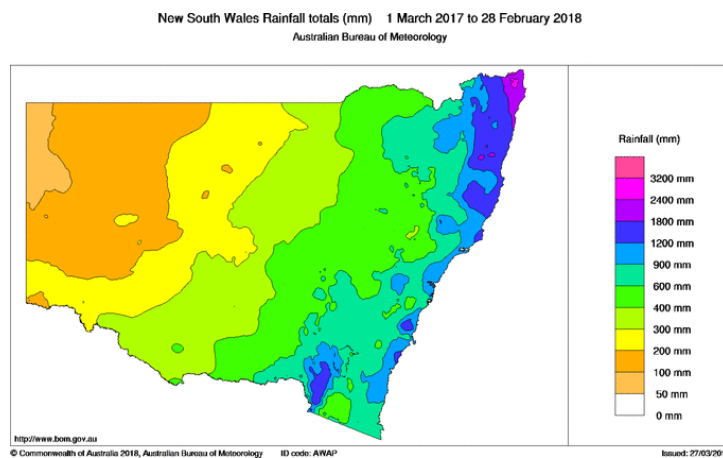
Temperatures in the region are among the hottest in the country, with maximum

temperatures often around 45 degrees Celsius. This results in annual evaporation of approximately 2,500 millimetres, which is more than ten times higher than the average annual rainfall.

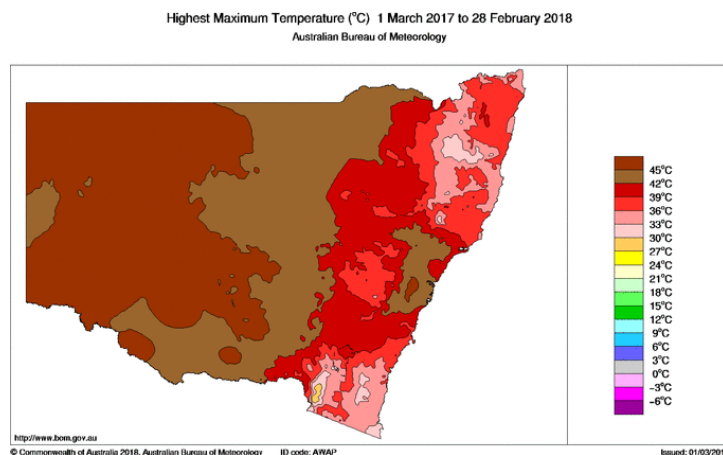
With low annual rainfall and extreme temperatures, it is not surprising that the region recently experienced the longest drought on record. This was just one of three droughts that the region experienced over the last 15 years.

These climate conditions mean that providing a safe and reliable water supply to the region is a challenge, but one that Essential Water, with the support of the NSW Government and the community, is well placed to meet.

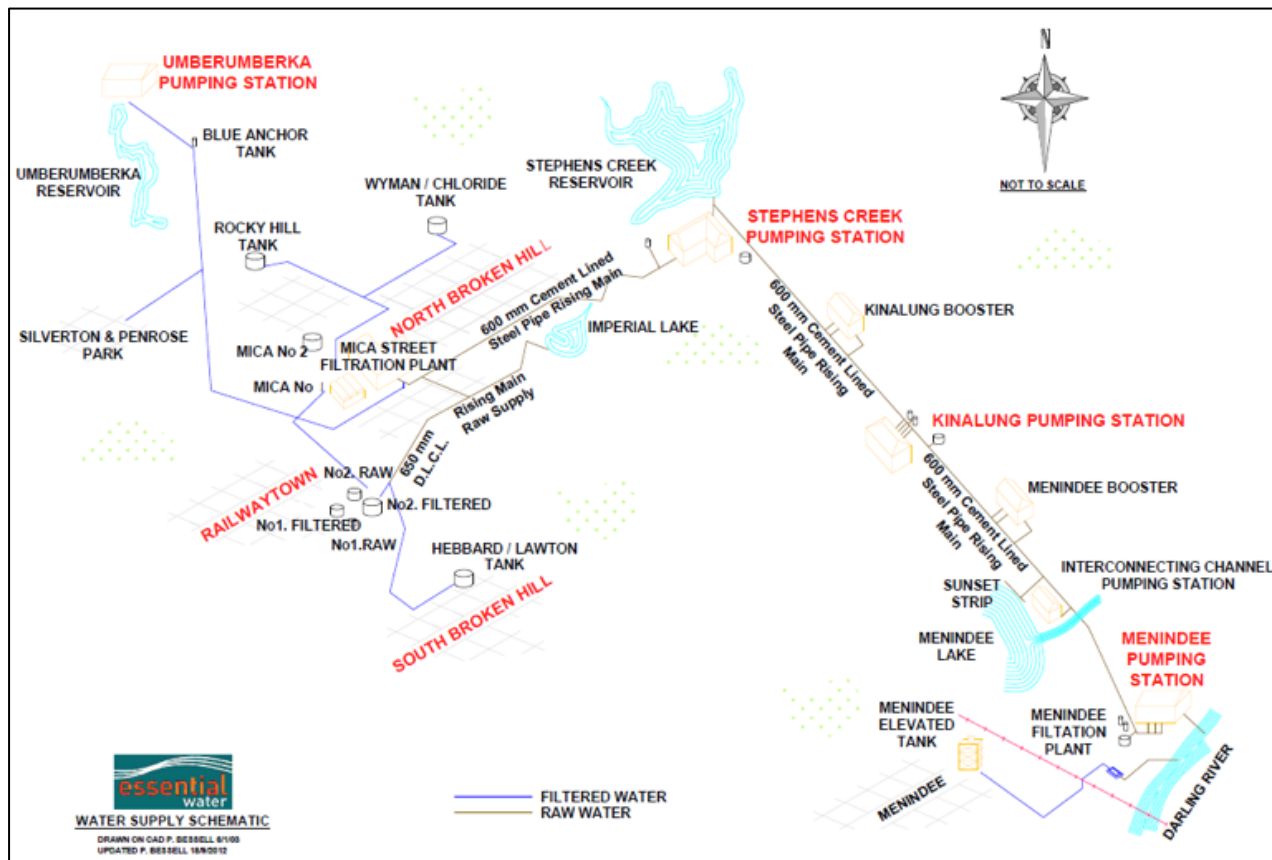
### NSW rainfall over the past 12 months



### Maximum temperatures



## Our current water and sewerage network



### Potable water supply

Before arriving at your tap, water that is safe to drink passes through many stages.

Currently, it is collected through river catchments and is pumped via one of nine pumping stations to our storage facilities, before being transferred for treatment at one of our water treatment plants.

The water is treated to a high standard at Essential Water's two water treatment plants, the first located at Mica Street in Broken Hill and the second at Menindee (our third treatment plant at Sunset Strip is not used for potable water).

After treatment, the water is sent via pumping stations and water mains to 12 urban water service reservoirs, where it is stored before being distributed to customers via a network

comprising 220 kilometres of distribution pipelines.

From early 2019, the primary source of water will be the new Wentworth to Broken Hill pipeline. This change in bulk water supply arrangements is discussed in the following section.






Water will continue to be stored in the Stephens Creek and UMBERUMBERKA reservoirs.

We plan to decommission the reservoir at Imperial Lakes.

### Sewerage services

Sewage makes its way from homes and businesses through a 228 kilometre network of pipes to two sewage treatment plants, where it is treated and then used by our recycled water customers.

Essential Water's current major water and sewerage assets are outlined below.

<p><b>3 Dams</b></p> <ul style="list-style-type: none"> <li>* Stephens Creek (19 GL)</li> <li>* Umberumberka (7.8 GL)</li> <li>* Imperial Lake (0.7 GL)</li> </ul> <p><b>4 Bulk supply pipelines – 150 km</b></p> <ul style="list-style-type: none"> <li>* Menindee – Stephens Creek (99 km)</li> <li>* Stephens Creek – Broken Hill (16 km)</li> <li>* Imperial Lake – Broken Hill (5 km)</li> <li>* Umberumberka – Broken Hill (30 km)</li> </ul> <p><b>220 km of reticulation mains</b></p> <p><b>156 km of headworks transfer length</b></p> <p><b>Silverton water chlorinator</b></p> <p><b>9 Pumping stations</b></p> <p><b>3 Balance tanks</b></p> <p><b>12 Service reservoirs</b></p> <p><b>Booster and pressure pumps</b></p> <p><b>Approx. 10,500 customer water meters</b></p> <p><b>3 water treatment plants</b></p> <ul style="list-style-type: none"> <li>* Mica St</li> <li>* Menindee</li> <li>* Sunset Strip</li> </ul>	  	  <p><b>Sewerage assets</b></p> <ul style="list-style-type: none"> <li>* 228 km of reticulation mains</li> <li>* 20 km sewer rising mains</li> <li>* 3,400 man holes</li> <li>* 11 sewerage pumping stations</li> <li>* 11 km treated effluent mains</li> <li>* 2 Sewerage treatment plants</li> </ul>
--	--	---

## New bulk water supply arrangements

Bulk water supply arrangements in Broken Hill will change in 2019.

As part of the NSW Government's commitment to secure the long-term water supply to the Broken Hill region, WaterNSW has appointed a consortium to design and construct a new 270-kilometre underground pipeline from Wentworth to Broken Hill (generally following the Silver City Highway).

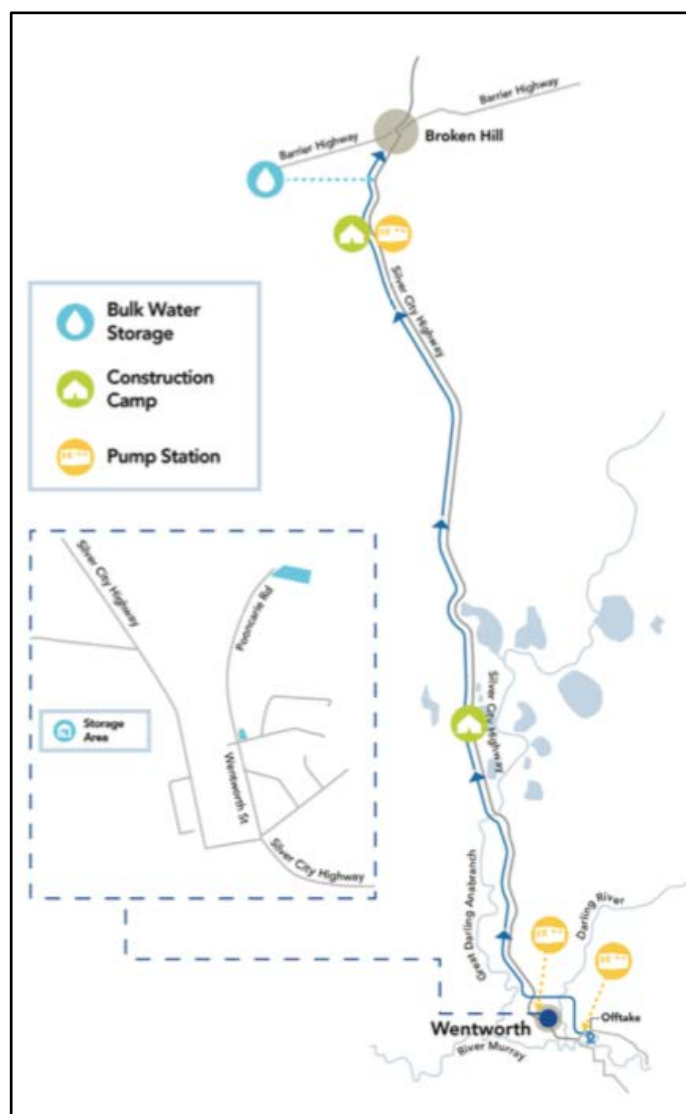
Construction commenced in January 2018 and is targeted for completion in December 2018.

Full commissioning is expected by April 2019.

Bulk water will be sourced near Wentworth, on the Murray River. The new pipeline will supply up to 37 megalitres of a peak daily demand to Essential Water.

The consortium appointed by WaterNSW will be responsible for the operation and maintenance of the Wentworth to Broken Hill pipeline.

Essential Water will continue to retain responsibility for water treatment and distribution to our customers.



Source, WaterNSW website

## Form of regulation

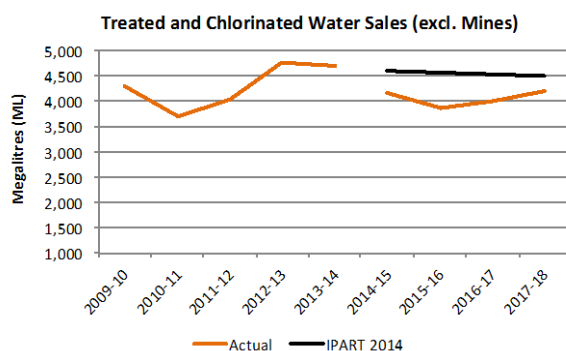
The 'form of regulation' describes the framework that IPART applies to determine the revenue Essential Water can earn and the prices it can charge over a regulatory period.

We propose the following features of a well-functioning regulatory framework that ensures an affordable water supply, while encouraging investment:

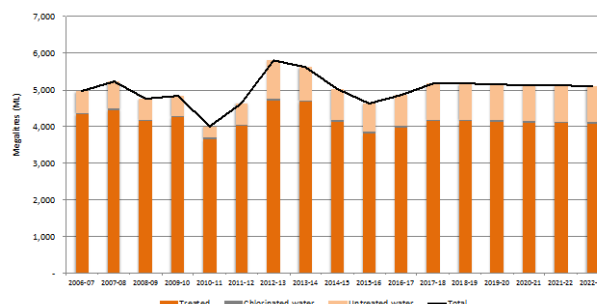
- a four-year regulatory period commencing on 1 July 2019,
- continuation of IPART's building-block framework and the use of the 'post-tax real' methodology,
- continuation of the current price cap form of price control,
- a demand volatility adjustment mechanism to apply from 1 July 2019 with a  $\pm$  five per cent materiality threshold to manage significant volume variations from forecasts,
- cost pass-through mechanisms to deal with unexpected, uncontrollable events to provide an appropriate balance in the allocation of risks between Essential Water and customers, and
- reliance on the inherent incentives in the regulatory framework without additional incentive mechanisms in recognition of the unique characteristics of the Essential Water business.

## Sales and customer number forecasts

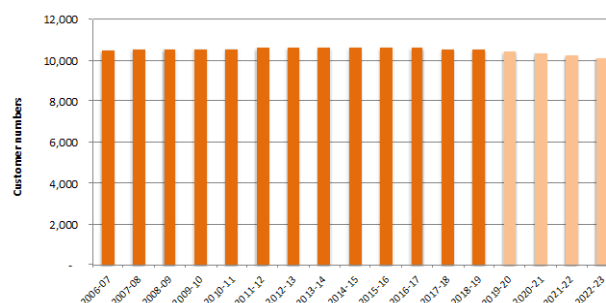
Water sales over the current regulatory period are tracking significantly below IPART's allowed sales (1,424 megalitres or 12 per cent) from the 2014 determination period.



Total water sales are forecast to decline by 0.4 per cent per year over the 2019-23 period.



Water (shown below) and sewerage customer numbers are forecast to reduce by one per cent per year, in line with the population trend.



Our customer growth and sewer connections are consistent with the population and household reductions over the past few years, as evidenced in government information (e.g. ABS data).

Residential usage per customer is forecast to remain relatively constant at around 260 kilolitres per customer per year.

## What our customers told us

To ensure we receive insights into our plans for our 2019-23 proposal from a representative group of residential and business customers, we implemented a tailored engagement program.

This program – based on our Stakeholder Engagement Framework and developed in consultation with key stakeholders – takes into account IPART's customer consultation requirements, stipulated in its Guidelines for Water Agency Pricing Submissions.

Our engagement program has incorporated telephone and online surveys and discussions with Essential Water's Customer Council (representing Broken Hill City Council, Broken Hill Health Council, Broken Hill Chamber of Commerce, Broken Hill mining industry, Pastoralists Association of West Darling and Menindee, Sunset Strip and Copi Hollow communities).

We also engaged external experts to undertake independent research and analysis and summarise feedback.

All feedback we received from customers and community members has been carefully considered.

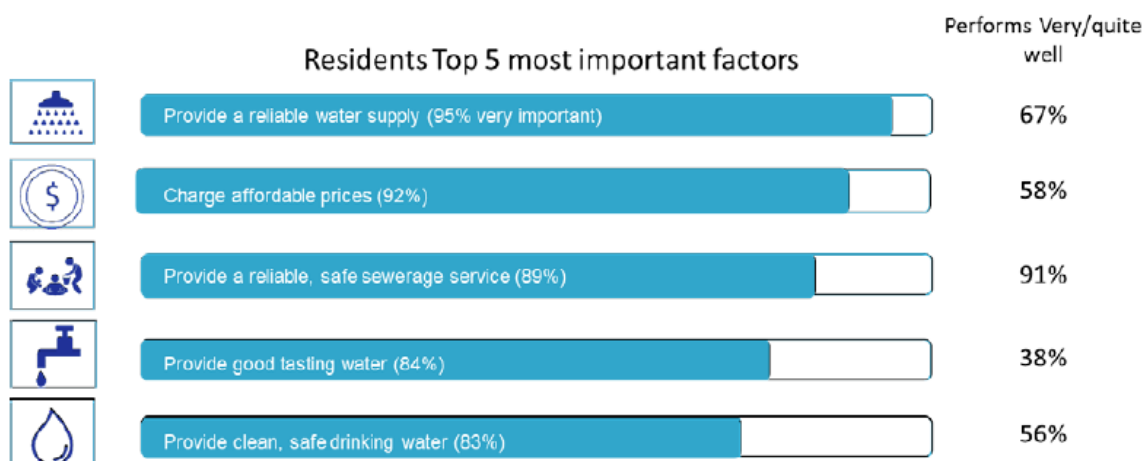
## What we do well

	Giving you acceptable warning in advance of a planned water interruption	Very/quite good 68% residential 73% business
	Restoring supply within an acceptable timeframe	Very/quite good 57% residential 65% business
	Responding to emergencies in a timely manner	Very/quite good 53% residential 60% business

Reliability of water supply and affordability were the two most important factors for residential customers.

The next most important factors were providing a reliable and safe sewerage service, providing good tasting water, and provision of clean, safe drinking water.

Residential customers agreed that Essential Water performs well in terms of reliability of water supply, but can improve on the quality of water, especially taste.



## How our bills compare

We strive to ensure that our customers receive a safe and reliable quality water supply at an affordable price.

The chart below illustrates how Essential Water's bills compare with other water providers in NSW and Australia.

The information is based on internal analysis, with information sourced from company websites and government performance monitoring reports.

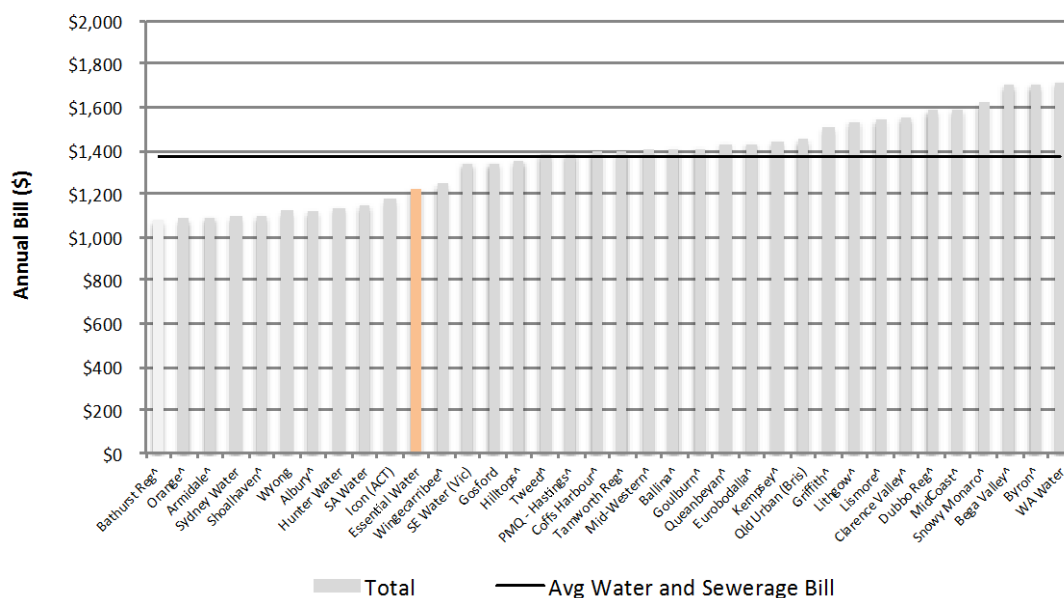
As shown below, the average annual water and sewerage bill for the 36 water utilities examined across Australia is \$1,369. Essential Water's bill of \$1,223 is significantly (11 per cent) below the average.

In this benchmarking analysis, Essential Water's combined water and sewerage bill ranked **11<sup>th</sup> lowest out of the 36 water utilities** examined, placing us in the lower third of bill outcomes.

While bill benchmarking is only one tool to assess issues of affordability, it does highlight that Essential Water's bills are lower than the average compared to other water utilities in NSW and in Australia.

Our challenge is to continue to address customer affordability while also ensuring we have sufficient funding to meet our service standard obligations and achieve financial sustainability.

### Bill benchmarking – Combined water and sewerage bill



Source: Current bills sourced from IPART Determinations and Company websites.  
 Note: <sup>A</sup> Sourced from 2015/16 DPI Water S&W Performance Monitoring Report. Pg 81-82.

## How prices are set

Essential Water's water and sewerage prices are set by IPART and are calculated using the building-block method.

This involves the following steps,

1. Identify cost building-blocks – operating expenditure, return on capital, return of capital (depreciation), allowance for working capital and an allowance for corporate income tax – which together make up our **notional revenue requirement**.
2. Set **target revenue** – by adjusting the notional revenue requirement to smooth or balance annual revenues.
3. Calculate the **net revenue** – by adjusting our target revenue to account for revenue from the mines and other revenue, such as liquid trade waste, and miscellaneous charges.
4. Forecast the **demand** for our services – water customer numbers and water sales volumes, sewerage customer numbers and billable sewerage volumes.
5. Divide our net revenue requirement by forecast demand to get our **prices**.

### Our cost building blocks

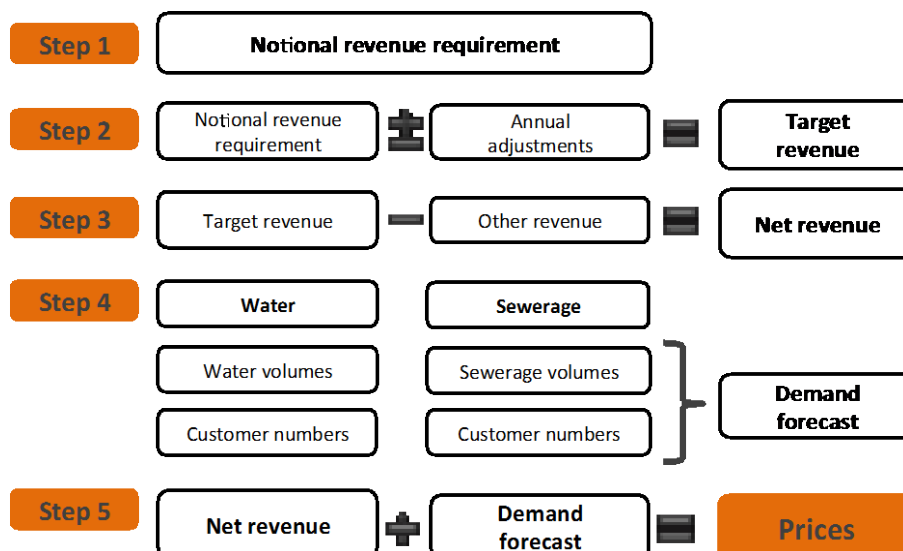
**Operating costs** are the day-to-day costs of running our water and sewerage networks – such as staff salaries, chemicals for water treatment and electricity to pump water and sewage.

**Return on capital** covers the cost of servicing our debt and provides a return to our shareholders. This is calculated by multiplying our regulated asset base (RAB) – which records the value of our water and sewerage assets – by the weighted average cost of capital (WACC).

**Depreciation** (or return of capital) acknowledges that our assets wear out over time.

**Working capital** reflects the holding costs of current assets.

**Corporate income tax** costs are our tax liabilities net of the value of imputation credits.



## Service standards

Our service performance – notably, network reliability, drinking water quality and customer service – is a key customer priority.

Essential Water has a number of specific service standards, or targets, against which our performance is measured on an annual basis. These standards largely reflect a combination of two drivers:

- achieving the levels of service that customers want, and
- compliance with various technical, environmental and consumer protection regulatory obligations.

Compliance with our service standards and regulatory obligations is a major driver of the costs we incur in the construction, operation and maintenance of our water and sewerage network.

Essential Water has the following customer service level targets:

- **Availability of water supply** – minimum pressure of 15 metres head of water, water restrictions no more than 5 per cent of the time and 3,000 litres per tenement per day for residential potable water.
- **Water quality** – meet Australian Drinking Water Guidelines, meet public health standards for bacteria, contaminant and pathogens and comply with our Drinking Water Utility Licence.
- **Response times** – stated response times for four priority categories, ranging from critical (30 minutes) to minor (within two weeks as agreed with the customer).
- **Sewerage** – targets for availability of sewerage services, average system failures, response times, odours / vectors, impact of sewerage treatment plants (notice and odour) and effluent discharge.

- **Complaints** – respond to 95 per cent of complaints and enquiries within four working days of receipt.
- **Notice periods** – residential customers are given at least two days' notice of planned interruptions, while non-residential customers are given at least seven days' notice.
- **Duration of planned interruptions** – four hours for most works, with seven hours for mains replacement in Broken Hill. Other areas have a maximum duration of six hours for planned interruptions.
- **Maximum number of planned interruptions** – two per customer per year (excludes mains construction as interruption occurs daily until the replacement is complete).

## Current performance

Essential Water has met or outperformed all of the key service targets over the past 12 months and maintained a high standard of service performance over the current regulatory period.

There is a high level of satisfaction among our customers, as assessed through our customer engagement program.

## Targets for 2019-23

Although we are planning to keep costs down in the 2019-23 period, we will need to balance cost savings and service quality.

This will not, however, be at the expense of water quality and our legislative obligations will continue to be met.

Our proposed service standard targets for 2019–23 can be found in Chapter 3 'Service standards'.

## Capital expenditure

Total capital expenditure (capex) for the current regulatory period to the middle of 2018 is forecast to be \$36 million (\$2018-19). This is \$6 million, or 15 per cent below IPART's allowance for the current period of \$43 million (\$2018-19).

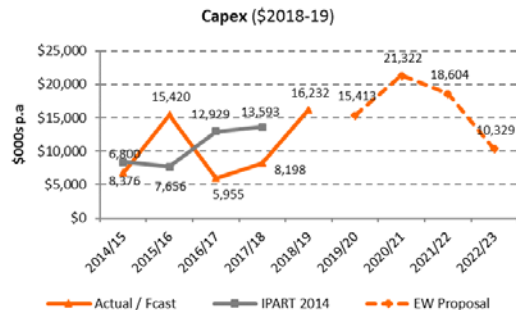
This underspend was largely due to work not undertaken given uncertainty about the scope and timing of the new pipeline. This amount was, however, more than offset by the \$14 million in emergency drought works undertaken to maintain water supply to our customers. This was funded directly by the NSW Government.

Going forward, we have proposed a capex program of \$66 million (\$2018-19) for the 2019-23 regulatory period. This includes capex for water services of \$22 million, capex for sewerage services of \$40 million and capex for non-system assets of \$4 million.

The largest and most significant project is the \$34 million Wills Street wastewater treatment plant. Built in the 1930s, the plant is nearing the end of its useful life and needs to be replaced to ensure we can comply with our environmental obligations.

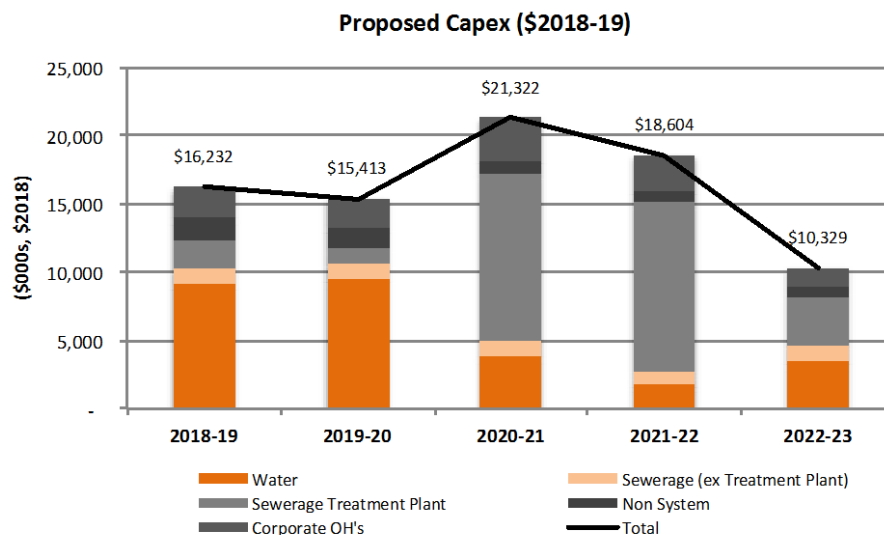
The new wastewater treatment plant represents over half of our proposed capex program. Without it, our total proposed capex would be \$31 million, 26 per cent, **below** IPART's approved capex for the 2014 period and 14 per cent **less** than our actual / forecast spend in the current period.

Other key projects include replacement of the Menindee water treatment plant and the Rocky Hill No. 2 service reservoir, plus three service reservoir refurbishments.



Consequential works required to integrate the new Wentworth to Broken Hill pipeline into the existing Essential Water assets are forecast to be \$59 million during 2019-23. The NSW Government has established the Project Restart fund to enable high priority infrastructure projects to be funded and delivered. We are seeking separate Government funding of our consequential works program through this funding mechanism to minimise the impact on customer prices.

Our proposed capex program, revenue and tariffs in this submission therefore exclude the consequential works program.



## Operating expenditure

Total operating expenditure (opex) for this current regulatory period to the middle of 2019 is forecast to be \$67 million (\$2018-19). This is \$8 million, or 14 per cent, above IPART's allowance for the current period.

The main drivers of the increase included higher than forecast electricity costs due to increased pumping and significant increases in retail contract prices. The cost of chemicals (chlorine is produced by passing electricity through salt water) has also increased in line with electricity costs.

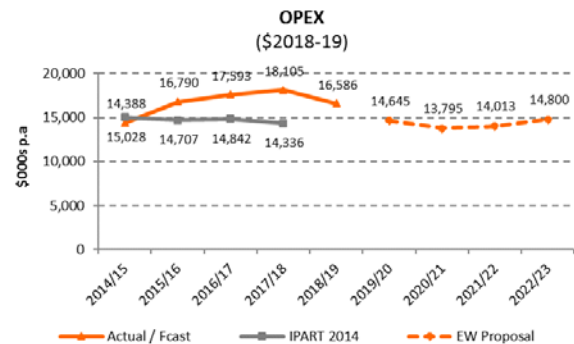
Proposed opex for 2019-23 is \$57 million (\$2018-19), or a 3 per cent **reduction** on IPART's 2014 determination allowances.

Our proposed opex been partially offset by wage growth, which has been on average 1.5 per cent (below IPART's forecast CPI) each year for six years under the current Enterprise Agreement. Electricity costs are expected to reduce with the new pipeline.

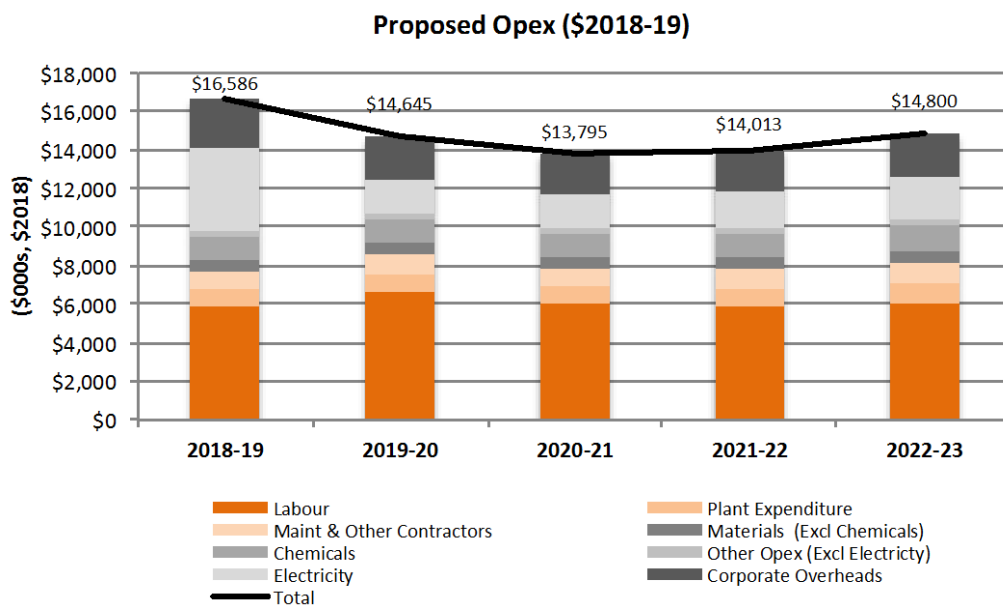
Our proposed opex has also been reduced through a significant efficiency program over the past three years, including a reduction in staff numbers through a hiring freeze and natural attrition, and reductions in overtime, agency staff, fleet, call-outs and travel costs.

Operational savings are also forecast due to the planned decommissioning of the Menindee pipeline and associated pumping stations between Menindee and Stephens Creek.

Further efficiency improvements can be made, but are dependent on the final arrangements for the Wentworth to Broken Hill pipeline.



More detail on our proposed opex program for the 2019-23 period is contained in Chapter 8 'Operating expenditure'.



## Return on capital

The return on capital covers the cost of servicing our debt and provides a return to our shareholders for their equity investment in our business.

It is calculated by multiplying the value of our regulated asset base by the rate of return – commonly known as the 'weighted average cost of capital', or WACC.

### Why it is important

If the rate of return is set too low, we may not be able to secure the funds needed to invest in water supply. This could negatively impact water quality, reliability, and customer service levels. If it is set too high, our customers could pay too much for our services.

Our proposed rate of return for the 2019-23 regulatory period reduces from 4.5 per cent to 4.0 per cent over the period based on IPART's post-tax real framework. This is well below our current allowed rate of return of 5.2 per cent, largely due to lower interest rates since 2014.

The rate of return will be updated to reflect market rates closer to the start of the new determination period and will then be updated each year for changes in debt costs. More information on our proposed WACC can be found in Chapter 9 'Rate of return'.

Parameter	Proposed 2019-20
Nominal risk-free rate	3.4%
Debt margin	2.5%
Cost of debt	5.9%
Market risk premium	7.6%
Equity beta	0.70
Cost of equity	8.7%
Gearing	55%
Corporate tax	30%
Gamma	0.25
Inflation	2.5%
Post-tax nominal WACC	7.2%
<b>Post-tax real WACC</b>	<b>4.5%</b>

Source, Essential Water analysis

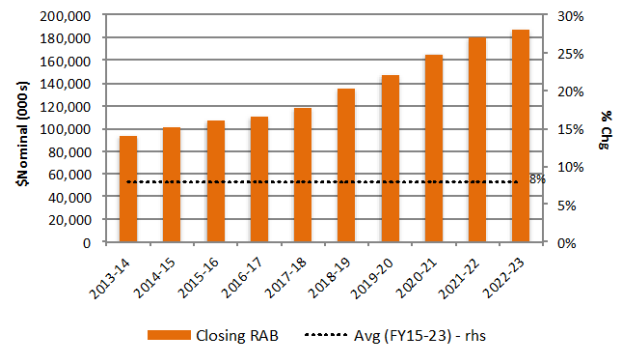
## Regulatory asset base

The regulatory asset base (RAB) reflects the written-down value of efficient capital expenditure that Essential Water has incurred to provide water and sewerage services to customers in the Broken Hill region.

The RAB provides the basis for calculating both the return on capital and the return of capital (i.e. depreciation), two of the key building blocks that comprise Essential Water's total revenue requirement.

The proposed RAB is calculated using the same methodology as used in IPART's current determination. The opening value of the combined RAB for 2019–20 is \$135 million.

The closing value of the RAB for each year of the 2019-23 regulatory period for combined water and sewerage services is shown below.



The closing RAB has increased by approximately eight per cent per year based on the level of capital additions and the impact of inflation outstripping annual depreciation and disposals.

## Revenue requirement

The following tables summarise our proposed **notional revenue requirement** for Essential Water's total efficient costs over the 2019-23 determination period.

The **target revenue** is the expected amount of money raised by Essential Water through the charges set by IPART. It includes revenue from:

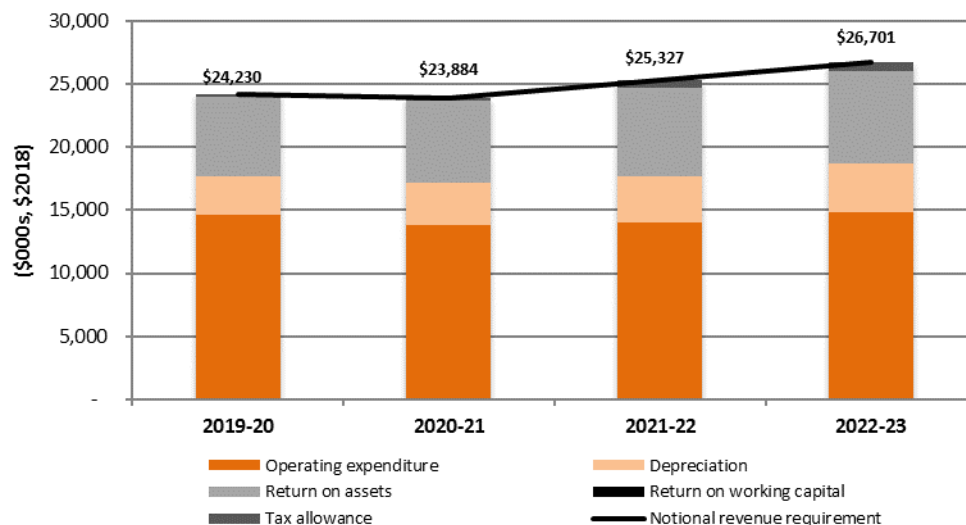
- water and sewerage charges to all customers (including mines) to whom Essential Energy provides water and sewerage services,
- trade waste charges to those non-residential customers to whom Essential Energy provides liquid trade waste services, and
- ancillary and miscellaneous charges on particular transactions.

Revenue from the mines, trade waste charges and ancillary and miscellaneous charges are subtracted from Essential Water's target revenue prior to setting all other water and sewerage charges.

This is to ensure that revenue received from other fees and charges is not also included in our proposed water and sewerage prices.

More information on our forecast revenue requirement can be found in Chapter 11 'Revenue requirement'.

**Notional Revenue Requirement**



\$'000 \$2018-19	2019-20	2020-21	2021-22	2022-23	FY20-23
Operating expenditure	14,645	13,795	14,013	14,800	57,254
Depreciation	3,033	3,342	3,667	3,906	13,948
Return on assets	6,296	6,513	7,026	7,279	27,115
Return on working capital	22	2	16	48	87
Tax allowance	234	231	605	668	1,738
<b>Notional revenue requirement</b>	<b>24,230</b>	<b>23,884</b>	<b>25,327</b>	<b>26,701</b>	<b>100,142</b>
<b>Target revenue</b>	<b>23,061</b>	<b>24,351</b>	<b>25,713</b>	<b>27,149</b>	<b>100,274</b>

## Proposed tariffs

Our proposed tariffs – developed to promote pricing efficiency and shaped by community feedback – are summarised below,

### Water tariffs

- We retain the existing water tariff structure,
- water usage charges are based on long run marginal cost (LRMC) as the starting point, and then are adjusted for environmental sustainability and customer preferences,
- our current water usage charge of \$1.80 per kL is adjusted by the average X factor each year during the 2019-23 period, and
- we maintain the approach to pricing for mining customers from the current determination.

### Sewerage tariffs

- We retain the existing sewerage tariff structure and adjust our current sewerage usage charge of \$1.28 per kL by the average X factor each year.

### Treatment of exempt customers

Under the *Water Management Act 2000*, certain customers, such as some schools, hospitals, churches, and charity organisations, are exempt from paying access charges. This means we cannot charge these customers an access charge. As IPART includes exempt customer numbers when calculating our availability charges, and we are not able to charge exempt customers the availability

charge, we are unable to recover our efficient costs without seeking Government funding or setting separate cost-reflective tariffs for these customers.

The amounts are not trivial. We estimate that the foregone revenue is in the order of \$0.4 million per year.

We seek the opportunity to work with IPART to resolve this matter in the lead-up to the draft determination.

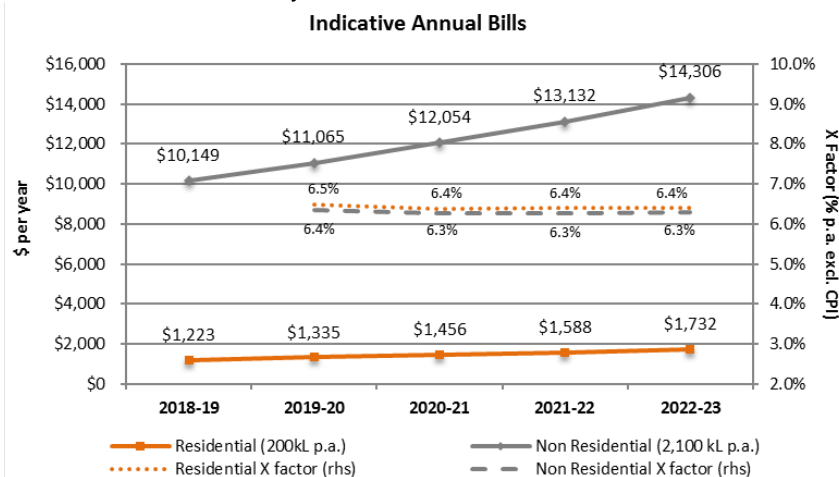
### Bill impacts

A typical residential customer consuming 200 kL of water per year would see an average annual increase in their combined water and sewerage bill of 9.1 per cent (6.4 per cent excluding inflation), or \$127 per year.

A typical non-residential customer consuming 2,100 kL of water per year would see an average annual increase in their combined water and sewerage bill of 9.0 per cent (6.3 per cent excluding inflation), or \$1,039 per year.

More information on our proposed tariffs can be found in Chapter 12 'Tariffs and price path'.

Forecast impacts on indicative water and sewerage bills for customers are set out below.



Notes: Nominal dollar terms, assuming 2.5 per cent forecast inflation and no pass-through adjustments

