



PRICING PROPOSAL

Our plan to deliver value for money for our customers



Hunter Water

01 July 2019

A message from our Board

It is our pleasure to present our proposed expenditure programs and prices for the 2020-25 regulatory period. We propose delivering better frontline services and service levels for our customers, consistent with the learning and insights from our engagement activities. This proposal balances four elements: targeted reduction in compliance risks, servicing a fast growing region, improving credit metrics and moderating bill impacts for customers.

Hunter Water's household water and wastewater bills have been the lowest, or close to lowest, in the country for more than five years. Over the last two price periods we have tightly controlled our expenditure to achieve low costs of service but performance data showed that we needed to increase investment to provide customers with a better offer in terms of value for money. We focussed our attention on meeting compliance obligations for core water and wastewater services. We accepted a medium level of risk across our operations. We did not offer technology-enabled customer service choices that are now common-place across the utility sectors and local councils.

A review of the National Performance Report highlighted areas where our performance was not as good as others. It was clear that the relatively low levels of investment were leading to poor performance in critical aspects such as leakage (we were the poorest performer in water loss per connection for multiple years in the National Performance Report and this was getting worse year on year). The driver for keeping costs low was a noble one – to keep customer bills low. However, the data shows that such low levels of investment are not sustainable.

Having understood our performance better, we increased investment in the current price period to avoid longer term price increases and we will need to continue this in the next price period. An example of this is our increased investment in leakage reduction and in understanding consumer water use behaviour and how to influence it. The results have been encouraging, with approximately 20% reduced from the volume of leakage per year and early signs that our new approach to encouraging wise water use is achieving a 3-4% reduction (climate corrected) in water consumption across our region. Each year we defer major source augmentation saves customers \$20 million in avoided investment costs. These water conservation improvements must be sustained and improved upon if we are to avoid investing too much or too soon in large water supply augmentation schemes.

In addition, we have identified areas requiring increased investment to avoid longer term price increases, and we consulted with customers to gauge their support for increased investment to improve service and experience. In 2017, we adopted a new strategy that took a more balanced approach to costs and service levels, in the long term interests of customers. We took immediate action in five priority areas:

1. Using our Enterprise Risk Management Framework to target investment, particularly in the areas of environmental compliance, public health, public safety and employee safety.
2. Managing water as a precious resource, reducing leakage and water use.
3. Sustaining a strong and current understanding of our customers' values, preferences and priorities and reflecting those in our activities and services.
4. Continuously striving for, and achieving, productivity and efficiency gains such as ranking in the first quartile relative to our water industry peers in our civil maintenance activities.
5. Addressing outdated Information and Communications Technology for internal business practices and interacting with our customers.

In parallel, we have made a considered decision to invest in long-term planning, particularly in areas where investment now will result in lower costs in the decades ahead. We think that 'systems thinking' and 'adaptive planning' will reveal better solutions to delivering reliable and safe water and wastewater services. We have concentrated our efforts in three areas:

- Water resilience - taking smaller scale water conservation actions now so that we do not invest too much or too soon in a major new supply source.
- Energy efficiency projects - delivering commercial benefits and carbon savings.
- Biosolids management - managing environmental compliance risks and exploring resource recovery opportunities.

The work that we have done in delivering this strategy so far, including hearing from our customers, has informed our investment program and decisions that form the basis of this pricing proposal.

We are proposing modest price increases for the next five years so that we can invest more and deliver better outcomes - whilst maintaining our position as an efficient water and wastewater service provider. We believe we have the balance right.



ACKNOWLEDGMENT

Hunter Water operates across the traditional country of the Awabakal, Birpai, Darkinjung, Wonaruah and Worimi peoples. We recognise and respect their cultural heritage, beliefs and continuing relationship with the land, and acknowledge and pay respect to Elders past, present and future.

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About this document

Hunter Water's 2019 Pricing Proposal provides a concise, accessible summary of the services we intend to provide over the period 1 July 2020 to 30 June 2025. The proposal provides an overview of the conversations we've had with our customers and stakeholders to understand their needs and preferences. It outlines proposed expenditure and revenue requirements, and the prices we propose to charge our customers for our services based on efficient and prudent costs.

The Independent Pricing and Regulatory Tribunal (IPART) determines the prices for our services following a comprehensive 12-month review. Submission of our pricing proposal marks the start of IPART's review process. IPART will review our submission and publish an issues paper outlining initial positions on 10 September 2019. At each step in the review process, IPART will provide opportunities for customers to have their say, before determining final prices to apply from 1 July 2020.

This document is supported by 10 Technical Papers that contain detailed information on specific elements of our proposal.

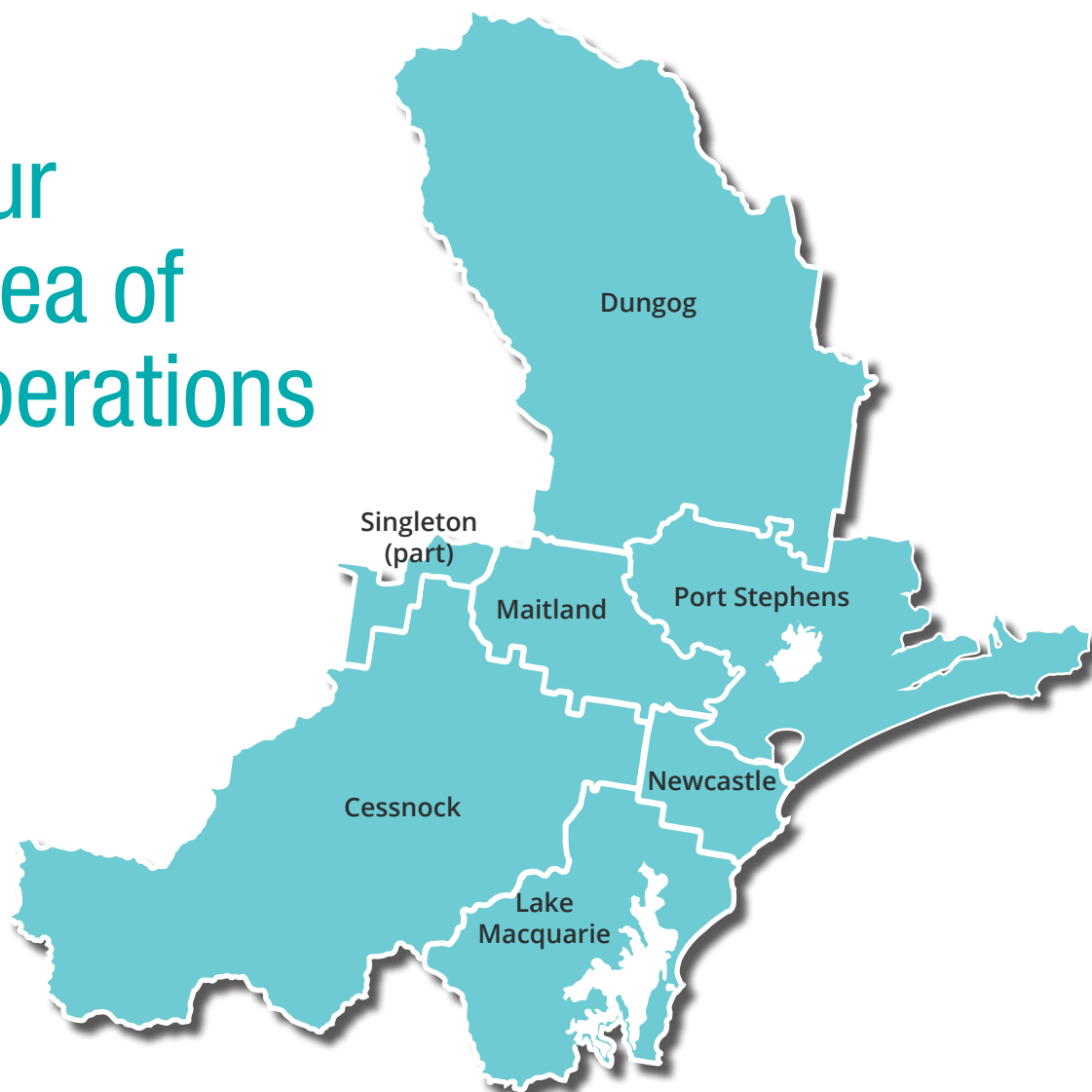
We thank our customers, the community and other stakeholders for helping us prepare this pricing proposal. We encourage these groups to participate in IPART's price review.

Who we are and what we do

Hunter Water serves a population of almost 600,000 people in homes and businesses throughout the Lower Hunter region. We are a vertically integrated water utility – an operator and retailer from catchment to tap, sink to waterway.

Our core responsibility is to supply reliable, high quality water and wastewater services to the people of the Lower Hunter region. We provide stormwater services to about one third of our water and wastewater customers. We also provide trade wastewater, recycled water and raw water services.

Our area of operations



Hunter Water's area of operations is 5,366 square kilometres and consists of the local government areas of Cessnock, Dungog, Lake Macquarie, Maitland, Newcastle, Port Stephens and a small part of Singleton.

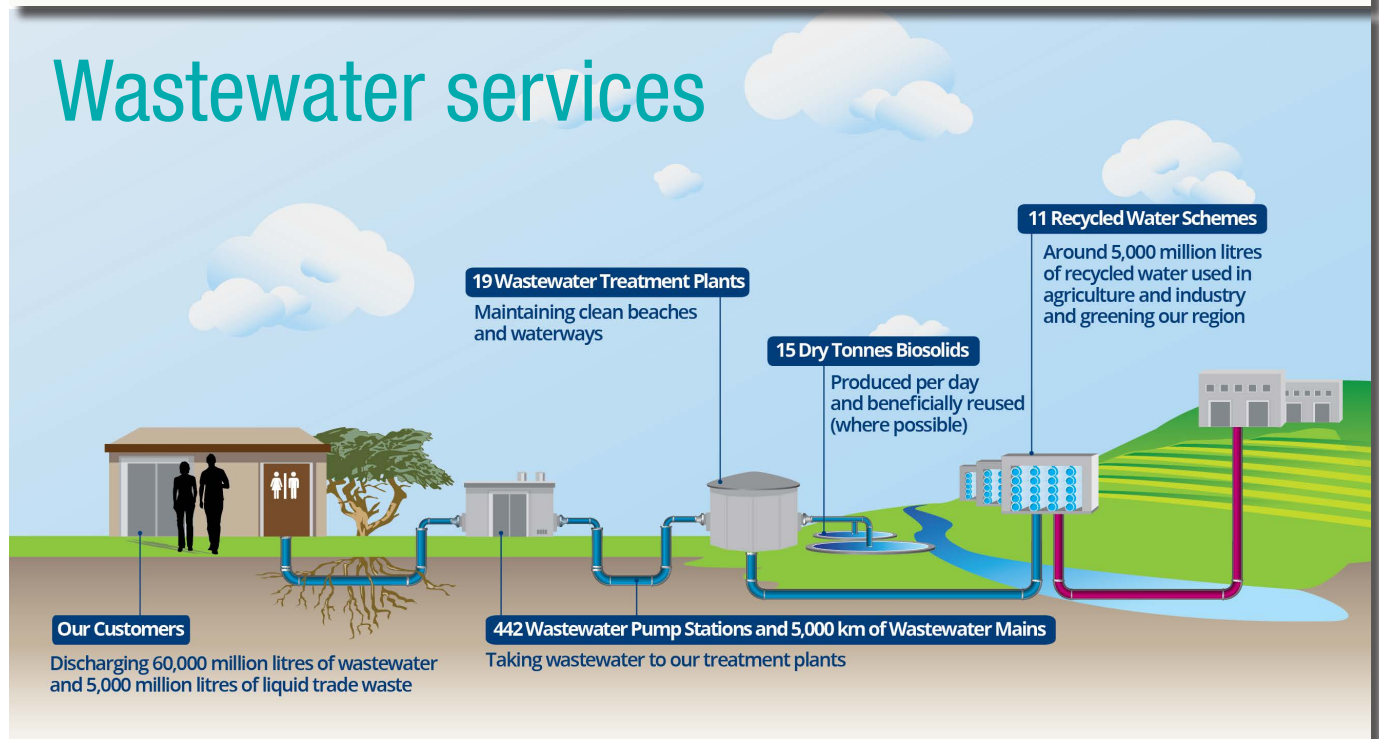
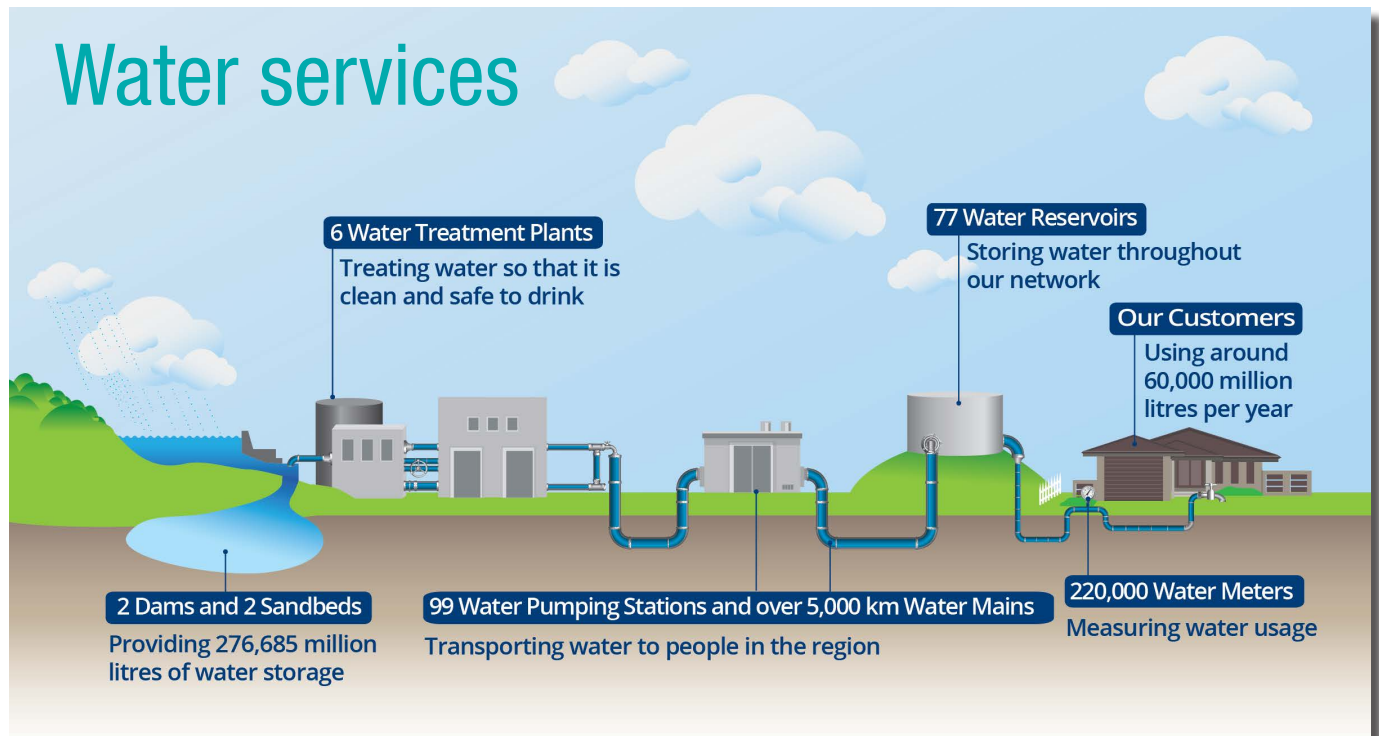
We provide services to our customers by building, operating and maintaining a portfolio of water, wastewater and stormwater assets. Our prices are based on a regulatory asset base with a value of approximately \$2.9 billion.

We collaborate with stakeholders, advocacy groups, and all levels of government so that together we can achieve value for money customer and community outcomes.

Provider of essential services

Hunter Water is owned by the NSW Government. The *Hunter Water Act 1991* and *State Owned Corporations Act 1989* established Hunter Water and set out our principal functions.

IPART provides independent regulatory decisions to protect the ongoing interests of customers, consumers and citizens of NSW. IPART regularly reviews and sets prices for most of our services, as we are the only provider of these services for most of our region.



Our customers




Contractually, our customers are the owners of properties connected to our water and wastewater systems, or located within declared stormwater drainage areas. We also need to consider the requirements of consumers – all people and businesses that use our services, including tenants and visitors – and the wider community who are impacted by our infrastructure and operations because they enjoy the region’s natural assets, such as clean beaches and waterways.

We take an ‘always on’ approach to understanding our customers and their views and preferences.

Being ‘always on’ means that every interaction we have with community members is seen as an opportunity to learn.



EACH YEAR

-  **8,105** SOCIAL MEDIA FOLLOWERS
-  **115,068** ENQUIRIES
-  **1,300 MILLION** WEBSITE PAGE VIEWS
-  **10,137** ONLINE ENGAGEMENT PLATFORM VISITORS
-  **1,920,000** NEWSLETTERS DISTRIBUTED



Households
95%

82% live in separate detached houses.
28% are tenants.



Businesses
5%

18% are trade waste customers. Businesses vary significantly from retail traders to schools and hospitals to mining and manufacturing.



Builders, property developers and plumbers
Future

We facilitate connections to approximately 3,200 new properties each year.

Major projects and outcomes

Our activities and service levels are set through a combination of regulatory requirements, critical risk reduction, efficiency improvements and understanding what our customers value and are willing to pay for. We have categorised these into five broad areas that provide a snapshot of some of the services we provide, or propose to provide, for the price our customers.



Quality drinking water

We aim to provide water that is safe to drink and looks and tastes appealing to customers.

We propose:

\$18m to ensure that Grahamstown water treatment plant can continue to produce high quality water as our region grows

\$5m to optimise disinfection with chlorine throughout the water network so that our water is safe to drink and meets Australian guidelines



Customer experience

We aim to be easy to deal with and ensure that our customers are satisfied with the service provided.

We propose:

\$5m for electronic billing, online services and proactive notification of service faults

Transitioning from triannual to quarterly billing



Water conservation

We aim to provide sufficient water to meet our customers' reasonable needs while valuing water as a precious resource.

We propose:

\$33m on reducing water leaks within our system, to deliver long-term net benefits

Four water efficiency programs with residential and business customers, saving over half a million litres per year



Safe and reliable services

We aim to minimise unplanned interruptions to services, provide our customers with reasonable water pressure and minimise wastewater overflows.

We propose:

\$16m to protect the community from flooding risks due to burst water pipes

\$38m to replace pipes and mechanical and electrical components in the water network to ensure continuity of supply

\$7m for technology that will allow better monitoring and control of our assets (intelligent networks)



Environmentally responsible

We aim to manage environmental impacts and use natural resources wisely.

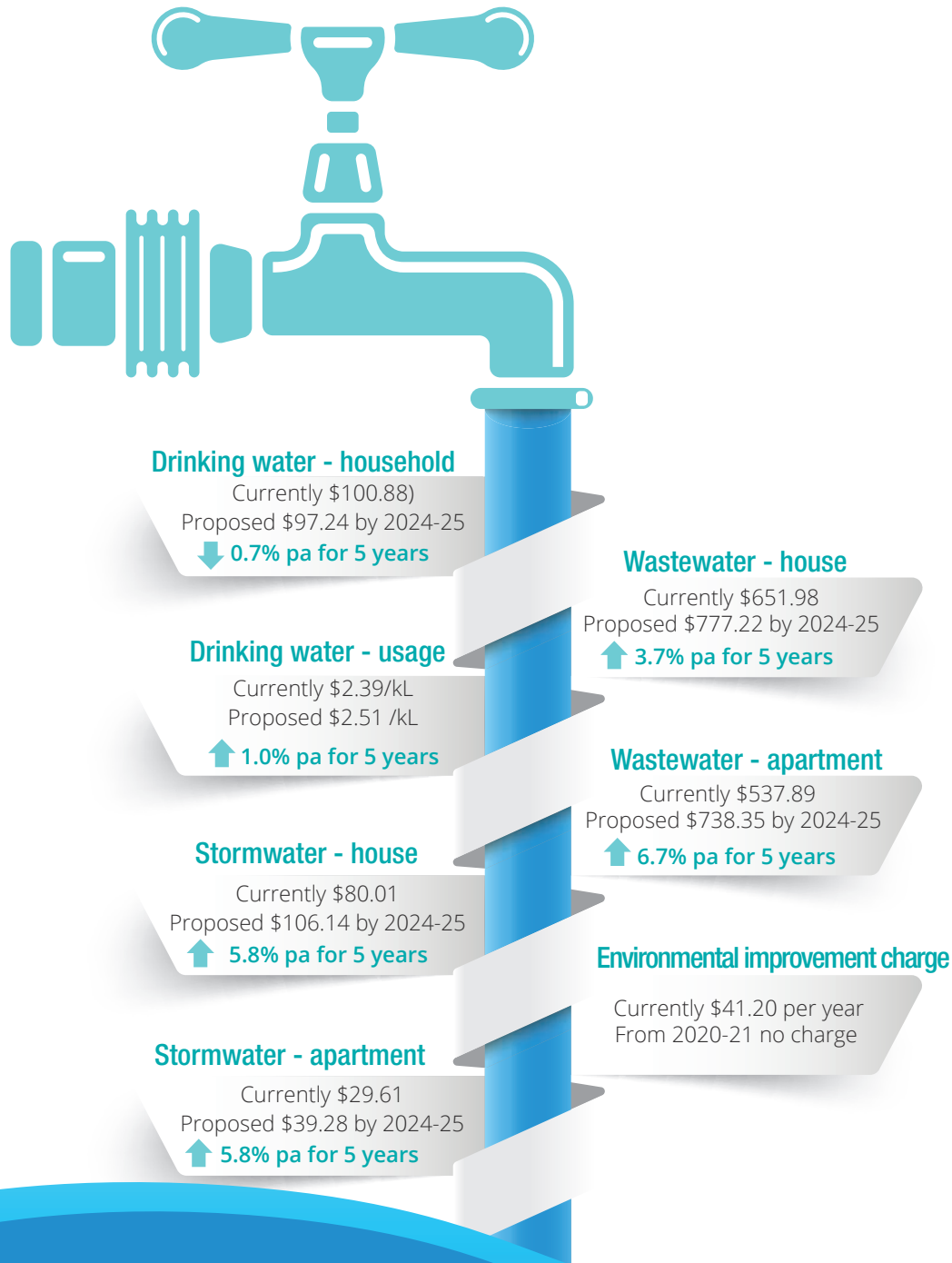
We propose:

\$424m to address the risk of non-compliance with environmental regulations in our wastewater network and at our wastewater treatment plants and protect our environment

\$11m for naturalisation of concrete stormwater channels to improve amenity and liveability

\$11m for recycled water for irrigation of parks and ovals to improve amenity and liveability

Our proposed prices (before inflation)



We plan to invest in infrastructure, technology and people to maintain and improve our service levels, so that we provide better value for money, in line with customer preferences.

We propose a transition path to align wastewater charges for apartments and houses because most households prefer to have the same charge regardless of dwelling type.

The majority of our customers do not support a separate household charge for wastewater usage.

We propose increasing the water usage charge because:

- It gives customers a degree of control over their bills.
- Most customers prefer to maintain, or increase the variable charge.
- It reflects our costs.

What this means for customer bills

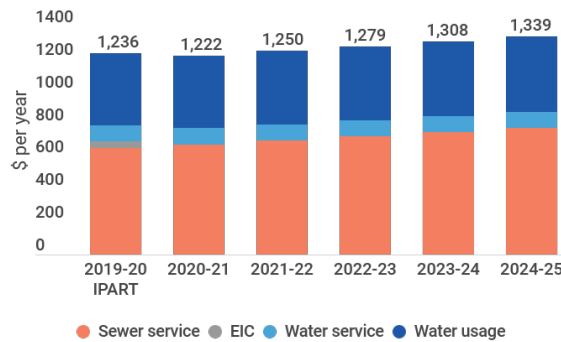
How much customer bills would change based on our proposed prices depends on how much water is used and whether they are in an area where we provide stormwater services.

A sample of customer bills and the impacts of price changes are provided below. The examples listed are in this year's dollars (2019-20) before inflation.

Stand-alone house



185 kL per year water use

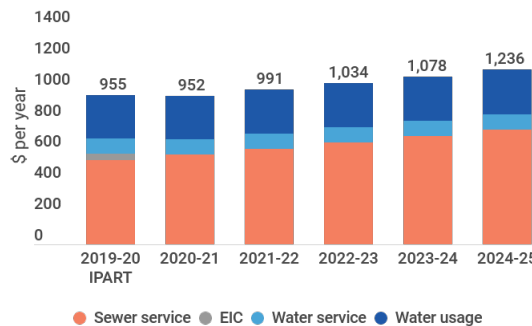


1.6%
per year

Apartment



115 kL per year water use

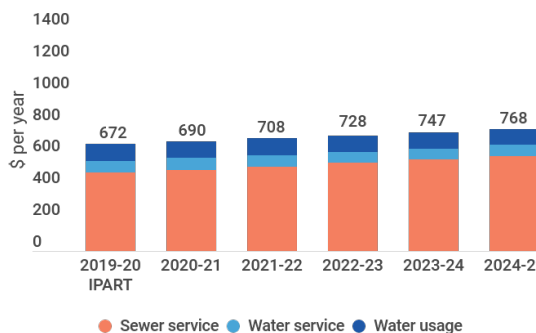


3.3%
per year

Pensioner (in a house)



100 kL per year water use



2.7%
per year



Having trouble paying?

If you experienced a high bill and are having difficulty paying, we're here to help you identify payment options.

Want to know more? Visit hunterwater.com.au/assistance

Next steps

Hunter Water's pricing proposal was lodged with the Independent Pricing and Regulatory Tribunal (IPART) on 1 July 2019.

IPART will scrutinise our proposal and undertake a public consultation process, providing multiple opportunities for community comment. We encourage everyone to have their say.

IPART will release an Issues Paper on 10 September 2019, which will invite written comment on specific topics and our proposed expenditures and prices. The submission closing date is 14 October 2019.

IPART will hold a formal public hearing in Newcastle on Tuesday, 26 November 2019. The location and times will be advertised in local newspapers, on IPART's website and via our communication channels.

IPART will release a draft determination of prices in March 2020 and provide a further opportunity for public comment at that time. Final IPART determined prices will take effect from 1 July 2020.



Participate in IPART's review of prices for Hunter Water

Comments can be made online at www.ipart.nsw.gov.au or by mail to:

Review of Prices for Hunter Water
IPART
PO Box K35
Haymarket Post Shop NSW 1240

**Revegetated
site of the
former Morpeth
Wastewater
Treatment
Plant**



Context

Hunter Water's 2019 Pricing Proposal describes and explains our past and planned investment in infrastructure and services during the 2016 to 2020 regulatory period and details our proposed expenditure programs for the period 2020 to 2025.

The pricing proposal draws together all of the key information on service levels, the forward capital works program, operating budgets, revenue requirements and proposed prices. We document our commitment and efforts to engage with our customers, and how we have reflected the feedback and learnings from this work in our future plans.

Hunter Water's household water and wastewater bills have been the lowest, or close to lowest, in the country for more than five years. Our business and industrial customers have enjoyed the same prices. We have managed to offer affordable services by keeping our costs low. Our operating costs per property are near the lowest in Australia, and capital expenditure per property is well below the average of our peers.

We manage a full vertically-integrated water business, and have benefited from more than a century of astute investment in our dams and borefields. We service an area of operations that is half the size of Sydney Water, but with one-tenth the customer base. We face the challenges of strong population growth in the Lower Hunter, ageing infrastructure, delivering environmental improvements and meeting customer expectations about service levels and ease of transacting.

Other the last two price periods we faced financial pressures and performance against key credit metrics indicated that unless changes were made then future borrowing costs would increase. We sold non-core assets and tightly controlled both capital expenditure and operating budgets.

We halved our capital program in 2013 and held it at that level in 2016. These actions helped to keep prices low and partially addressed credit metric concerns, but operational performance data shows that these low levels of investment could not be sustained. We focused our attention on meeting compliance obligations for core water and wastewater services. We accepted a medium level of risk for all compliance obligations. We delayed or downsized infrastructure work where we could. We did not offer technology-enabled customer service choices that are now commonplace across the utility sectors and local councils.

Our performance was deteriorating, especially when compared with other major Australian water utilities:

- Highest leakage of the 15 utilities in our cohort for several years – potentially triggering investment sooner than required.
- Bottom few for wastewater main breaks and chokes per 100km of wastewater main – creating environmental risks.
- Bottom third for water main breaks per 100 km of water main and average duration of unplanned water interruptions – inconveniencing customers.



Hunter Water's 2017+3 Strategic Plan

The Board of Hunter Water developed and adopted a new strategy in 2017 that took a more balanced approach to planning and investment. We took action in five priority areas:

Priority 1: Using our Enterprise Risk Management Framework to target investment:

We undertook a comprehensive review of all risk areas building on our existing Enterprise Risk Management Framework. This work has driven a re-assessment of our investment priorities. The framework incorporates risk rating tools using a consequence, likelihood and risk matrix. Our corporate risk profile identifies 21 key risk areas across 1,300 risk driver events. The Board explicitly defined 14 risk appetite statements setting out expectations in managing each risk area and allowing the business to target investments and resources. Each risk appetite is aligned with a target risk level – very low, low, medium and high. For example, the Board has a very low risk appetite for running out of water and critical safety risks. We've built these risk assessments into all business cases and board papers. We have developed risk treatment plans for those risk areas that are outside of tolerance, being mindful of bill impacts for customers and tolerating a longer timeframe to reduce less critical risks. Our forward capital program is driven in large part by the outcomes of this work.

Priority 2: Managing water as a precious resource

In 2016, demand for water was growing and a decision on a major additional supply solution may have been needed within 5 years as part of the next Lower Hunter Water Plan. We increased our investment in leakage management, resulting in a 20% reduction in water loss per year. We invested in understanding customer water-use behaviours. We have had encouraging results from our 'Love Water' campaign – our new approach is achieving a 3 to 4% reduction in water climate-corrected consumption across our region. Each year we defer major source augmentation saves customers about \$20 million in avoided investment costs. We are aiming to achieve a further reduction in leakage of 15% by 2022 and working with our customers to see if we can reduce residential demand by 10%.

Priority 3: Understanding our customers' values, preferences and priorities

We have made a concerted effort to engage broadly and deeply with our customers, ensuring there are meaningful opportunities for a variety of people to participate on topics ranging from customer service experiences to willingness to pay for us to deliver specific, discretionary liveability services. We have incorporated customer feedback into our business plans and activities.

Priority 4: Striving for productivity and efficiency gains

We have developed a new approach to energy management to offset rising electricity costs. We will use electricity more efficiently by optimising pump operations, procuring electricity in a way that allows us to curtail our load and reduce costs, and taking our first significant steps into renewable energy. As we embrace technology, our networks will be more efficient, easier to control and less prone to the risk of failure.

Our civil maintenance activities now rank in the first quartile relative to our water industry peers and our recently renegotiated Enterprise Bargaining Agreement will facilitate further productivity improvements. We are also offsetting higher spoil disposal costs by maximising reuse and minimising the volume of spoil going to waste.



Priority 5: Catch-up investment in IT to improve business productivity and interact with customers

Hunter Water recognised that we lagged behind our water peers and many other utilities in the way we use technology to run our business and manage information. Our maintenance and field workforce management system is 20 years old, our billing system is 15 years old and our financial management system is 15 years old. We cannot move forward without first establishing a solid ICT foundation, bringing us in line with other network utilities.

We are working to ensure our customers have access to up to date ways of communicating with us, paying bills, registering complaints, requesting services and providing feedback on our performance.

A commitment to long-term service and infrastructure planning

Hunter Water's 2017+3 Strategic Plan made a considered and deliberate decision to invest more time and effort into our long-term business planning. Research shows that 'systems thinking' and 'adaptive planning' will reveal better and more efficient solutions to delivering reliable, safe and affordable water and wastewater services. We've concentrated our efforts in three core service areas.

Water resilience

With strong population growth, we can no longer rely on the legacy of past investments in our bulk water system without shifting supply or demand. A 10% reduction in water demand would defer an investment in a dam or desalination option by 5 years. Each year we defer a major augmentation saves our customers \$20 million in avoided investment costs. Keeping our options open would add an additional \$9 million in avoided costs, in excess of the direct deferral benefit, due to the ability to take advantage of shocks and shifts to the yield-demand balance (e.g. technological change) that further defer the need for a source augmentation.

Building on the results we've achieved in the last two years, we are proposing to invest a further \$33 million in reducing leakage across the 2020-25 price path. We expect to reduce the volume of leakage by a further 1.7 gigalitres per year. We will continue to invest in encouraging lower water use under the Love Water initiative.

Energy efficiency projects

Electricity accounts for 10% of our operating expenditure and contributes more than 70% of our scope 1 and 2 emissions. More than 90% of our customers support taking action now to address climate change and 78% are willing to pay a little extra to reduce our greenhouse gas emissions.

We've focused on using electricity more wisely and looking at alternative procurement models. In parallel, we are proposing to spend \$16 million in renewable energy generation. This will reduce electricity consumption and operational costs, and our greenhouse gas emissions. Behind the meter solar energy generation will lower our electricity bill by around \$1.1 million per year and reduce our greenhouse gas footprint by 15%. We are investigating other ways to reduce our energy costs and reduce greenhouse gas emissions, including energy efficiency projects, power purchasing agreements and waste-to-energy options.

Biosolids management

Each year we produce about 40,000 wet tonnes of biosolids from our 19 wastewater treatment plants. Around 80 to 90% of the biosolids are beneficially reused through land application for farming and mine site rehabilitation. Should these reuse markets for odorous or less stabilised biosolids change, we would need to dispose of the biosolids to landfill at a cost of around \$12 million per year.

More importantly, we face that likelihood that environmental compliance requirements will tighten. This would require upgrades at individual wastewater treatment plants to meet improved stabilisation grades. Through long term planning, we have identified cost-effective alternatives that involve centralised biosolids treatment approach with energy recovery. It is important that we continue to investigate these alternatives as they have potential to deliver ongoing energy cost savings. Energy recovery from biosolids may bring opportunities to generate non-regulated revenue through gate fees for other organic waste – further offsetting costs for our wastewater customers.

Our plan for the next five years

The investment we have made in developing and implementing our 2017+3 Strategic Plan has informed our investment program and decisions that form the basis of this pricing proposal.

The financial environment in Australia has changed since our 2015 price submission. Our borrowing costs have fallen dramatically in the past six months. Our work on classifying asset lives increases our regulatory depreciation allowances, resulting in a marked improvement in our credit metrics. This means we can continue to invest in the focus areas and long-term planning while maintaining an affordable service and improving our financial position.

Under our pricing proposal, capital expenditure would remain lower than pre-2014 levels and our operating expenditure per property would remain in the most efficient quartile in the Australian water sector. We will prudently address risks and deliver better frontline services. We will deliver the same or better levels of asset performance and better environmental outcomes. We will use technology to make it easier for our customers to interact with Hunter Water and to improve our efficiency.

We have proposed real indicative price and bill increases of 2.6% per year based on revenue modelling at the start of 2019. Given the recent fall in our financing costs, we now anticipate an indicative price and bill impact of less than 1% per year for most customers.

We consider that we are offering a value for money package for our customers in the next regulatory period. We look forward to IPART's 2019-20 price review and the further opportunities we will have to engage in the next stages of the public consultation process.



Engaging with our customers and community

Contractually, our customers are the owners of properties connected to our water and wastewater systems, or located within declared stormwater drainage areas. We need to understand and learn from our current customers and those who will be our customers in the future.

We have developed customer segments based on clustering residential households with similar characteristics. Understanding customer segments will help us to provide better services through targeted communications and encouraging uptake of digital services by segments most receptive to technological change.

We also work closely with our community - those who are engaged, invested in, contribute to or are impacted by the decisions we make - including stakeholders and advocacy groups.

‘Always on’

engagement underpins our customer and community interactions & activities

Our ‘always on’ approach enables us to learn, improve and adapt to meet the challenges and opportunities that Hunter Water faces from increasing population, and changing customer expectations.

Our customer and community engagement aims to:

- Listen and learn with our customers to understand and appreciate their values, preferences and priorities
- Provide genuine opportunities for customer participation in our decision-making processes
- Enable the community to understand our challenges and how decisions are made
- Build strong and trusted relationships and partnerships with key stakeholders
- Create advocates to change water use behaviour – for example, the Love Water campaign



Hunter Water’s residential segments



Secure Tranquility

12%



Middle Australia

27%



Ageing Gracefully

19%



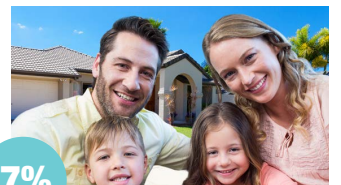
Affluent Families

10%



Millennial Workers

9%



Brand New Lifers

7%



Supported Suburbans

16%

Gauging perceptions of our overall performance

Research, findings, insights and direct feedback allow us to understand aspects of our services where customers think we are doing well and where there are opportunities to improve. We took part in a national customer perceptions survey, run by the Water Services Association of Australia in 2017 on behalf of 34 Australian and New Zealand water utilities and involving over 8,000 customers.

This benchmarking has helped us to determine the drivers of value and satisfaction for residential customers.

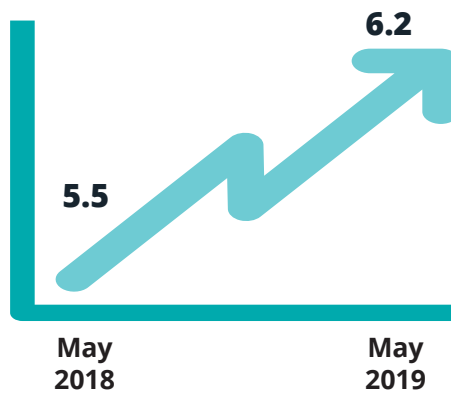
Our integrated approach to engagement enables us to reach a wide range of customer, community and stakeholder groups (physical, social, cultural and demographic). We provide opportunities for a variety of people to share their views through many different engagement channels.

A national study found that our customers rate us better than other water utilities, including in value for money

Value for money scores across jurisdictions



Our value for money scores over time



In our bi-monthly automated surveys, customer ratings have been improving for the value for money that we provide.

Overall satisfaction



Reputation



Trust



- Hunter Water
- NSW average
- Aus & NZ average



DELIBERATIVE FORUMS



CUSTOMER & COMMUNITY ADVISORY GROUP



ONLINE AND DIGITAL



STAKEHOLDER FORUMS



SURVEYS



PROJECT BASED



EVENTS











SOCIAL MEDIA

What our customers want



As part of our ‘always on’ approach to listening and learning with our communities, we engaged specifically with customers to provide guidance on the services we provide, activities we perform and prices we propose our customers pay in 2020-25.

| WE ASKED | CUSTOMERS SAID | WE PROPOSE |
|--|--|--|
|  <p>Service improvement</p> | <p>Customers want to be proactively notified about service outages via phone/SMS/email and want self-service access to water usage information.</p> | <p>We propose investing in technology that will provide this type of capability from 2021, with additional functionality provided in 2022.</p> |
|  <p>Billing</p> | <p>Bills are currently only available by paper but most customers would prefer to receive their bill by email.</p> | <p>We propose providing technology so that customers will be able to choose to receive their bill via email, from 2020</p> |
|  <p>Electronic services</p> | <p>Over 70% of land developers would like to perform routine transactions such as application tracking, online.</p> | <p>We propose providing online self-service capability to land developers from 2021.</p> |
|  <p>Stormwater amenity</p> | <p>Over 70% of our customers are willing to pay more so that Hunter Water can invest in bank work and landscaping of open stormwater channels.</p> | <p>We propose spending \$11m on improving at least 1 kilometre of landscaped stormwater channel.</p> |
|  <p>Recycled water for public parks</p> | <p>Over 70% of our customers are willing to pay more for Hunter Water to increase the amount of wastewater turned into recycled water for irrigation of parks and sporting grounds.</p> | <p>We propose spending \$11m on delivering additional recycled water for irrigation of public open space.</p> |
|  <p>Fixed & variable water charges</p> | <p>A majority of residential customers in our survey preferred a water usage charge at, or above, the current charge of \$2.39 per kilolitre. Customers had mixed views about keeping or ending the discounted water usage charge for the 20 users located close to trunk infrastructure.</p> | <p>We propose increasing the variable charge to \$2.51 per kilolitre and phasing out the discount for large users over five years to encourage water conservation.</p> |
|  <p>Household wastewater charge</p> | <p>Most residential customers prefer houses and apartments to pay the same fixed charge, regardless of dwelling type.</p> | <p>We propose moving towards a common charge for all households over 7 years, continuing the transition started by IPART in 2013.</p> |
|  <p>Wastewater usage charges</p> | <p>Most residential customers prefer the current arrangement where there is no explicit wastewater usage charge for households.</p> | <p>We do not propose introducing a wastewater usage charge for households based on an assumed level of discharge.</p> |

Read more on our customer engagement in **Technical Paper 1**



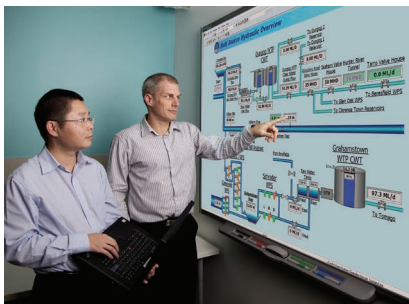
Safe and reliable services

We provide safe and reliable services that meet the requirements set out in our Operating Licence, customer contract and other regulations

We aim to:

- Meet system performance standards for water pressure, water continuity and wastewater overflows.
- Provide reliable services at the lowest possible cost taking into account factors that influence our performance, such as weather, asset condition, asset configuration and operational practices.
- Control safety risks to employees, suppliers, contractors and the community from our infrastructure and operations.
- Provide financial rebates that recognise the inconvenience caused to customers if we fail to deliver reliable services.

Case studies



Control Centre

Our dedicated Control Centre operates 24 hours a day, 7 days a week and undertakes a variety of essential tasks, including:

- Identifying, triaging and actioning alarms, events and issues through customer calls, computerised monitoring and job management systems.
- Issuing and tracking jobs for maintenance staff to prevent and resolve faults and efficiently run our networks.
- Optimising system configuration and performance in real time to ensure reliable and efficient services are provided to customers.



Leveraging technology

We are using technology to effectively manage our assets, operations and maintenance. This helps to reduce our costs and improves service outcomes for customers.

- Completing upgrades to our computerised control systems that automatically control our pump stations and treatment plants.
- Replacing our outdated jobs management system with a modern equivalent (field service model).
- Investing in technology that will allow better monitoring and control of our assets (intelligent networks).



"I opened the door and it was like a river running through the house."
Affected resident quoted in Newcastle Herald 22 Sep 2017

Critical main safety programs

Over the last 10 years, Hunter Water has experienced a small number of trunk main failures that resulted in significant flooding into residential dwellings, posing risks to community safety.

Flooding from a pipe break usually does not present a safety hazard as the energy from the water is lost as the water spreads. However where the flow of water is concentrated, pipe failures can have the same destructive power as flood waters.

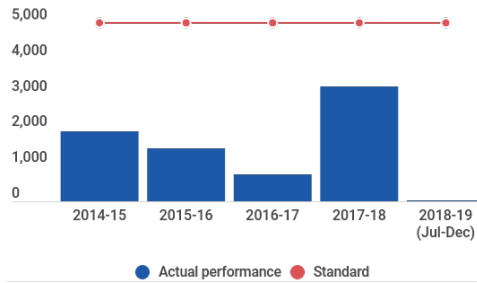
We have the lowest possible appetite for risk of loss of life or serious harm. We propose to spend \$16m on a program of mitigation measures including detailed site risk assessments, pipeline condition assessments, improvement works and pipeline renewals and lining. This builds upon innovative work initiated in the current price period in which we have targeted the most serious risks first.

Current performance

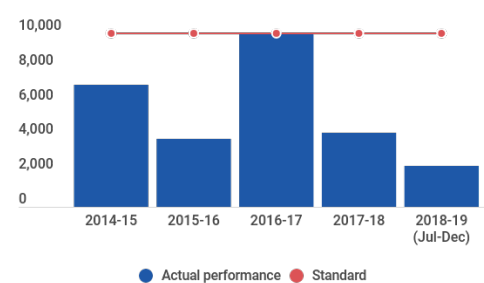
Water continuity

Unplanned interruptions typically occur due to failures in infrastructure, such as water main breaks. In most years we comply with the two minimum system performance standards in our Operating Licence for the number of properties affected by unplanned water interruptions. A few major events can put achieving the strict limits at risk.

Properties with 3 or more, unplanned interruptions lasting more than 1 hour



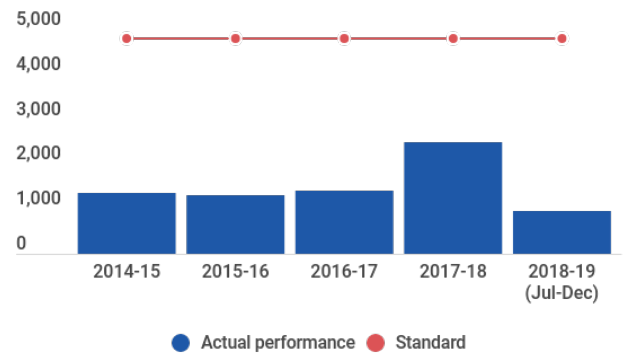
Properties with 1 or more, unplanned interruptions lasting more than 5 hours



Water pressure

We use reasonable endeavours to ensure drinking water is provided at a minimum of 20 metres head of pressure at the connection point of each property to the water supply system. We meet our Operating Licence system performance standard for the number of properties affected, however there are a number of customers that receive permanently low pressure.

Properties affected by low pressure



Major projects and outcomes



Water interruptions

- We are proposing an investment of \$23m to replace pipes in the network and \$15m on mechanical and electrical components to ensure that customers continue to receive a continuous water supply.



Water pressure

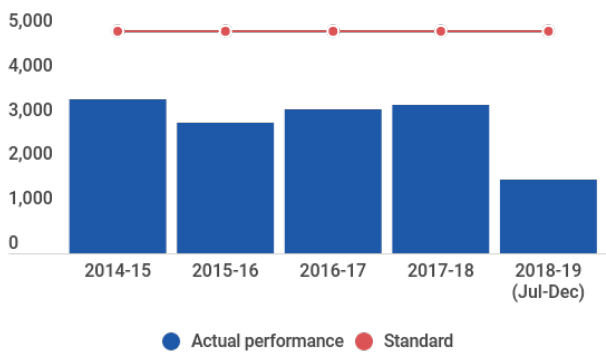
- We are proposing an investment of \$32m to improve network water pressure including construction of a new reservoir at Cameron Park (\$5m Stage 1) and a trunk main upgrade in Cessnock (\$3m Stage 1).

Current performance

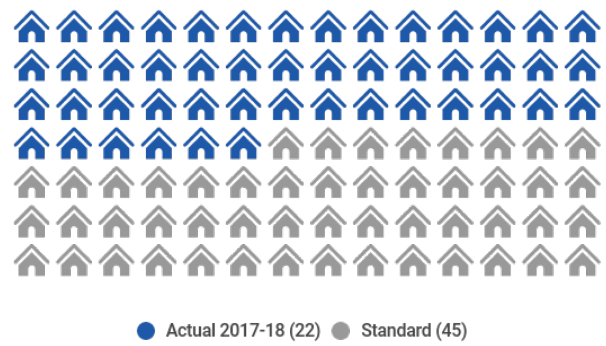
Wastewater reliability

Our customers tell us that issues with the wastewater system are the most inconvenient. While we have been meeting the two required system performance standards for wastewater overflows, we need to maintain our focus so that we continue to comply. In comparison with other Australian water utilities, we rank the third worst for both wastewater complaints and the frequency of breaks and chokes. We need to continue to invest in improving our wastewater reliability performance.

Properties with 1 or more wastewater overflows



Properties with 3 or more wastewater overflows



Ranked **12**

out of 14 major urban water utilities for wastewater complaints



Ranked **13**

out of 15 major urban water utilities for frequency of wastewater main breaks and chokes



Major projects & outcomes



Wastewater overflows

- We will continue to minimise inconvenience and damage by containing the overflow and cleaning up the affected area as quickly as possible.
- We are proposing an investment of \$21m on replacing and relining aging wastewater mains.
- We will continue to analyse wastewater overflow data to identify hotspots and develop localised initiatives to improve performance.
- We are proposing an investment of \$11m in reducing the risk of overflows at our wastewater pumping stations to minimise customer and environmental impacts.

Read more on our service levels in **Technical Paper 2**



Environmentally responsible

We treat wastewater to an appropriate quality and ensure that all our operations are undertaken in an environmentally responsible manner.

We aim to:

- Ensure compliance with all applicable environmental legislation and regulations.
- Meet community expectations about environmental performance.
- Pursue outcomes related to ecologically sustainable development.
- Manage environmental impacts and use natural resources wisely.
- Use empirical data and modelling on nutrient levels to target investment.

Case study

Wastewater investment to keep waterways clean

Hunter Water plans to invest more than \$424 million over the next five years for major infrastructure upgrades to ensure the ongoing reliable operation of our wastewater system.

The Greater Newcastle Metropolitan Plan has forecast an additional 160,000 people in the Lower Hunter over the next two decades. Servicing a fast growing region will continue to place pressure on our ability to comply with Environment Protection Licence (EPL) conditions.

Maitland is one of New South Wales’ fastest growing areas outside of Sydney. We propose investing \$57 million to upgrade Farley Wastewater Treatment Plant to improve the quality of treated effluent discharged to Fisheries Creek. A further \$23.6 million will provide a new pipeline to redirect treated effluent to a new discharge point on the Hunter River and for agricultural reuse, because Fisheries Creek cannot support an increase in nutrient loads from additional connected customers.

A \$13.6 million upgrade is also proposed for Morpeth Wastewater Treatment Plant, without which it is likely to exceed EPL load limits within the next price period. In the absence of an upgrade, the clarifier capacity may be exceeded by 2023, resulting in regulatory action by the EPA.

Over the coming years we will overhaul the Dungog Wastewater Treatment Plant, which Hunter Water acquired 11 years ago, that has only seen minor upgrades in its 90-year service life. It is currently overloaded - serving approximately 3,000 equivalent persons compared with a capacity of 1,900. The project will mitigate risks of structural failure, non-compliance with EPL limits and non-compliance with the Australian Guidelines for Water Recycling reuse quality.

Across the region we will also be investing in upgrades at Burwood Beach (\$14 million), Raymond Terrace (\$17.2 million), Cessnock (\$16.7 million) and Dora Creek (\$10 million) wastewater treatment plants to ensure their ongoing reliability for years to come, while a further \$12 million will be spent across Lake Macquarie to reduce the impact of wastewater overflows on our customers and the environment.



Recreational water quality

Water-based recreation is an important part of the lifestyle enjoyed by residents and visitors to the Hunter Region. Hunter Water has a key role to play in enabling that lifestyle by maintaining waterway health.

The 2017-18 State of the Beaches report published by the Office of Environment and Heritage shows excellent recreational water quality in our area.

With the forecast growth of our region, and the ongoing need for asset renewals, substantial investment is required to continue to keep our waterways clean.

100%

of ocean beach locations graded good or very good

62%

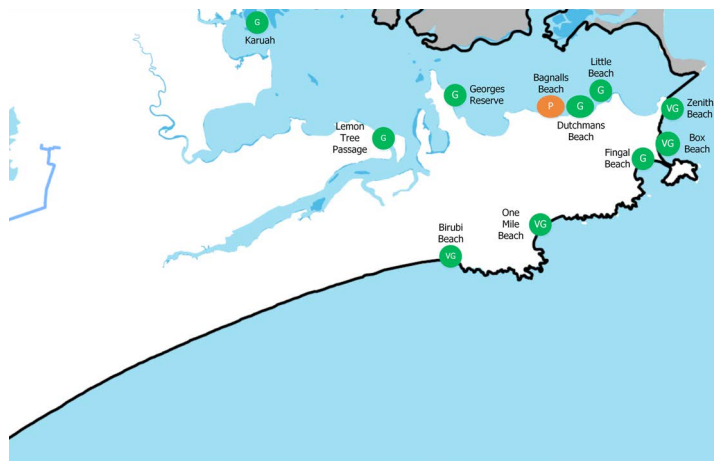
of lake locations graded good or very good (state average = 45%)

**32/38
(84%)**

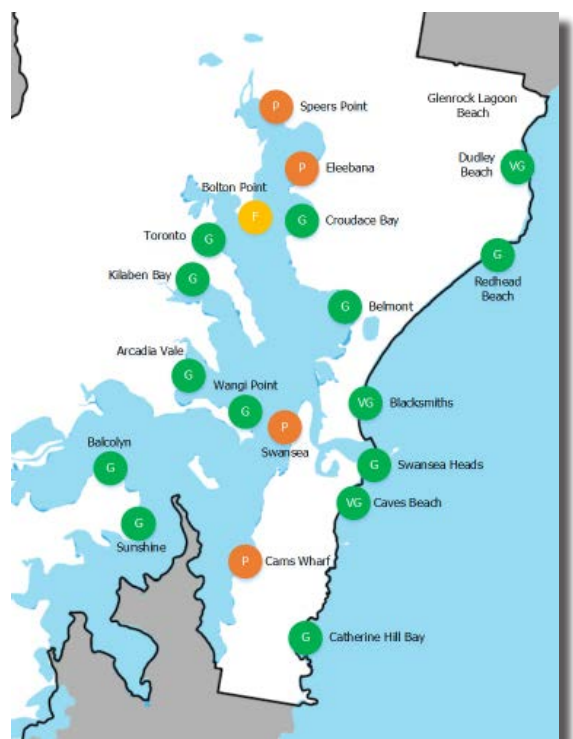
of all locations graded good or very good

7

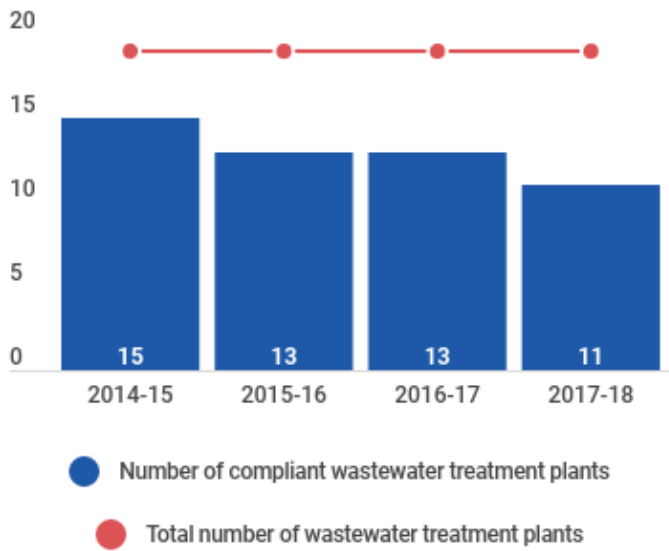
locations improved in 2017-18



LOCAL GOVERNMENT AREA'S



Current performance



100%
of Pollution Reduction Programs mandated by the NSW EPA completed by the required date



Environmental Management System certified to ISO 140001

The Environment Protection Agency (EPA) sets conditions for the operation of our wastewater treatment plants, that aim to minimise the potential harm to human health and the environment from the release of wastewater (treated and untreated). We aim to be fully compliant with the EPA's conditions. Reasons for non-compliances over recent years have varied, such as equipment malfunction, tightening conditions, biosolids disposal and power failures caused by storms. Hunter Water has a low risk appetite for any material breach of environmental laws. We are proposing a substantial investment program to bring us back into compliance.

Major projects and outcomes



Hunter River Estuary Masterplan

We are developing a masterplan to provide strategic guidance on the best value configuration and technology at the five major wastewater treatment plants that discharge into the Hunter River Estuary. These treatment plants receive wastewater from 25% of our customer base and are projected to breach Environment Protection Licence load limits in the next ten years as growth occurs. The investment required to address compliance may be \$200m to \$350m, so the masterplan is important to inform and optimise our approach.



Seaham weir modifications

We are modifying the barrier between the fresh water and the salt water at Seaham to comply with a Water Sharing Plan and fisheries legislation. This \$5m investment will improve releases of water to the environment and aid fish passage.



Lake Macquarie effects-based assessment

We are trialling a science-based approach to model and assess the risks and impacts of stormwater and wastewater overflows on the lake. We will use the model outputs to prioritise system upgrades.



Wastewater odours

We will continue to manage our treatment plant processes carefully, and to chemically treat wastewater to reduce odours.

Customer experience

Our customer engagement activities enable us to understand our customers and deliver better services that meet their needs and preferences.

We aim to ensure that our customers:

- Find Hunter Water easy to do business with.
- Have their queries, requests and issues successfully resolved in an acceptable timeframe.
- Are satisfied with the service provided.

Major projects and outcomes



Online forms & web applications

We have recently launched website forms for high-volume customer activities including direct debit, pensioner rebates applications, lodging a complaint, advising of a water leak, and short term payment plan requests.

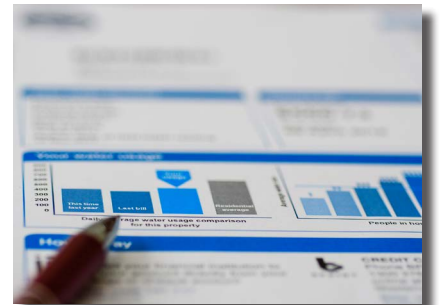
There has been excellent uptake across all offerings. We are proposing to expand choice in how our customers interact with us.



Digital interaction

Website traffic is continuing to increase by up to 5% per month, receiving an average of 1,000+ visitors per day.

Building on growing interest in digital interaction, we will soon launch a new web platform that will be faster and easier to use. We aim to ensure that users are able to self-resolve issues and complete tasks with ease using their preferred channel.



Quarterly billing

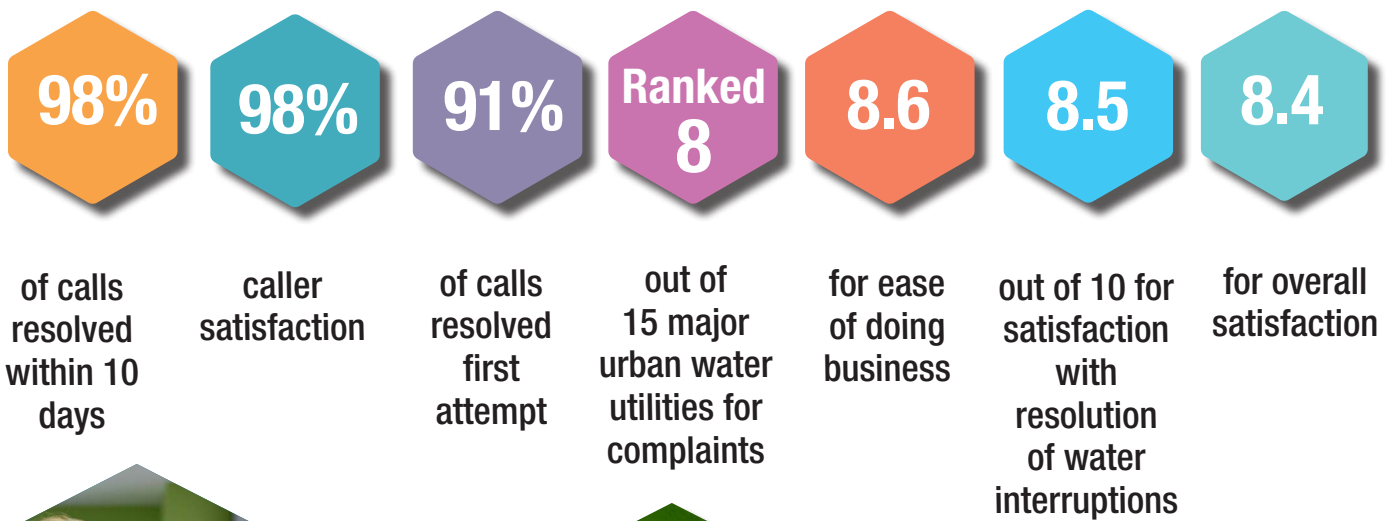
We are proposing to transition from triannual to quarterly billing, which will bring us in line with bill frequency of other water, gas and electricity utilities and local government.

Receiving a bill more frequently improves our customers' ability to budget effectively, helps customers identify any water leaks sooner and conserve water.

Current performance

Until recently, we have been amongst the worst performers amongst major urban water utilities for customer complaints. We did not track customer satisfaction on a regular basis and our customer experience monitoring was limited.

From 2017 we made a concerted effort to engage with our customers to understand their preferences and priorities. Enabled by digital technology, we have been able to start introducing contemporary tools to enable customers to interact with us more easily. People are complaining less because our services are improving. So far this price period we have nearly halved the total number of complaints per 1,000 properties. We are also tracking customer perceptions and resolution of issues on a regular basis, so we can respond to any anomalies in a timely manner.



Quality drinking water

We provide safe, high quality drinking water by complying with national guidelines, working with NSW Health and listening to customer feedback.

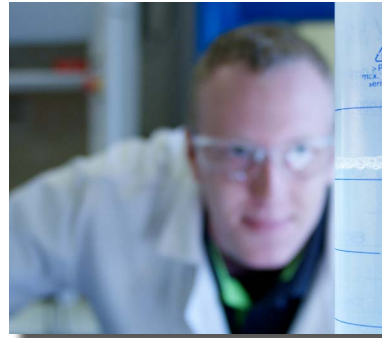
We aim to:

- Take a multiple barrier approach to protecting water quality and public health, as required by the Australian Drinking Water Guidelines to minimise the risk of poor drinking water quality.
- Supply good aesthetic quality water.
- Work closely with the community and stakeholders to help safeguard water quality from catchment to tap.

Strategic priority areas



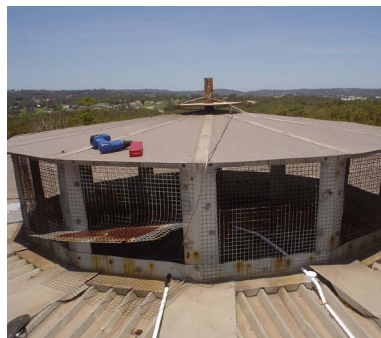
Catchment management



Disinfection



Blue-green algae



Preventing network contamination



Managing discoloured water

Read more on our service levels in **Technical Paper 2**



Current performance

We take pride in our ongoing ability to provide clean, safe water. We are actively managing water quality risks so that we continue to provide high quality water.



Population receiving microbiologically compliant water



of customers provided with a disinfection residual that meets requirements



out of 10 for monthly water quality satisfaction



out of 15 major urban water utilities for water quality complaints

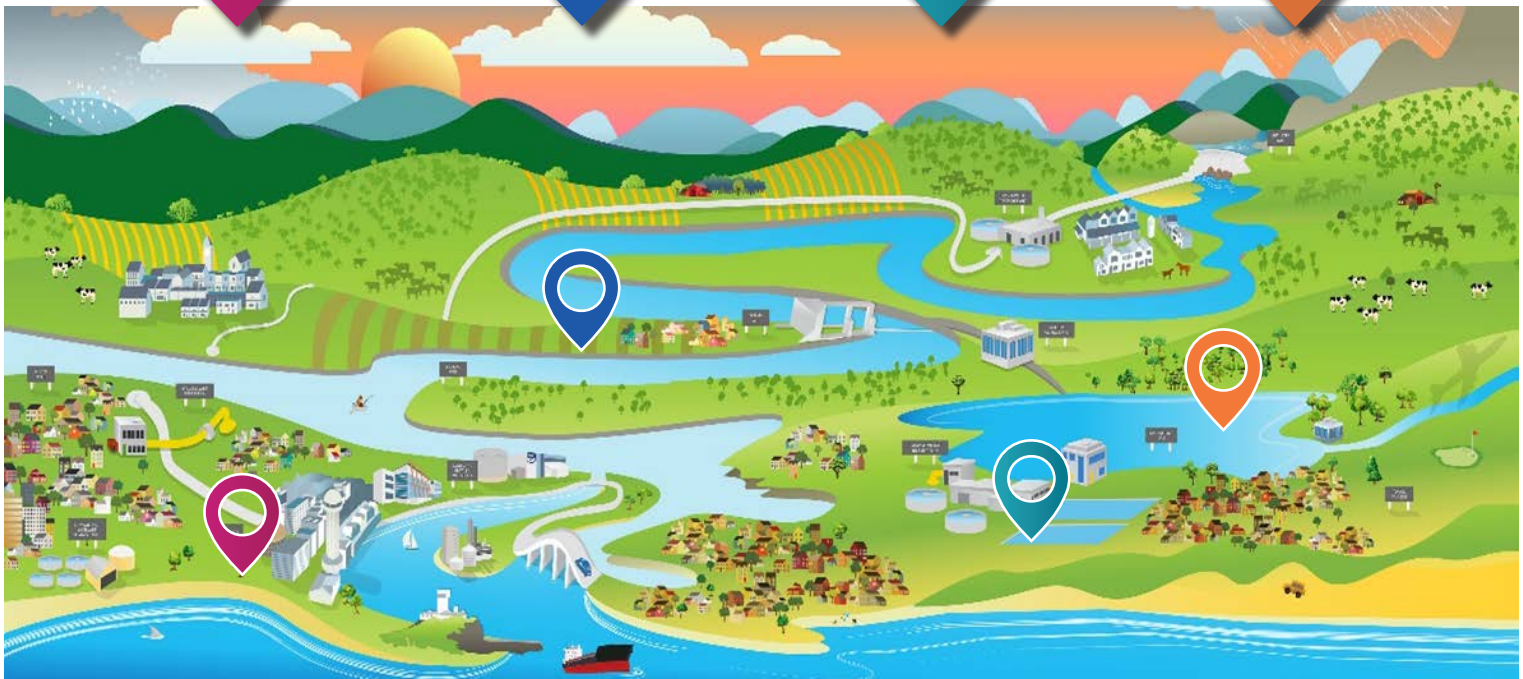
Major projects and outcomes

Improving training so that water does not become contaminated during repair of water mains

Protecting catchments by working with farmers, and managing erosion at Seaham weir pool

Increasing chlorine dosing at treatment plants and in the water network to help keep water disinfected

Preventing algal blooms from forming in dams because they may produce toxins or cause taste and odour problems



Water conservation

We are guardians of a precious water resource. Together we can extend the time we would need to make decisions regarding the next water source and thereby avoid investing too much or too quickly.

We aim to:

- Deliver an integrated water conservation strategy across leakage, demand management, water efficiency and water recycling.
- Remain open to technology and innovations, and to incremental investment which could help avoid, or defer, the need for major supply augmentation investment
- Encourage a 'together we can' approach where we enable customers, consumers and the community to play their part.

Major projects



Households

- We will continue to reduce leaks proactively through our plumbing assistance program.
- Rainwater tank tune-ups to increase the effectiveness of domestic rainwater harvesting systems.
- Engaging with real estate and public housing providers to help tenants save water. About 28% of the residential population that we serve are tenants. As indirect customers, water efficiency messaging is more challenging.



Business

- Management plans and audits of sites with high levels of consumption.
- Partnering with local councils to improve their water resilience through changes to open public spaces that help provide community benefits during times of drought.



Learning together

- Our Love Water campaign aims to engage the curiosity of our communities about water conservation and ultimately bring about water use change.
- Exploring technologies that provide customers with data on real time consumption, where it is economic to do so.
- Researching water conservation behaviour by customer segment.



Innovation

Low-cost pilot programs that have a high potential for water savings:

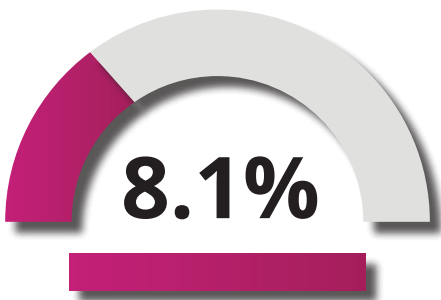
- A Strata Fix program for customers living in apartment complexes with a single meter.
- Appliance and fittings upgrades.
- 'Nudge' messaging to receptive customer segments.

Current performance

In 2016, demand for water was growing and a decision on a major additional supply solution would have been needed within five years. We were the poorest performer in water loss per connection for multiple years in the National Performance Report and this was getting worse year-on-year. In addition to relatively high and increasing leakage from our system, our consumers were using more than the national average and we were targeting little if any investment in trying to encourage modified water-use behaviour.

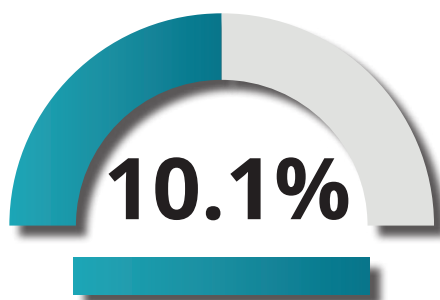
We took immediate action – increasing our investment in leakage management and understanding customer water-use behaviours and how to influence them. Our performance is improving but needs to improve further. We are aiming to achieve a further reduction in leakage of 15% by 2022 and we are working with our customers to see if we can reduce residential demand by 10%.

Water leakage



8.1%
of water sourced is lost to leakage

Water recycling



10.1%
of treated wastewater is recycled

Water efficiency



18%
more water is consumed by Hunter Water households compared with average urban households in Victoria & South East Queensland

Ranked

8



8
out of 15 major urban water utilities for recycling

10



10
out of 15 major urban water utilities for typical household water use

13



13
out of 15 major urban water utilities for real water losses

Case study - Reducing water leakage

We are proposing to invest \$33 million over five years to save water that would otherwise be wasted and reduce the chance of unplanned interruptions, which cause inconvenience to our customers.

This investment provides time to consider future technologies which could help us save more water and potentially delay the need for a new water source indefinitely.

Active leak detection

Each year, our contractors physically walk and check all of our network - more than 5,000 kilometres of water mains. We use 'listening equipment' to identify hidden leaks and water escaping into the ground, which otherwise may not be found - about 25 new leaks each week. A major benefit of the program is finding small leaks, before they get bigger. Large leaks can be very inconvenient for our customers due to water supply interruptions and possible damage to property.

Pressure management

High water pressure in our system contributes to water-main leaks and breaks, and the excessive pressure reduces the life of our assets. Our Operating License states that we need to provide customers with a minimum pressure of 20 meters, but some parts of our network have water-main pressure as high as 80 meters. Reducing water pressure extends the life of our water-mains, reduces leaks and water-main breaks which inconvenience customers.

District metering

District metering involves installing network flowmeters and zone valves to segment the network into smaller 'districts'. Water movement in each district is then monitored and analysed. Any unusual water use may indicate a leak in that district. Dividing the network into segments means we can find leaks more quickly, which reduces costs and customer interruptions. Using smart technology helps us to identify small leaks, before they grow and possibly burst the pipe.

Point sources

This program resolves water lost, or likely to be lost in the near future, at our major assets, including reservoirs and trunk water mains. We have recently rehabilitated and relined the Black Hill Reservoir, which was losing 700,000 litres of water each year.

We are continuing to cut leakage



33% reduction in leakage since 2015-16

As part of our commitment to Love Water, we have made significant inroads in reducing leakage across our water network, contributing to deferral of investment in new water supply infrastructure, and conserving precious water as we entered the current drought.



Form of regulation

Hunter Water proposes a five-year price determination period – from 1 July 2020 to 30 June 2025.

IPART has set four-year determination periods for Hunter Water since 2005. We are of the view that IPART’s regulatory model has sufficient safeguards and adjustment mechanisms to manage an extra year in the regulatory period.

| IPART’s decision criteria | Mechanism or safeguard | Our assessment |
|---|---|---|
| <p>The confidence we can place in the utility’s forecasts</p> <p>Possible issues</p> <ul style="list-style-type: none"> • Hunter Water’s proposed capital and operating programs • Hunter Water’s water consumption forecasts used to set water prices | <ul style="list-style-type: none"> • Expenditure review of operating cost budgets • Proposed drought cost pass-through mechanism • Ex-post prudency review of capital expenditure program • Water demand volatility adjustment mechanism |  |
| <p>Risk of structural changes in the industry</p> <p>Possible issues</p> <ul style="list-style-type: none"> • Entry of WIC utilities in the Lower Hunter • Lower Hunter Water Plan may result in new supply and demand initiatives | <ul style="list-style-type: none"> • Hunter Water not aware of any major structural changes • Review of the Water Industry Competition Act 2006 • IPART’s wholesale pricing review for wholesale customers in 2020-21 |  |
| <p>Need for price flexibility incentives to increase efficiency</p> <p>Possible issues</p> <ul style="list-style-type: none"> • Hunter Water incentive to reduce operating costs through time • Prices misaligned with costs through time | <ul style="list-style-type: none"> • Operating cost efficiency carryover scheme • Unregulated pricing agreement for large non-residential customers |  |
| <p>Need for regulatory certainty and financial stability</p> <p>Possible issues</p> <ul style="list-style-type: none"> • Bill and price certainty for customers • Maintaining investment-grade credit rating | <ul style="list-style-type: none"> • Five-years provides price and bill stability for customers • IPART’s 2018 WACC method provides a trailing average for debt costs through the regulatory period |  |
| <p>Timing of other reviews</p> <p>Possible issues</p> <ul style="list-style-type: none"> • Operating licence end-of-term review • Wholesale pricing • Component costing and benchmarking review • Long-run marginal cost methodology | <ul style="list-style-type: none"> • Hunter Water’s ‘roadmap for modernising regulation’ sets out a process and timeline for a broader review of the IPART’s regulatory model • 5-year price determination period and 5-year review of Hunter Water’s licence – sequencing is right |  |

A roadmap for regulatory reform

We see considerable merit in developing a ‘regulatory roadmap’ outlining a process and timeline for systematically addressing key elements of the regulatory framework applied by IPART to the NSW metropolitan water utilities.

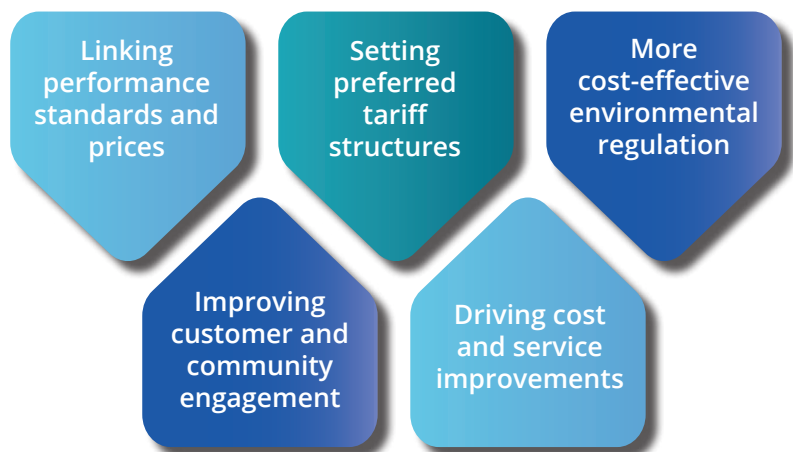
Why do we need a regulatory road map?

- It is important that IPART’s regulatory framework continues to evolve and mature. The regulatory model should remain fit-for-purpose in the face of emerging challenges and structural changes in the water sector.
- There is not enough time in the four-year cycle for IPART to undertake a step-back review, looking at bigger picture lessons from other sectors and jurisdictions.
- It would provide clarity to stakeholders on the forward work program. This would allow regulated businesses and other stakeholders to prepare and constructively participate in reviewing elements of the regulatory framework.

Which regulatory issues would be addressed?

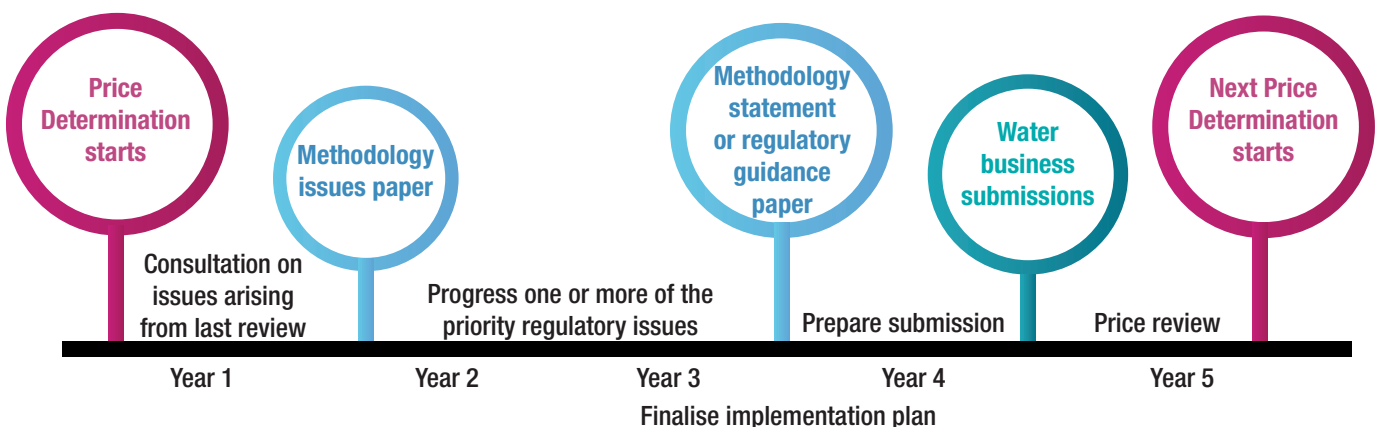
In our view, the roadmap should reflect an industry-wide assessment of priorities and should be flexible to accommodate new issues as they emerge. We suggest, as a starting point, IPART provide an opportunity for stakeholder participation in identifying and prioritising the issues for the roadmap, through a clear and transparent process.

As a discussion starter, we have identified five issues that IPART could address in the roadmap.



Approach to implementing the roadmap

We recommend an incremental approach to implementing the roadmap. The process would start with a systematic review of regulatory methodologies. This would be an integral part of each regulatory reset, similar to the 3:2 approach adopted by Ofwat UK. This would involve reviewing the methodology to be applied as the first step in each regulatory reset, drawing on the lessons from the previous regulatory period, and other economic regulators, and recognising the future challenges.



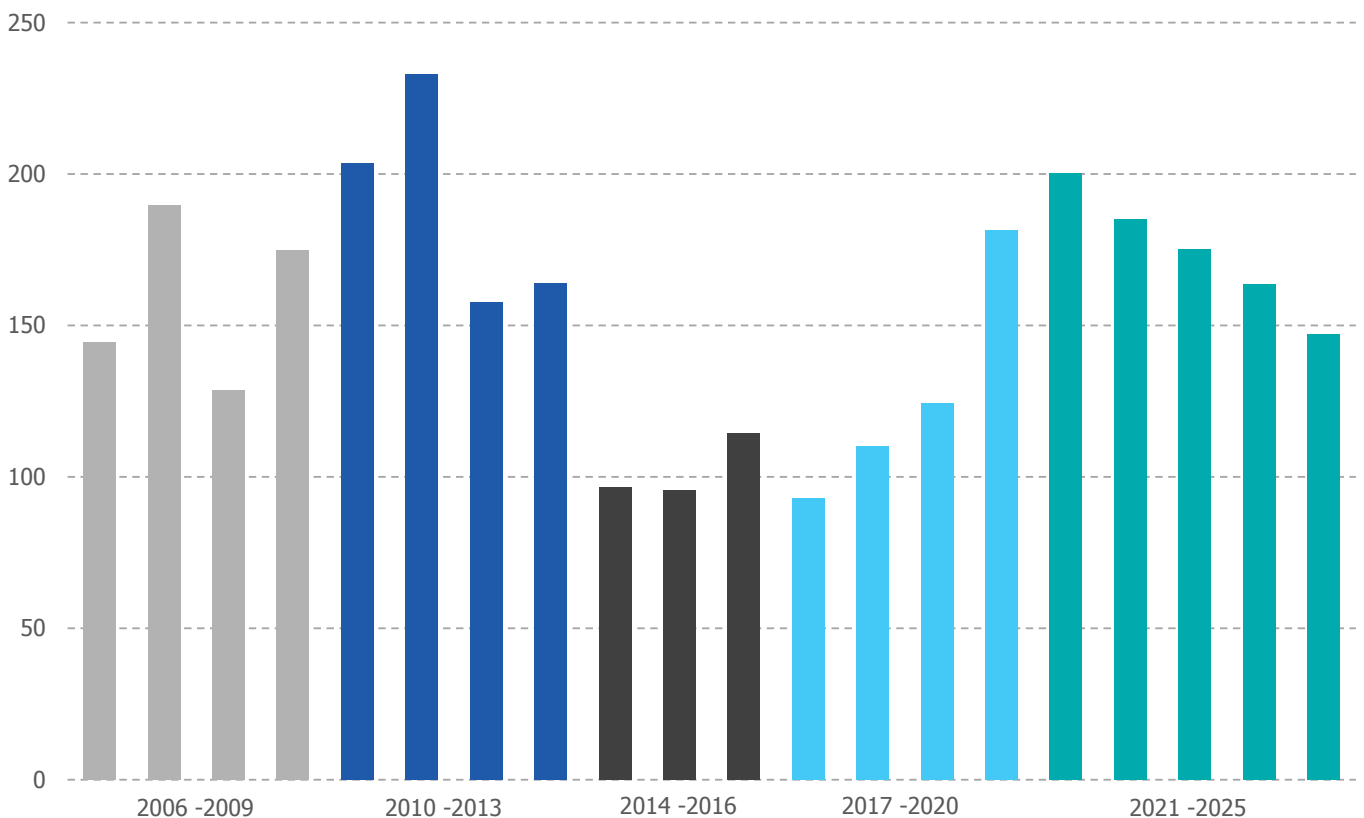
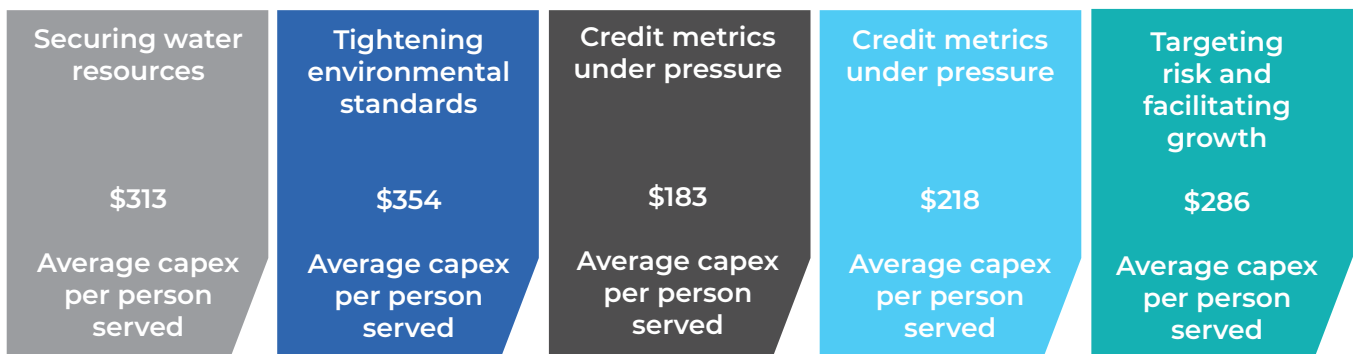
Capital expenditure

Hunter Water is a regional provider of essential services, with standards maintained and improved through a portfolio of capital works. Capital investment is 'lumpy' in nature, due to growth across diverse areas within the region that have differing environmental standards, uneven 'spare' capacity in networks and treatment plants, and evolving regulatory standards.

of the 'headroom' between actual performance and mandatory limits. Investment in enabling technology, to improve efficiency and customer ease of doing business, was deferred due to increasing pressure on our financial metrics. We also deferred some assets renewals, which are usually spread over time. These investments cannot be delayed any longer.

In the next price period, we propose to return to pre-2013 trend levels of capital expenditure. While we have continued to sustain services from 2013-14 to 2018-19, the low expenditure during this period absorbed much

Our proposed changes to asset lives and regulatory depreciation will ease the pressure on our credit rating enabling us to take an approach to investment that is more sustainable in the long term.



Notes:

1. 2006-2016 figures are based on IPART's assessment of prudent and efficient actual capex, as contained in IPART's Price Determinations in 2009, 2013 and 2016.
2. All figures are in \$2019-20.
3. Expenditure associated with Tillegra Dam has been excluded.

Read more
on our capital
expenditure in
**Technical
Paper 4**



Achievements 2016 to 2020

Our capital expenditure in the current price period will be \$111 million higher than IPART’s 2016 Determination. The variance is due a combination of changes:

- A different expenditure profile for projects due to timing changes or incurring higher tender costs.
- An increase in the amount we need to spend on small projects to address breakdowns.
- The implementation of new projects that were not foreseen in our 2015 Price Submission, largely to address unacceptably high safety and compliance risks and to reduce water loss.



| REGULATED CAPITAL EXPENDITURE (\$M 2019-20) | 2016-17 | 2017-18 | 2018-19 | 2019-20 | TOTAL |
|---|---------|---------|---------|---------|-------|
| Determination | 114.1 | 96.4 | 99.2 | 87.7 | 397.3 |
| Actual/forecast | 92.9 | 110.1 | 124.4 | 181.4 | 508.7 |
| Variance \$ | -21.1 | 13.6 | 25.3 | 93.7 | 111.4 |
| Variance % | -19% | 14% | 25% | 107% | 28% |

Note: 2018-19 and 2019-20 based on forecast

A sample of investments that we have made in each service area during the current price period is provided below.

Water

- Replacing a section of the Chichester Trunk Gravity Main that had deteriorated faster than expected. Breaks could cause long interruptions for up to 100,000 customers and result in significant volumes of water loss.
- Upgrading the Dungog water treatment plant to improve water quality and meet electrical and hazardous chemical standards.
- Increasing the capacity of water we can transfer from the Central Coast, which will help during drought.
- Replacing over 62,000 water meters to ensure customers are billed accurately.

Wastewater

- Upgrading of Dungog wastewater treatment plant to improve the quality of treated wastewater.
- Constructing wastewater infrastructure to service the current Wyee township – a backlog sewerage scheme.
- Better chemical dosing equipment to reduce wastewater network odours and corrosion in the wastewater network.

Stormwater

- Replacing and rehabilitating stormwater culverts, due to concrete deterioration and corrosion, to provide a reliable service and ensure safety for the community (prevent collapse).

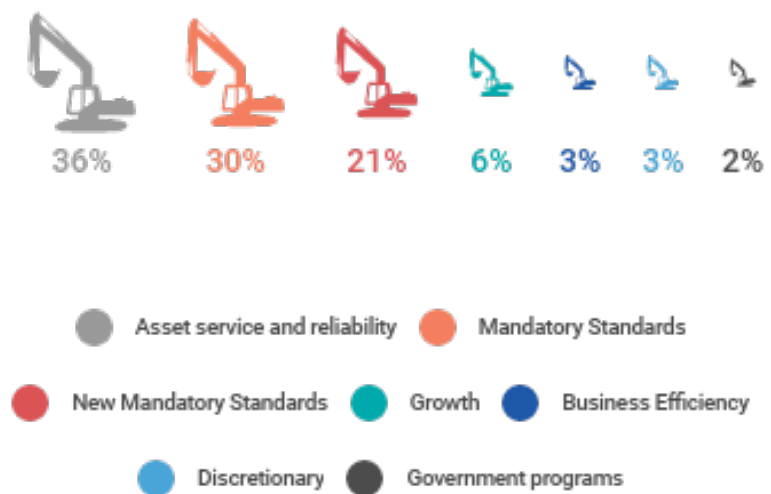
Proposed investment 2020 to 2025

Hunter Water’s objectives are to meet regulatory requirements, improve business efficiency, meet customers’ service expectations and achieve environmental improvements. Our projected capital investment for the 2020-25 price period is \$871 million (\$2019-20). Approximately 50% of the total investment is for wastewater services, 31% for water services, and 2% for stormwater. A further 17% is for corporate investments such as information and communications technology assets that support all of the services that we provide for customers, and enable us to improve efficiency.

| REGULATED CAPITAL EXPENDITURE (\$M 2019-20) | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | TOTAL |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| WATER | 39.2 | 55.3 | 61.4 | 57.8 | 59.6 | 273.4 |
| Water source | 9.0 | 3.5 | 0.0 | 0.0 | 1.7 | 14.2 |
| Water treatment | 5.2 | 12.5 | 14.7 | 13.2 | 23.5 | 69.1 |
| Water network | 25.0 | 39.3 | 46.7 | 44.6 | 34.4 | 190.0 |
| WASTEWATER | 118.8 | 83.9 | 85.8 | 74.3 | 61.7 | 424.7 |
| Wastewater network | 34.9 | 43.7 | 32.6 | 30.4 | 27.9 | 169.7 |
| Wastewater treatment | 83.9 | 40.2 | 53.2 | 43.9 | 33.8 | 255.0 |
| STORMWATER | 3.7 | 2.8 | 4.7 | 5.9 | 6.2 | 23.1 |
| Stormwater network | 3.7 | 2.8 | 4.7 | 5.9 | 6.2 | 23.1 |
| CORPORATE | 38.7 | 43.2 | 23.2 | 25.6 | 19.5 | 150.2 |
| ICT | 15.1 | 11.8 | 7.3 | 10.6 | 11.3 | 56.1 |
| Non-ICT corporate | 23.6 | 31.4 | 15.9 | 15.0 | 8.2 | 94.1 |
| TOTAL | 200.4 | 185.2 | 175.1 | 163.7 | 147.0 | 871.4 |

Hunter Water’s capital investments are prudent and driven by IPART’s expenditure drivers. The composition of our capital program by driver is shown below.

The vast majority of our proposed investment is to meet mandatory standards, including asset reliability and service.



Major capital projects 2020 to 2025

An overview of a sample of the investment that we propose to make in the next price period is provided below. These investments cover around 25% of our proposed capital expenditure.

Farley wastewater treatment plant upgrade and pipeline

Provide sufficient capacity for a large growth precinct and meet environmental regulations relating to treated effluent discharges to local creeks and rivers.

\$81m

Treatment equipment renewals

Program to undertake renewal works at our water and wastewater treatment plants in order to ensure service reliability and meet mandatory standards.

\$52m

Developer delivered infrastructure

Ensure that lead-in water and wastewater infrastructure to service new developments is efficiently provided.

\$41m

Hazardous chemical facility upgrades

Ensure facilities are safe for the community and staff, and they minimise environmental impact through minimising potential equipment failures.

\$29m

Grahamstown water treatment plant ultraviolet upgrade

Providing an additional barrier to protect against harmful pathogens and ensure safe and high quality water can be delivered to customers.

\$11m

Cessnock wastewater treatment plant upgrade

Address condition and capacity constraints to improve effluent quality, support projected growth and reduce environmental compliance risks.

\$17m

Strategies to keep costs down

We are continually reviewing and improving our capital investment planning and delivery to ensure outcomes are achieved at the lowest cost to customers.

Our prioritisation framework incorporates strategic direction alignment, leading industry business case process, technical review, financial impact assessment and executive governance.



- Gateway approval process in which the investment is assessed throughout its life cycle
- Design and construction works delivered through competitive procurement processes
- Benefits realisation management to identify, plan, measure and track outcomes
- Active management of contracts to ensure value is achieved
- Centralised procurement model with robust mechanisms, procedures and governance in place to ensure the efficiency and probity of all procurement activities
- Program and Project Management partnership collaborative contracting model to ensure that we have the resourcing capacity to efficiently delivery the upcoming portfolio of works

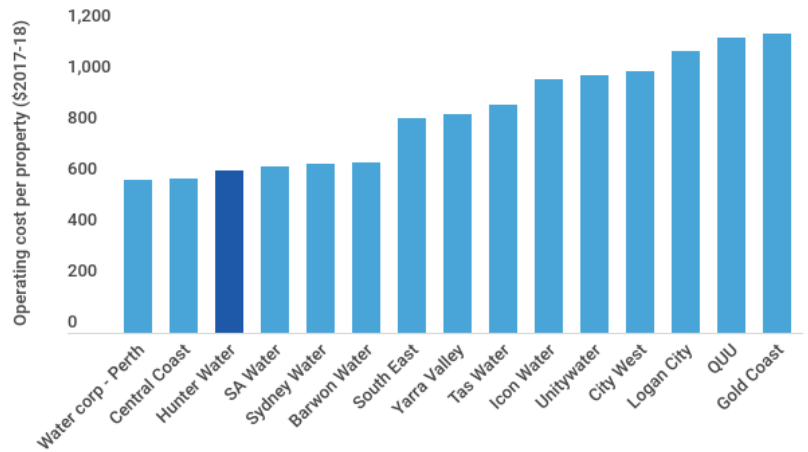
Operating expenditure

Hunter Water delivers services as efficiently as possible to meet our obligations and provide value to customers. We had the lowest operating cost per property for water and wastewater services of all major utilities in 2015-16 and 2016-17, despite the low population density across our large geographic area of operations. For example, our area of operations is about half of the size of Sydney Water's, however we only serve about 10% as many customers.

Meeting these challenges while achieving the lowest costs per property demonstrates our efficiency. However, data shows that in some areas, such as leakage and wastewater overflows, the relatively low investment has resulted in our service deteriorating, especially when compared with the performance of our water industry peers. It is also clear that we have been carrying unacceptably high risks that must be reduced quickly, especially in relation to safety and environmental compliance.

In 2017-18, we identified areas where investment was required. This has required an increase in operating expenditure.

Despite this increase we remain an efficient and low cost utility in comparison to other major utilities (rank 3rd lowest of 15 major utilities in 2017-18).



Our operating expenditure is divided into five cost categories:

Labour

Internal and external labour

Maintenance

Expenditure on maintaining our infrastructure and ensuring the reliability of our services

Operations

Expenditure on operating our business to deliver our services

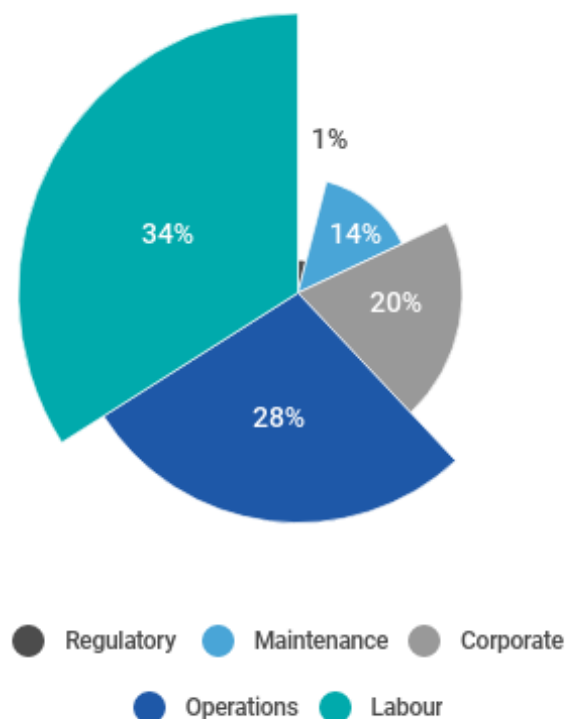
Regulatory

Mandatory fees, taxes and licence fees payable to meet regulatory requirements

Corporate

Expenditure to support ongoing operations including property, ICT, safety and general expenses

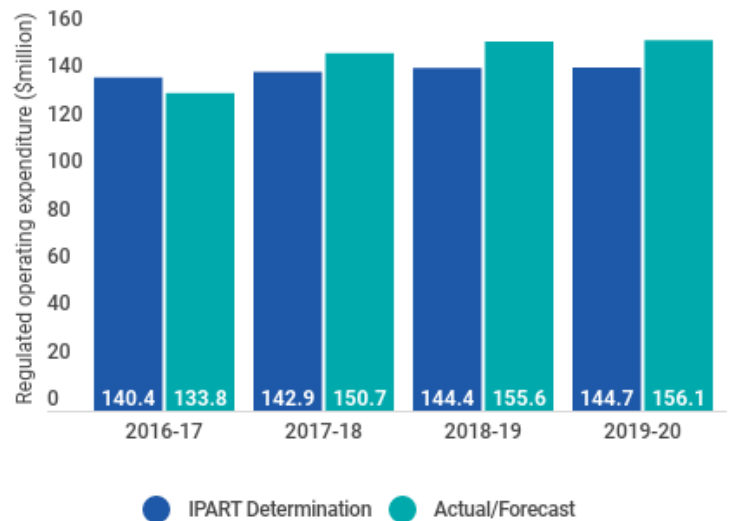
Operating expenditure 2017-18 actuals



Performance 2016 to 2020

Our operating expenditure in the current price period will be about \$23.8 million (4%) higher than IPART’s 2016 Determination. This variance is due to a combination of changes, including:

- Additional optimisation of maintenance to increase asset life, performance and minimise life cycle cost.
- Additional resourcing to reduce leakage and undertake drought preparedness activities, including water conservation initiatives.
- Higher energy costs due to higher electricity prices, partially offset by more efficient operation.
- Site remediation to address environmental and safety risks.
- Providing a drinking water solution to customers in Dungog.
- Increased resources to undertake research and strategic planning.
- Higher spoil disposal costs, partially offset by maximising reuse to minimise the volume of spoil going to waste



Proposed investment 2020 to 2025

Hunter Water’s projected regulated operating expenditure for the 2020-25 price period is \$783.4 million (\$2019-20). Approximately 35% of the total expenditure is for wastewater services, 30% for water services, 1% for stormwater and 34% for expenditure that applies to all products.

| REGULATED OPERATING EXPENDITURE | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | TOTAL |
|---------------------------------|---------|---------|---------|---------|---------|---------|-------|
| Water | 49.4 | 48.5 | 47.3 | 46.7 | 46.0 | 46.4 | 235.0 |
| Wastewater | 54.3 | 53.7 | 55.1 | 55.9 | 55.2 | 54.8 | 274.7 |
| Stormwater | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 5.9 |
| Corporate | 51.3 | 54.0 | 52.9 | 53.8 | 53.6 | 53.4 | 267.8 |
| Total | 156.1 | 157.5 | 156.4 | 157.6 | 156.0 | 155.9 | 783.4 |

Read more on our operating expenditure in **Technical Paper 5**

How we are becoming more efficient

| | | |
|---|--|--|
| <p>\$0.6m</p> <p>In-house contact centre</p> <p>We plan to bring this function in-house and expect to save \$600,000 as a result of this change.</p> | <p>\$1.8m</p> <p>Spoil management</p> <p>Exploring alternative ways of managing and minimising waste by maximising spoil reuse and reducing spoil disposal costs will save us \$1.8 million.</p> | <p>\$2.4m</p> <p>Smart integrated pump scheduling</p> <p>Applying technology and smarts in our network will allow us to optimise the operation of pump stations and valves to reduce electricity costs and improve energy efficiency, saving us \$2.4 million.</p> |
| <p>\$2.6m</p> <p>Electronic billing</p> <p>Providing the option for customers to receive their bills electronically will reduce our billing costs (saving \$2.6 million) and reduce our exposure to higher postage costs.</p> | <p>\$3.0m</p> <p>Workforce management project</p> <p>Improving the way we identify, plan and complete maintenance work will create \$3 million in efficiencies. This enables us to improve maintenance output and deliver better outcomes for customers.</p> | <p>\$6.0m</p> <p>Energy - renewables</p> <p>Investing in renewable energy technology, such as solar panels, will help reduce our greenhouse gas emissions and save \$6 million in operating expenditure on energy.</p> |

Processes to keep costs down

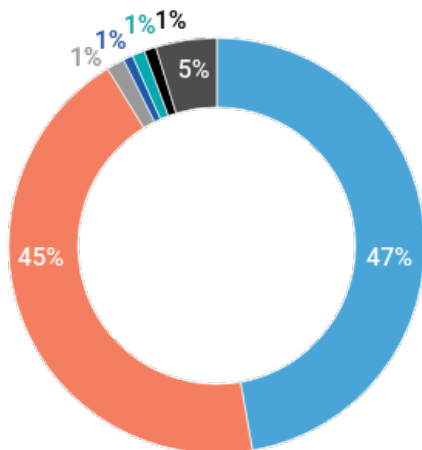
| | | | |
|--|---|--|---|
| | <p>We use a detailed bottom-up approach to build our budgets. This involves assessing regulatory requirements, needs and drivers at the most granular level and building models to develop operating budgets based on product (e.g. water), sub-product (e.g. water treatment), location, and expense type (cost category).</p> | | <p>Our budgets undergo a robust top-down review by decision-makers including Executive Managers, our Management Investment Committee and our Board of Directors to challenge and prioritise expenditure. This ensures our proposed expenditure is efficient and represents value for money for customers.</p> |
| | <p>The majority of expenditure is market-tested through robust procurement processes. Contracts are managed actively in accordance with a detailed contract management framework to ensure value for money.</p> | | <p>We use a P50 budgeting approach. This means that our proposed expenditure represents the most likely cost outcome with a 50% chance of our actual costs being either under or over the budgeted amount. This approach helps us keep costs down for customers by not including contingency costs.</p> |

Revenue

Hunter Water's revenue sources

The majority of Hunter Water's total revenue each year comes from customers paying for drinking water, wastewater and stormwater services.

In 2017-18, water revenue was \$154 million and wastewater revenue was \$143 million, together making up 92% of our total (\$297 million). Stormwater revenue (\$4.6 million) is much lower because only one third of our customers are located in areas where we provide this service. We share stormwater responsibilities with local councils.



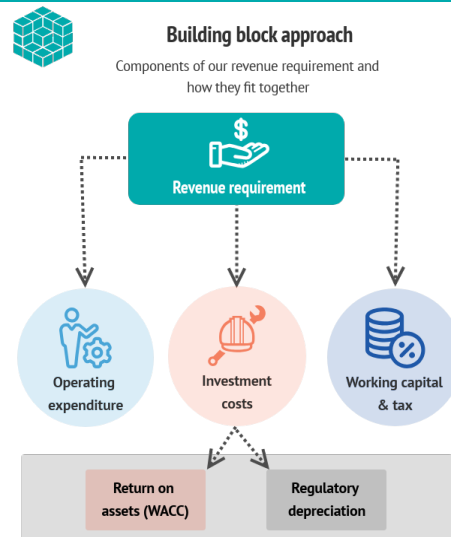
- Water services
- Wastewater services
- Stormwater services
- Trade waste
- Miscellaneous charges
- Non-regulated services
- Community service obligations

Charges for trade waste services to non-residential customers and miscellaneous charges for ancillary services together contribute around \$5.5 million per year. Income from non-regulated services contributes around \$3 million per year. The NSW Government provides around \$15-20 million per year to cover pensioner rebates and exempt property rebates.

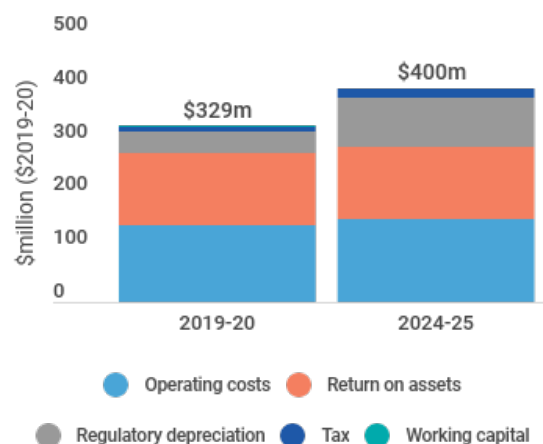
Approach to calculating revenue requirements

We have applied the building block approach used by IPART to calculate our notional revenue requirement for water, wastewater and stormwater drainage services for each year of the price path.

Key components of our revenue requirements and how they fit together



Hunter Water's total proposed regulated revenue requirement is \$1,871 million (\$2019-20) over the period 2020-21 to 2024-25. The proposed revenue requirement is \$400 million in 2024-25 (the last year of the next price period), compared with IPART's revenue allowance of \$329 million in 2019-20 (the last year of the current price period).



We created a building block model and calculated the notional revenue requirement for each service – water, wastewater and stormwater drainage – so that prices for each service reflect the cost of delivering that service. Our target revenue requirement is the amount we propose to recover from customers through regulated water, wastewater and stormwater drainage prices over the 2020-25 regulatory period.

Hunter Water's proposed water revenue (smoothed)

| WATER (\$MILLION; \$2019-20) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---------------|---------|---------|---------|---------|---------|
| Operating costs | 71.3 | 73.2 | 70.7 | 70.2 | 69.4 | 69.8 |
| Return on assets | 60.3 | 53.6 | 54.9 | 56.3 | 57.5 | 58.5 |
| Regulatory depreciation | 19.0 | 33.3 | 36.6 | 39.7 | 42.6 | 45.4 |
| Tax allowance and working capital | 5.8 | 9.2 | 9.2 | 9.8 | 10.5 | 11.4 |
| Notional revenue requirement | 156.4 | 169.3 | 171.5 | 176.0 | 180.0 | 185.2 |
| Target revenue from usage and service charges (after revenue adjustments and smoothing) | 161.7 | 168.1 | 171.1 | 173.8 | 176.9 | 180.1 |

Note: Totals may not add due to rounding

Hunter Water's proposed wastewater revenue (smoothed)

| WASTEWATER (\$MILLION; \$2019-20) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---------------|---------|---------|---------|---------|---------|
| Operating costs | 71.5 | 82.3 | 83.7 | 85.4 | 84.6 | 84.0 |
| Return on assets | 71.0 | 63.7 | 67.6 | 70.5 | 72.8 | 74.4 |
| Regulatory depreciation | 22.4 | 26.0 | 30.9 | 34.9 | 38.6 | 41.9 |
| Tax allowance and working capital | 3.1 | 3.5 | 3.9 | 4.5 | 5.7 | 7.0 |
| Notional revenue requirement | 168.0 | 175.4 | 186.1 | 195.3 | 201.7 | 207.3 |
| Target revenue from usage and service charges (after revenue adjustments and smoothing) | 162.1 | 169.9 | 178.9 | 188.4 | 198.4 | 208.8 |

Note: Totals may not add due to rounding

Hunter Water's proposed stormwater drainage revenue (smoothed)

| STORMWATER (\$MILLION; \$2019-20) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---------------|---------|---------|---------|---------|---------|
| Operating costs | 2.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Return on assets | 2.1 | 2.3 | 2.4 | 2.5 | 2.7 | 2.9 |
| Regulatory depreciation | 0.7 | 1.2 | 1.4 | 1.6 | 1.7 | 1.9 |
| Tax allowance and working capital | 0.1 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| Notional revenue requirement | 5.0 | 5.6 | 6.0 | 6.3 | 6.6 | 7.0 |
| Target revenue from usage and service charges (after revenue adjustments and smoothing) | 5.0 | 5.6 | 5.9 | 6.3 | 6.6 | 7.1 |

Note: Totals may not add due to rounding

While overall we are proposing an increase in revenue requirements, the movement in the revenue requirement varies by product. This reflects different real increases in operating expenditure, capital expenditure and regulatory depreciation for water, wastewater and stormwater services.

As we are proposing a real increase in allowed revenues, we have applied a net present value smoothing technique that delivers the same annual percentage increase in prices over the regulatory period.

Revenue requirement and prices are likely to be lower based on recent changes to WACC input parameters



IPART uses a set methodology for calculating an estimate of the weighted average cost of capital (WACC), which in turn sets Hunter Water’s return on assets – a large component of our revenue requirements (circa 35 to 40%).

The revenue requirements that we have presented in this pricing proposal are based on IPART’s February 2019 WACC Biannual Update estimate of 4.1%. The estimate included current market data and long-term averages at that time.

IPART will set the WACC estimate for calculating Hunter Water’s return on assets at the start of the next regulatory period in April or May 2020. IPART will use current market data in early 2020 and the long-term averages for debt and equity using 10-years of data at the same time.

Hunter Water has calculated a most likely WACC estimate for April 2020, based on market data in June 2019. Our modelling suggests that the WACC is likely to fall from 4.1% to 3.5%. A lower WACC would result in a lower ‘return on assets’ component in the building block model. The revenue requirements and indicative price increases at the lower WACC are shown in the table below.

Due to the expected decrease in the WACC, Hunter Water considers the revenue requirements and resulting prices contained in this price submission reflect an upper limit. If the WACC does decrease to 3.5%, real price increases, averaged across all customers, may fall below 0.6% per annum.

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | TOTAL |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| Target Revenue (\$2019-20m) | | | | | | |
| 4.1% WACC | 343.5 | 355.9 | 368.5 | 381.9 | 395.9 | 1,845.8 |
| 3.5% WACC | 337.2 | 342.9 | 348.4 | 354.2 | 360.1 | 1,742.8 |
| Indicative price increases (%) | | | | | | |
| 4.1% WACC | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 13.4 |
| 3.5% WACC | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 3.3 |

Read more on our revenue requirements **Technical Paper 6**

Forecast water sales & customer numbers

The population of the Lower Hunter region has grown at a rate of around 1% per year over the last 25 years. Residential dwelling growth has occurred at a slightly higher rate due to a gradual decline in occupancy (people per household). As the current provider of almost all water and wastewater services in the Lower Hunter, owners of most of these new dwellings become our customers.

Our connection and sales forecasts are based on best practice and peer reviewed methodologies. Population growth, industry activity and changing water needs are critical drivers of water demand over future years.

We are also a bulk water provider to adjacent councils and private network operators. We supply bulk treated water to Central Coast Council, MidCoast Council, Cooranbong Water, Huntlee Water and Kooragang Water.

Location

Households in Lake Macquarie and Newcastle make up about 64% of our residential connections.



Property mix

Over time our customer base has been shifting from separate houses to multi-unit dwellings. The proportion of apartments has increased from 15% to 20% of residential connections in around 20 years.



Customer growth

Residential connection growth peaked in the current price period at around 4,000 per year. We are forecasting 3,200 new residential connections per year in the next price period as the property market slows. Our forecast is slightly higher than the Hunter Regional Plan 2036 forecast of around 3,043 dwellings per year.



Water use

Our prices are based on water demand in average weather conditions. In hot, dry years water demand will tend to be higher than forecast and during wet years it will be lower than forecast. Over the five year price period we expect the highs and lows to even out.

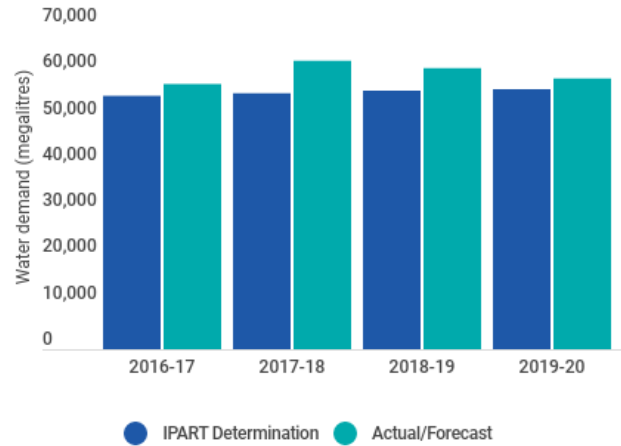
Our forecast takes into account savings from water efficient appliances, consumer behaviours and substitution of rainwater or recycled water.



Water demand over the current price period

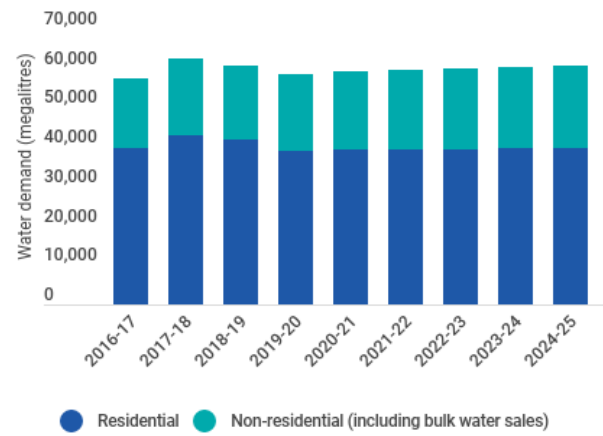
In the current price period, actual demand has exceeded the forecast set in the 2016 Price Determination. We expect that over the four years total water sales will be about 7% higher than forecast.

The main reason for this is lower than expected rainfall, coupled with higher than expected population growth.



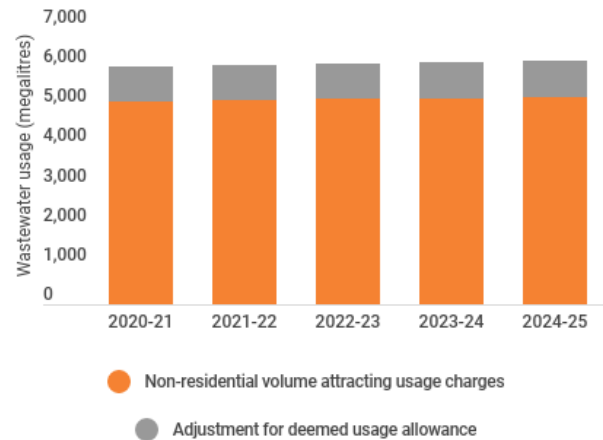
Water demand over the next price period

We are forecasting lower annual water demand over the next five years even with a growing customer base. This reflects an assumed return to average weather conditions, rather than the current dry spell continuing.



Wastewater usage over the next price period

Wastewater usage charges are applied explicitly to non-residential customers only where their discharge volumes are above the deemed discharge allowance contained in the wastewater service charge (that is, currently above 120 kilolitres per year).



Note: Deemed usage allowance is contained in the wastewater service charge

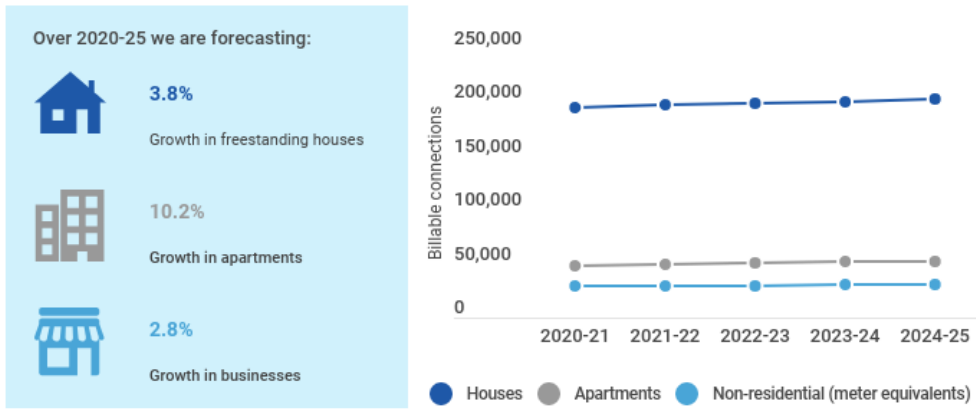


Customer connections

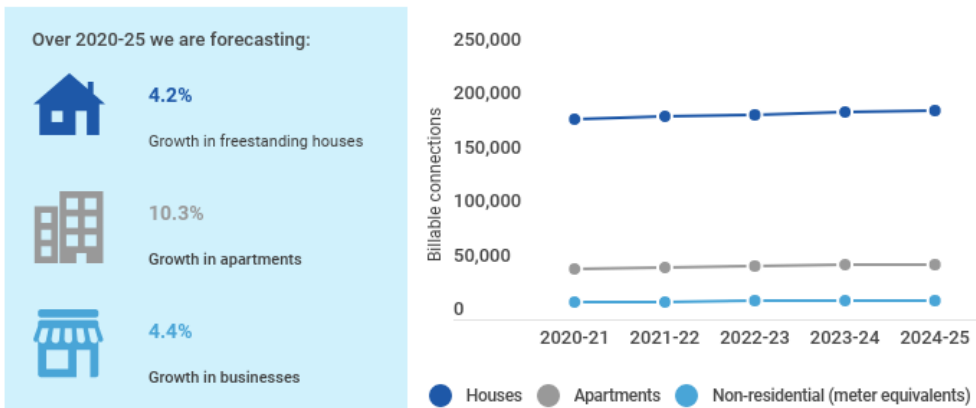
Billable connections forecasts for different user groups are derived from population and activity growth forecasts for the Hunter, which draw on regional census information and the advice of local governments, property developers and industry. About 96% of dwellings with a water connection also have a wastewater connection serviced by us.

Our prices are usually based on household type or water meter size. For non-residential customers we convert the number of connections to 'meter equivalents' so that they are all compared on the same basis.

Water connections

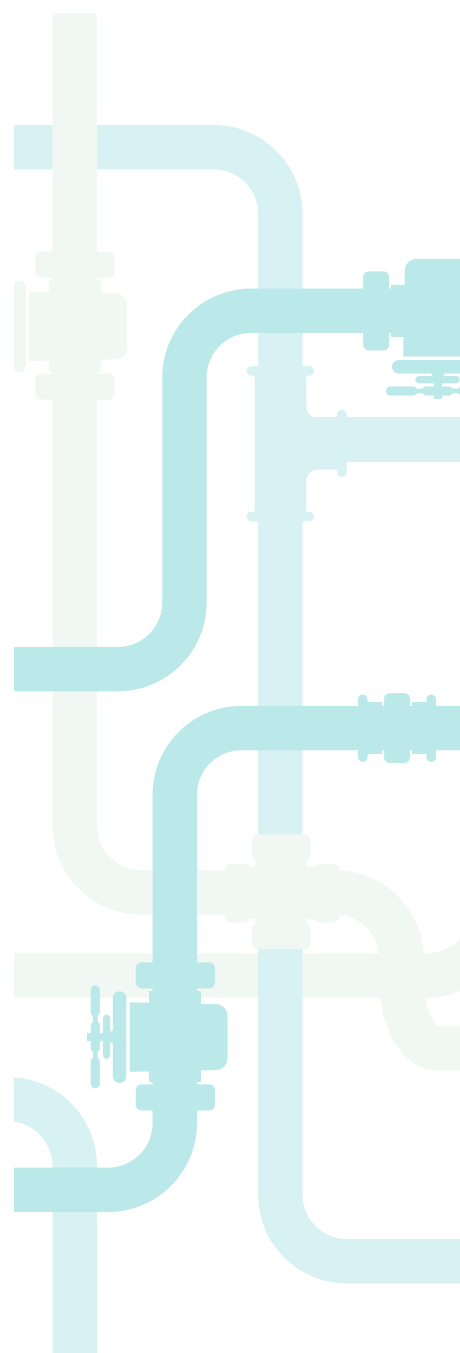
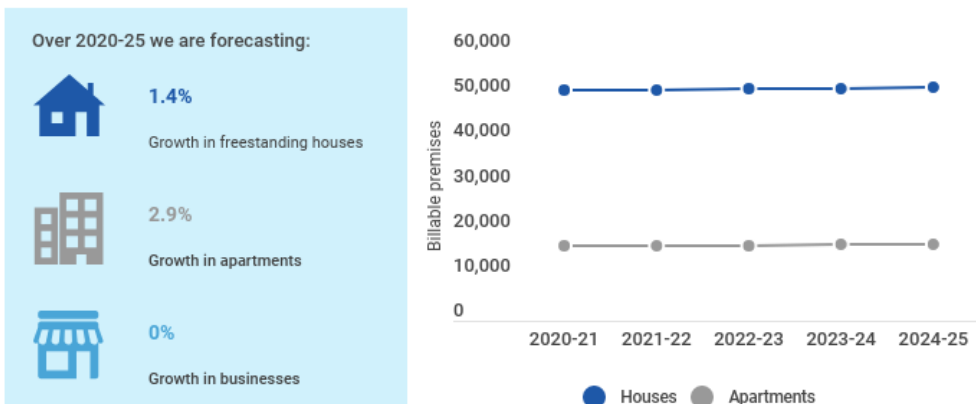


Wastewater connections



Stormwater properties

Variation in the number of billable properties in gazetted stormwater drainage areas reflects factors such as subdivision, rezoning and unit development.



Read more on demand for our services & growth in **Technical Paper 7**

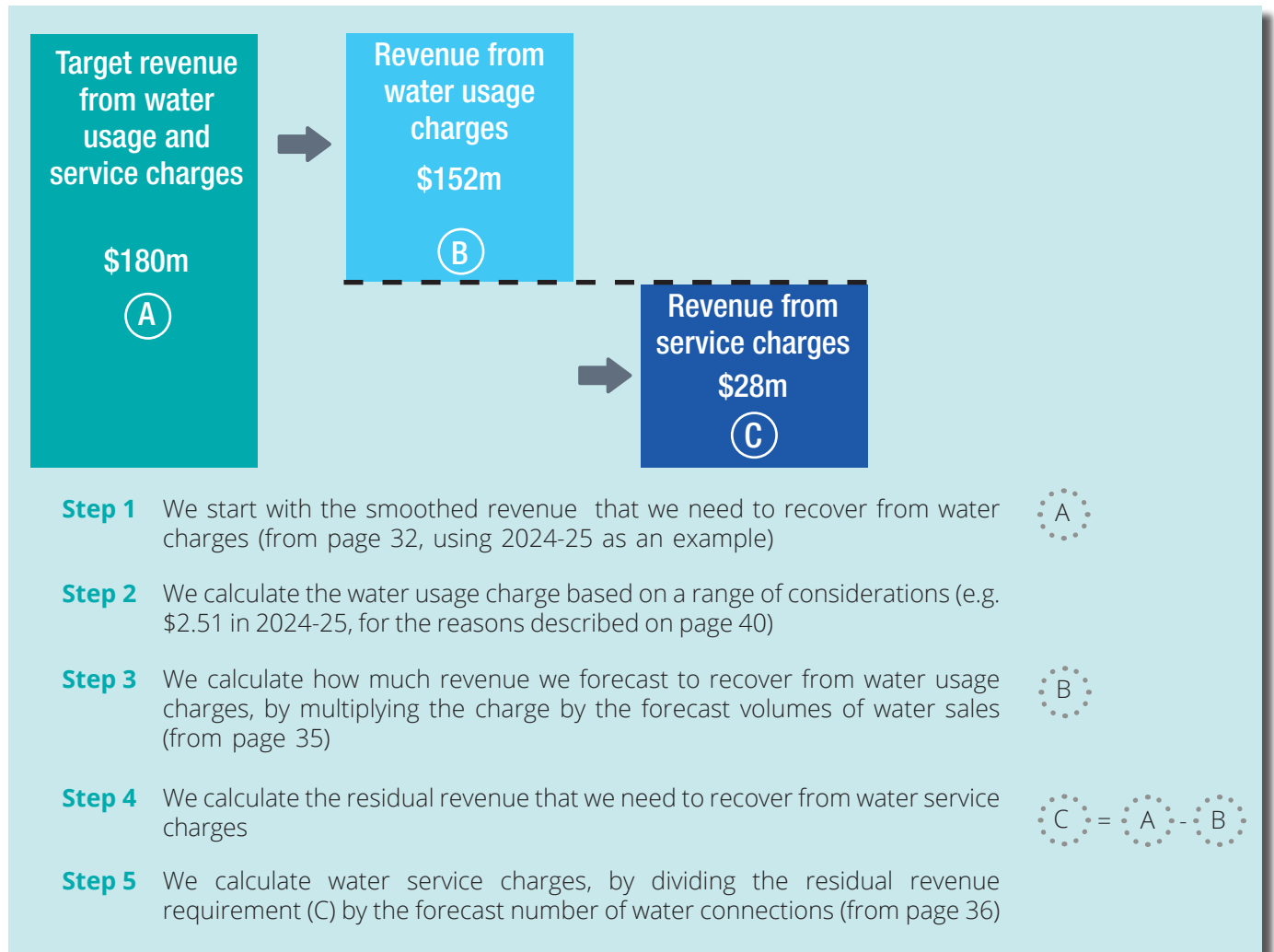


Water prices

| PROPOSED WATER PRICES (WITHOUT INFLATION) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|---|---------------|-----------|-----------|-----------|-----------|-----------|----------------|
| USAGE PRICE (\$/KL) | | | | | | | |
| First 50,000 kL per year | 2.39 | 2.41 | 2.44 | 2.46 | 2.49 | 2.51 | 5% |
| SERVICE CHARGE - RESIDENTIAL (\$/YEAR) | | | | | | | |
| All dwellings | 100.88 | 100.42 | 98.53 | 98.81 | 97.00 | 97.24 | - 4% |
| SERVICE CHARGE - NON-RESIDENTIAL (\$/YEAR) | | | | | | | |
| 20mm | 100.88 | 100.42 | 98.53 | 98.81 | 97.00 | 97.24 | - 4% |
| 25mm | 157.63 | 156.90 | 153.95 | 154.38 | 151.57 | 151.94 | - 4% |
| 32mm | 258.26 | 257.07 | 252.23 | 252.94 | 248.33 | 248.94 | - 4% |
| 40mm | 403.53 | 401.67 | 394.11 | 395.22 | 388.01 | 388.97 | - 4% |
| 50mm | 630.51 | 627.61 | 615.79 | 617.53 | 606.27 | 607.77 | - 4% |
| 80mm | 1,614.10 | 1,606.68 | 1,576.43 | 1,580.88 | 1,552.05 | 1,555.89 | - 4% |
| 100mm | 2,522.04 | 2,510.44 | 2,463.17 | 2,470.13 | 2,425.08 | 2,431.08 | - 4% |
| 150mm | 5,674.59 | 5,648.49 | 5,542.14 | 5,557.79 | 5,456.43 | 5,469.92 | - 4% |
| 200mm | 10,088.17 | 10,041.76 | 9,852.70 | 9,880.51 | 9,700.31 | 9,724.31 | - 4% |
| 250mm | 15,762.53 | 15,690.25 | 15,394.84 | 15,438.30 | 15,156.74 | 15,194.23 | - 4% |
| 300mm | 22,698.05 | 22,593.96 | 22,168.57 | 22,231.15 | 21,825.70 | 21,879.70 | - 4% |
| 350mm | 30,894.56 | 30,752.89 | 30,173.89 | 30,259.06 | 29,707.20 | 29,780.70 | - 4% |

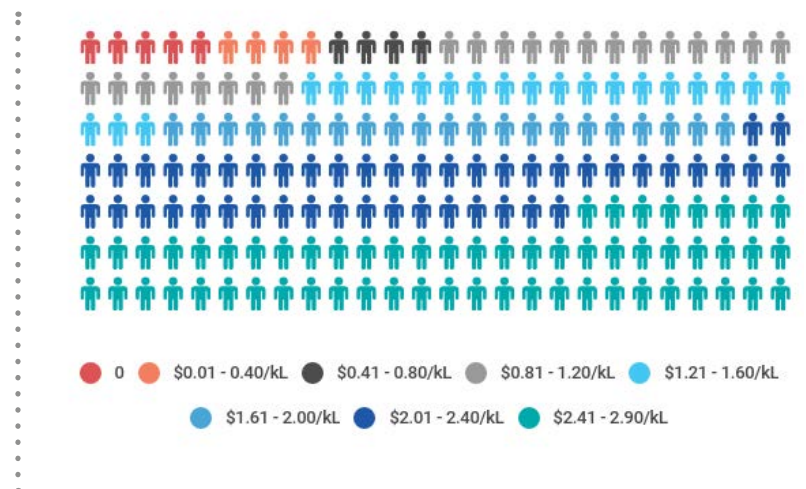


How we arrived at prices



Our online survey about water pricing structures

We surveyed residential customers about their preferred mix of usage and fixed charges. Respondents were provided with background information and asked to indicate their preferred usage charge on an interactive 'slider' tool. The corresponding fixed charge and annual bill were shown and changed in real time as respondents moved the price charge slider. The bill estimate was based on a usage level, which could be changed with another slider.



Water usage and service charges for drinking-quality water

For water, customers pay:

- Water service charge
 - A fixed charge per household (regardless of dwelling type or ownership), or
 - A fixed charge per non-residential property, based on water meter size (relative to a household water meter, which is 'deemed' to be 20mm)
- Water usage charge – a charge that varies with the volume of water used

We considered whether to maintain, increase or decrease the usage charge for water services. If there is an increase in the water usage charge, there will be a decrease in the fixed charge. Hunter Water receives the same revenue under all scenarios.

Our costs in providing drinking-quality water are increasing. Therefore we have to increase either the fixed charge or the usage charge or both. We are proposing to increase the water usage charge. This will keep the fixed charge broadly the same across the five years.

We arrived at our proposal by considering:

Customer preferences



There are a range of preferences in our community regarding the balance between water usage and fixed charges.

A majority of customers prefer the current charge. Motivations relating to the respondents' own bill were more important than social motivations.

Cost reflectivity



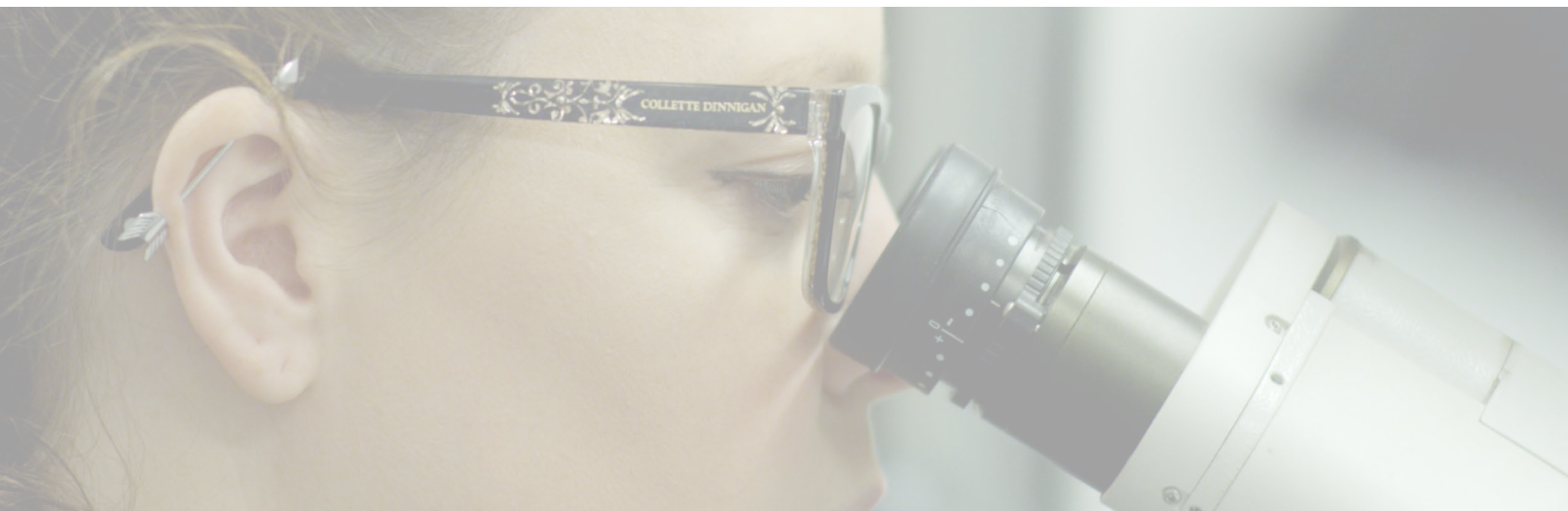
Setting the water usage charge with reference to the Long-Run Marginal Cost (LRMC) of water supply signals to customers the costs imposed (or avoided) if they increase (or reduce) their consumption by a small amount.

We have estimated the range of LRMC of water supply to be in the range of \$2.50/kL to \$4.00/kL.

Customer impacts



The current mix of usage and fixed charges within a water (only) bill is 80% variable and 20% fixed for a typical house. Our proposed water prices will maintain this mix of charges, which will encourage water conservation and give customers control over their bills.



Location-based water usage charges for very large customers

We have provided a location-based discount on annual water usage above 50,000kL to a number of large water users since 2001. These customers are located close to water source infrastructure and hence little of the water distribution infrastructure is needed to supply them. Only 19 of our customers are eligible for this discount. We are proposing to phase out the discount across the price period so that a single water usage price applies to all volumes of water used.

| PROPOSED WATER USAGE PRICES (WITHOUT INFLATION) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|---|---------------|---------|---------|---------|---------|---------|----------------|
| USAGE PRICE (\$/KL) | | | | | | | |
| First 50,000 kL per year | 2.39 | 2.41 | 2.44 | 2.46 | 2.49 | 2.51 | 5% |
| Over 50,000 kL per year | | | | | | | |
| Dungog | 1.92 | 2.04 | 2.16 | 2.27 | 2.39 | 2.51 | 31% |
| Kurri Kurri | 2.36 | 2.39 | 2.42 | 2.45 | 2.48 | 2.51 | 6% |
| Lookout | 2.23 | 2.29 | 2.34 | 2.40 | 2.45 | 2.51 | 13% |
| Newcastle | 2.17 | 2.24 | 2.31 | 2.37 | 2.44 | 2.51 | 16% |
| Seaham-Hexham | 1.97 | 2.08 | 2.19 | 2.29 | 2.40 | 2.51 | 27% |
| South Wallsend | 2.27 | 2.32 | 2.37 | 2.41 | 2.46 | 2.51 | 11% |
| Tomago-Kooragang | 1.92 | 2.04 | 2.16 | 2.27 | 2.39 | 2.51 | 31% |
| All other areas | 2.39 | 2.41 | 2.44 | 2.46 | 2.49 | 2.51 | 5% |

We arrived at our proposal by considering:



Customer preferences

We surveyed residential and business customers on their preferences for either continuing or stopping the discount. Customers did not indicate majority support for either approach, with roughly one third indicating they did not have a firm preference.



Cost reflectivity

Setting a single usage charge with reference to the Long-Run Marginal Cost of water supply provides signals to customers that encourages efficient decisions. This is particularly important with the tightening of our supply-demand balance.



Customer impacts

A transitional period moderates the bill impacts for the 19 affected customers and allows time for us to work collaboratively with customer on implementing water conservation measures.

Read more on our proposed water pricing in **Technical Paper 8**

Wastewater prices

For wastewater services, owners of apartments pay less than owners of freestanding houses. Owners of apartments currently pay 82.5% of the wastewater charge for houses. We are proposing to move towards a common wastewater service charge for all households over the next price period. IPART has applied a 2.5% annual increase in wastewater charges for the owners of apartments since 2013. Our proposed approach continues the current transition arrangement. We are not proposing to introduce a separate wastewater usage charge for households.

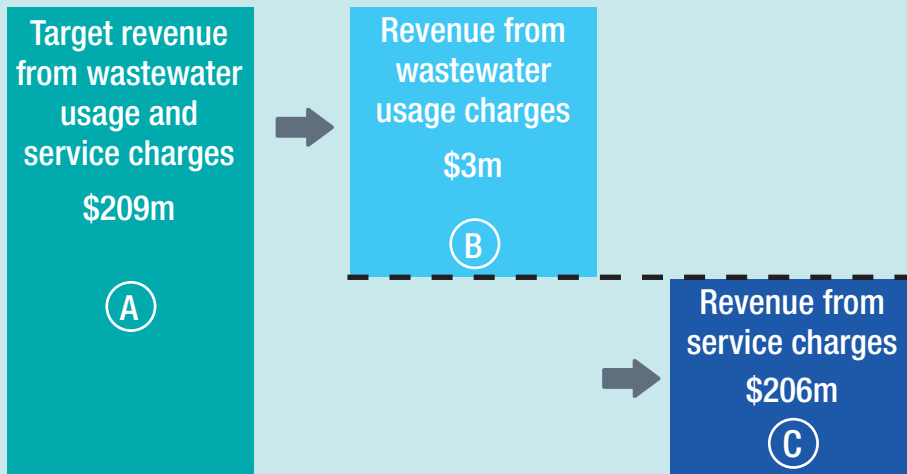
| PROPOSED WASTEWATER SERVICE CHARGES (WITHOUT INFLATION) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|---|---------------|---------|---------|---------|---------|----------|----------------|
| METER CONNECTION CHARGE | | | | | | | |
| Residential – houses ¹ | 762.11 | 796.79 | 830.64 | 867.31 | 903.18 | 941.89 | 24% |
| Non-residential – 20mm meter ² | | | | | | | |
| Residential – apartments ¹ | 628.74 | 677.27 | 726.81 | 780.58 | 835.44 | 894.79 | 42% |
| DEEMED USAGE ALLOWANCE | | | | | | | |
| Residential – houses | 80.40 | 78.00 | 76.80 | 74.40 | 73.20 | 70.80 | -12% |
| Non-residential (first 120/kL) | | | | | | | |
| Residential – apartments | 66.33 | 66.30 | 67.20 | 66.96 | 67.71 | 67.26 | 1% |
| TOTAL WASTEWATER SERVICE CHARGE | | | | | | | |
| Residential – houses ¹ | 651.98 | 675.59 | 699.78 | 724.88 | 750.59 | 777.22 | 19% |
| Residential – apartments ¹ | 537.89 | 574.25 | 612.31 | 652.40 | 694.29 | 738.35 | 37% |
| Non-residential – 20mm meter ² | 842.51 | 872.60 | 902.92 | 934.70 | 966.72 | 1,000.21 | 20% |

¹ Meter connection component has been multiplied by a discharge factor of 0.75

² Meter connection component is multiplied by a discharge factor and scaled according to actual meter size.



How we arrived at prices



Step 1 We start with the revenue that we need to recover from wastewater charges (from page 32, using 2024-25 as an example)



Step 2 We set the wastewater usage charge based on a range of considerations (e.g. \$0.59 in 2024-25, for the reasons described on page 47)

Step 3 We calculate how much revenue we forecast to recover from wastewater usages charges, by multiplying the charge by the forecast volumes of non-residential wastewater sales above the deemed usage allowance (from page 35)



Step 4 We calculate the residual revenue that we need to recover from wastewater service charges, where:

$$C = A - B$$

Wastewater service charges = meter connection charge + deemed usage allowance

Step 5 We calculate meter connection charges by subtracting the deemed usage revenue from the residual revenue requirement (C), then dividing the result by the forecast number of wastewater connections (from page 36)



What does the fixed wastewater service charge cover?



The fixed wastewater service charge covers the costs of transporting the wastewater from your home to Hunter Water's treatment plants, treating it to remove harmful contaminants, reusing nutrients in biosolids and safely discharging clean water to the ocean or to inland rivers or creeks, depending on the location of the nearest treatment plant.

Wastewater, also known as sewage, is the water and anything that is added to it that comes from your sinks, bathrooms, showers, toilets and laundry that is discharged to Hunter Water's system.

Hunter Water has over 5,000 kilometres of wastewater pipes connecting customers to treatment plants. Stretched end-to-end, this underground, and unseen, network would run from Newcastle to Perth and back to Kalgoorlie. The wastewater pipe network requires ongoing maintenance, repair and renewal. As the pipes age, they can crack and deteriorate and eventually require replacement or relining. The wastewater system also suffers regular blockages because of inappropriate disposal of materials, such as wet wipes, and most frequently, because of tree root invasion of the pipes. On average our work crews clear around 70 such blockages every week.

Most of the wastewater discharged by homes and businesses has to be pumped through the pipe network to the treatment plants. We have more than 440 pumping stations throughout our wastewater network so another major cost of providing our wastewater service is maintenance of these pumps and the cost of electricity to run them.

The wastewater pipe network delivers the wastewater to 19 wastewater treatment plants. Complex biological and chemical processes are used to remove the contaminants and disinfect the remaining clear water before it is discharged to the ocean or to a local creek or river. Where opportunities exist, this remaining clean water is also recycled to industry, agriculture and other uses like golf courses. Treatment processes are also heavy users of electricity for transfer pumps within the treatment plant, compressors and aerators, rotating screens and agitators, solids drying and disinfection using ultraviolet light. These processes are all vital to ensuring that the effluent discharged by Hunter Water's treatment plants meets both the high environmental standards set by the NSW Government and the community's expectations.

In addition to covering the above costs, the fixed wastewater service charge covers other financial costs such as depreciation on the assets involved and interest on the borrowings used to fund the construction of the network and treatment plants, renewal of the assets as they wear out and upgrading plant capacity as the population grows.

Wastewater charges

Residential and non-residential customers pay in different ways, but the prices are set with reference to a common base charge.

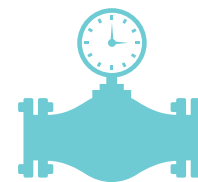
Wastewater charges consist of a fixed service charge for all customers and an explicit usage charge for non-residential customers that applies to the volume of wastewater discharged. The service charge is made up of a fixed meter connection charge and an allowance for assumed usage. An additional wastewater usage charge is applied to non-residential discharges above the allowance.

For household wastewater prices, the main issues we considered were:

- Whether to introduce a wastewater usage charge based on discharge factors (discontinued in 2009).
- Whether the wastewater service charge should differ for the owners of houses and apartments.

All residential customers (owners of apartments and houses) are deemed to have a single 20mm meter connection and a discharge factor of 75%. Non-residential customers pay based on their actual meter size in relation to the 20mm meter base and a customer-specific discharge factor. Non-residential customers within a common metered property share the meter-based service charge.

Wastewater meter connection charges



| PROPOSED PRICES (WITHOUT INFLATION) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|-------------------------------------|---------------|-----------|-----------|-----------|-----------|-----------|----------------|
| RESIDENTIAL | | | | | | | |
| House | 762.11 | 796.79 | 830.64 | 867.31 | 903.18 | 941.89 | 24% |
| Apartment | 628.74 | 677.27 | 726.81 | 780.58 | 835.44 | 894.79 | 42% |
| NON-RESIDENTIAL | | | | | | | |
| 20mm | 762.11 | 796.79 | 830.64 | 867.31 | 903.18 | 941.89 | 24% |
| 25mm | 1,190.79 | 1,244.98 | 1,297.87 | 1,355.17 | 1,411.22 | 1,471.70 | 24% |
| 32mm | 1,950.98 | 2,039.77 | 2,126.43 | 2,220.31 | 2,312.14 | 2,411.24 | 24% |
| 40mm | 3,048.42 | 3,187.14 | 3,322.55 | 3,469.23 | 3,612.72 | 3,767.56 | 24% |
| 50mm | 4,763.16 | 4,979.91 | 5,191.49 | 5,420.67 | 5,644.87 | 5,886.81 | 24% |
| 80mm | 12,193.67 | 12,748.58 | 13,290.21 | 13,876.92 | 14,450.87 | 15,070.22 | 24% |
| 100mm | 19,052.62 | 19,919.65 | 20,765.95 | 21,682.68 | 22,579.48 | 23,547.22 | 24% |
| 150mm | 42,868.39 | 44,819.21 | 46,723.39 | 48,786.04 | 50,803.83 | 52,981.25 | 24% |
| 200mm | 76,210.46 | 79,678.60 | 83,063.81 | 86,730.74 | 90,317.91 | 94,188.88 | 24% |

We arrived at our proposal by considering:



Customer preferences

We asked residential customers their preferred wastewater charge structure. Not surprisingly, customers living in houses preferred a common charge and customers living in apartments preferred a separate, lower charge. The highest overall response favoured one fixed charge for all dwellings, with no usage charge.



Cost reflectivity

There are far greater cost differences between our 19 wastewater systems than between different dwelling types. This spatial variation is driven by the various EPA limits on discharges in each catchment and the sizing of wastewater networks to manage wet-weather flows.



Customer impacts

Our proposed wastewater prices are increasing in line with the additional costs we face. Some of the increase would be offset by discontinuing the Environmental Improvement Charge for backlog sewerage schemes.

We are proposing to continue IPART's transition towards a common household charge regardless of dwelling type.

Why isn't there an explicit wastewater usage charge for households?

No wastewater meter

Wastewater cannot be separately metered – the costs and technical challenges are too great. Without a meter an estimate of a household's wastewater volume is needed. For example, Hunter Water could assume that 75% of water usage is discharged to the wastewater system and apply the usage charge to that amount. This percentage is known as the 'discharge factor'. It would apply to all households. There would not be a way for each household to have its own specific discharge factor.

If a household wanted to reduce the usage portion of its wastewater bill it would need to reduce its water usage (i.e. the amount of water supplied to the house).

Cost to provide services

Most of the costs of wastewater systems are fixed and do not change with the volume of wastewater discharged into the system. Wastewater infrastructure costs are mainly driven by wet-weather overflow rules and discharge standards in different receiving waters (e.g. oceans, rivers and creeks). That is, costs are mainly driven by location.

Limited ability to influence bills

Most household wastewater use is non-discretionary - flushing toilets, and waste from washing dishes and having showers.

Customer preferences

We surveyed households and found that only 26% supported introducing an explicit wastewater usage charge based on discharge factors.

Wastewater usage charges for non-residential customers

Wastewater usage charges are a relatively small variable component of non-residential customer bills. The charges reflect the potential for some businesses to discharge large volumes of wastewater into the system. Since some of the discharge volume may be discretionary, businesses can respond to the price signal that comes from paying a usage charge. That is, businesses will reduce their wastewater discharges if it costs less for them to do so.

Wastewater usage charges are applied explicitly to non-residential customers only where their discharge volumes are above the deemed discharge allowance contained in the wastewater service charge (that is, currently above 120 kilolitres per year).

We propose the wastewater usage charge remains constant in nominal terms at the 2019-20 determined charge.

| PROPOSED PRICES | | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|-----------------|--------------|---------------|---------|---------|---------|---------|---------|----------------|
| Usage charge | \$nominal/kL | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0% |
| Usage charge | \$2019-20/kL | 0.67 | 0.65 | 0.64 | 0.62 | 0.61 | 0.59 | - 12% |

Prices in \$2019-20 do not include inflation.

We arrived at our proposal by considering:



Customer preferences

We have not received any complaints from non-residential customers regarding wastewater usage charges in this price period.



Cost reflectivity

IPART has traditionally set wastewater usage charges with reference to, but not necessarily at, the short-run marginal cost of transporting, treating and disposing of domestic-strength wastewater. The short-run marginal cost covers variable costs associated with wastewater treatment - mainly power, chemicals and waste disposal.

We can see merit in setting charges with reference to the long-run marginal cost but consider there is more work to do to overcome the technical challenges of developing reasonably robust and useful estimates for wastewater services.



Customer impacts

Our proposal is consistent with IPART's decisions in 2013 and 2016.

Read more on our proposed wastewater pricing in **Technical Paper 8**



Stormwater prices

Stormwater is rainwater that runs off buildings and land. In urban areas, the proportion of stormwater run-off is relatively high due to the presence of hard surfaces such as roads, paved areas and roofs. Stormwater is carried in stormwater channels and discharges directly into creeks, rivers, the harbour and the ocean.

Hunter Water owns and maintains about 90 kilometres of stormwater channels in the Newcastle, Lake Macquarie and Cessnock local government areas, servicing 68,000 residential properties and 3,000 non-residential properties (about 30% of the total customer base).

Hunter Water’s role is to maintain the current capacity of the major concrete channels and culverts in specific areas. Local councils have care and control of street level stormwater infrastructure such as street kerb and gutter, stormwater pits, and water quality devices. Councils’ role is to manage the quality, quantity and frequency of stormwater runoff from existing or proposed developments (both public and private) including stormwater discharged from roads, buildings, open spaces and any other areas. This is achieved through land use planning, development control and flood mitigation works.

The current stormwater pricing structure comprises fixed charges for two categories of residential properties (depending on dwelling type, as an indicator of land area) and four categories of non-residential properties based on land area. Some large undeveloped properties, such as parks, sports fields and golf courses, have a greater ability to absorb stormwater flows than developed properties with hard surfaces. Where appropriate, these properties are classed as low impact properties and pay a low impact charge. IPART introduced a similar low impact category for the owners of houses in 2016.

We propose investing around \$23 million over 2020-25 to make sure the system continues to work properly, meet regulatory requirements and improve safety for the community near high-risk stormwater channels.

We also propose investing \$11 million for naturalisation of concrete stormwater channels to improve amenity and liveability. We are proposing that the cost of this investment be recovered from the broader customer base, in line with customers’ willingness to pay.

We have calculated prices by dividing the stormwater revenue requirement by the forecast number of properties in each property category.

We arrived at our proposal by considering:



Customer preferences

We have received no complaints over the current price period about the way we charge for stormwater services.



Cost reflectivity

The price paid broadly reflects a property’s land size. Land size is a reasonable and readily available indicator of a customer’s contribution to stormwater costs.

Low impact categories recognise that some properties have a greater ability to absorb stormwater flows than similar properties with lots of hard surfaces.

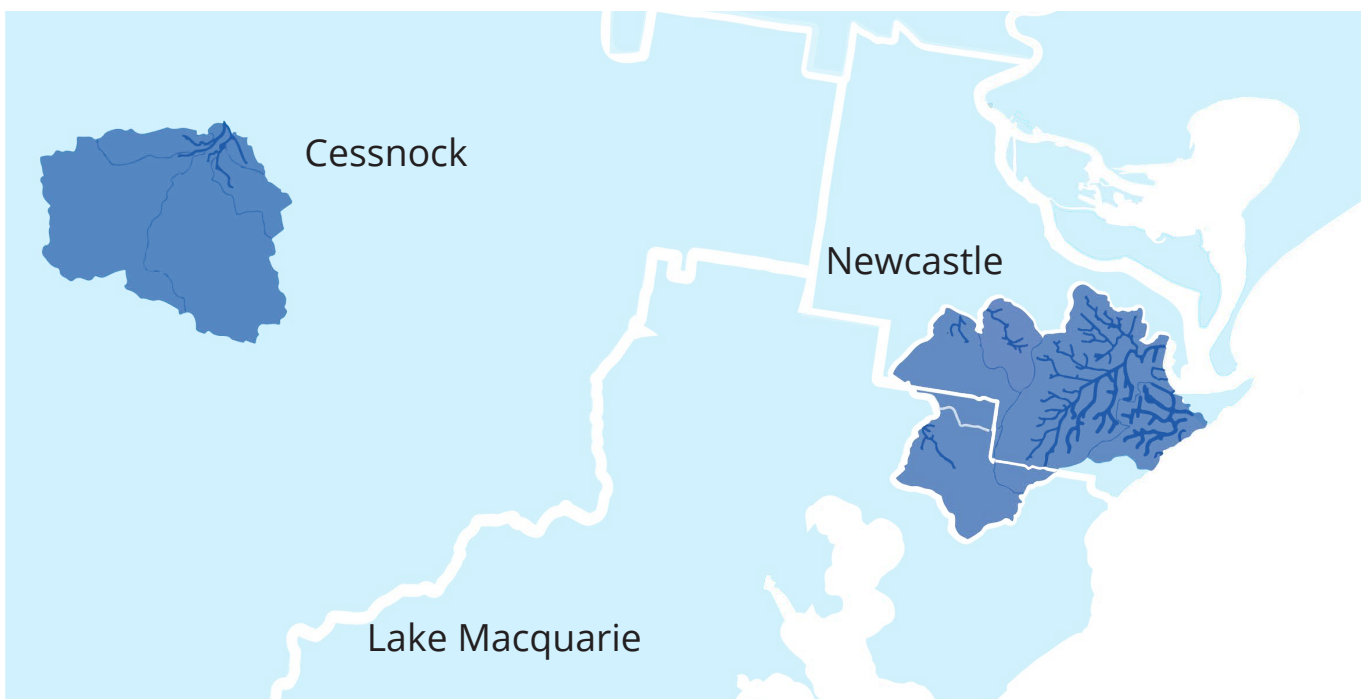


Customer impacts

The additional revenue requirement has been spread evenly across all customers.

| PROPOSED STORMWATER PRICES (WITHOUT INFLATION) | IPART 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|--|---------------|----------|----------|----------|----------|----------|----------------|
| RESIDENTIAL PROPERTIES | | | | | | | |
| Houses | 80.01 | 82.89 | 88.55 | 94.61 | 101.07 | 107.98 | 35% |
| Apartments | 29.61 | 30.67 | 32.77 | 35.01 | 37.40 | 39.96 | 35% |
| Residential low impact | 29.61 | 30.67 | 32.77 | 35.01 | 37.40 | 39.96 | 35% |
| NON-RESIDENTIAL PROPERTIES | | | | | | | |
| Small (<1,000m2) | 80.01 | 82.89 | 88.55 | 94.61 | 101.07 | 107.98 | 35% |
| Non-residential low impact | 80.01 | 82.89 | 88.55 | 94.61 | 101.07 | 107.98 | 35% |
| Medium (1,001 to 10,000m2) | 261.31 | 270.70 | 289.21 | 308.98 | 330.09 | 352.65 | 35% |
| Large (10,001 to 45,000m2) | 1,661.94 | 1,721.67 | 1,839.37 | 1,965.10 | 2,099.41 | 2,242.89 | 35% |
| Very large (>45,000m2) | 5,280.39 | 5,470.18 | 5,844.14 | 6,234.62 | 6,670.35 | 7,126.21 | 35% |

Only customers located in declared stormwater areas in small parts of Cessnock, Lake Macquarie and Newcastle local government areas incur stormwater charges from Hunter Water. Declared stormwater areas are shown in dark blue on the map.



Read more on our proposed stormwater pricing in **Technical Paper 8**

Other prices

Hunter Water provides a range of services other than water, wastewater and stormwater services for which IPART regulates prices. These services are only provided to a relatively small number of customers.

Recycled water services for non-potable end uses in residential areas

Diversifying water sources for fit-for-purpose use has contributed to reducing demand for drinking water and improving the environmental sustainability of our region.

Hunter Water currently supplies around 5,000 ML of recycled water each year. Recycled water schemes can be funded in a number of ways, in accordance with IPART's pricing arrangements for recycled water, which include prices paid by recycled water customers.

The current price review will only consider prices for recycled water services for non-potable end uses in residential areas.

This year we have commenced supply of recycled water scheme for homes in the areas of Gillieston Heights and Chisholm (Thornton North). The Gillieston Heights connection will supply approximately 771 properties and Chisholm will supply around a further 400 properties. Once fully commissioned, recycled water usage across this combined residential customer base is expected to be around 85 ML per year.

We arrived at our proposal by considering:



Customer preferences

Some affected customers in Chisholm and Thornton North have told us that the current pricing arrangements are unfair because the fixed annual charge makes their bills higher than bills for customers with drinking water only.



Cost reflectivity

Our proposed prices, along with recycled water developer charges paid upfront when connecting to the recycled water schemes, would recover less than the total efficient cost of service provision.

This is due to external factors that reduced the number of households connected to the recycled water system.

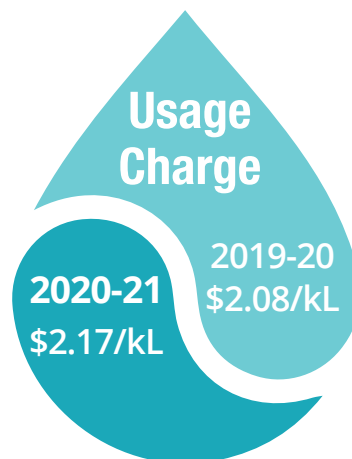
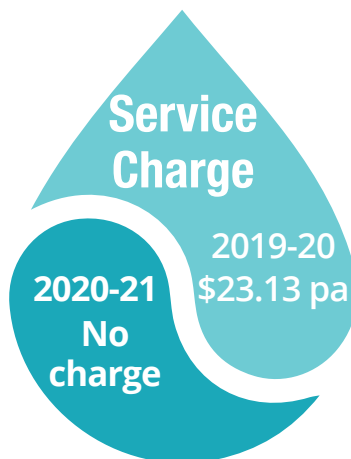


Customer impacts

We are proposing to set the price so that recycled water customers do not suffer a cost disadvantage relative to drinking water users.

We are proposing to:

- Set the variable charge at 90% of the set drinking water charge
- Remove the fixed charge



Read more on our proposed recycled water pricing in **Technical Paper 9**

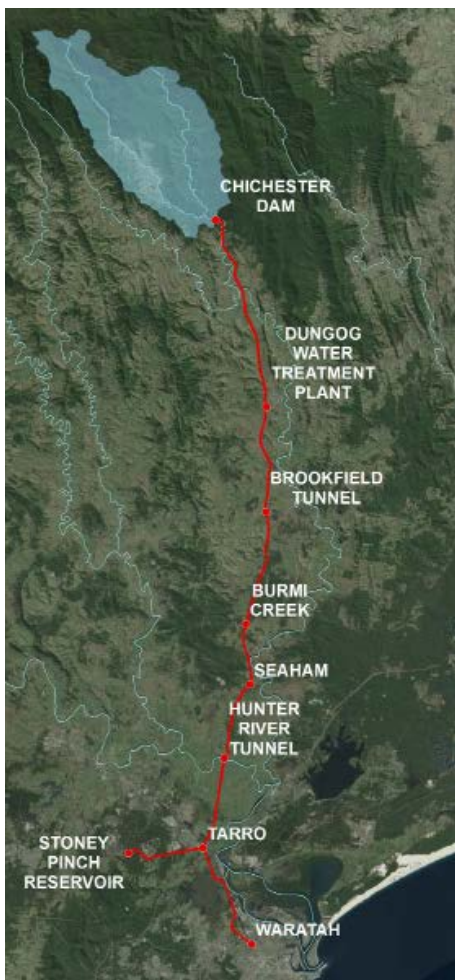


Raw water charge

We are proposing to discontinue unfiltered water charges and replace these with raw water charges. This better reflects the characteristics of the service we are providing, the infrastructure used to provide the service, service levels and safe end-uses for the water. This price would apply to customers between Chichester Dam and Dungog that are directly connected to the Chichester Trunk Gravity Main.

| PROPOSED RAW WATER PRICES (WITHOUT INFLATION) | IPART 2019-20 ¹ | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | CHANGE 2020-25 |
|--|----------------------------|---------|---------|---------|---------|---------|----------------|
| USAGE PRICE (\$/KL) | | | | | | | |
| Raw water service charge (\$/year) | ≥ \$100.88 ² | 0 | 0 | 0 | 0 | 0 | -100% |
| Raw water usage charge (\$/kL) | 2.18 | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 | - 76% |

Notes: 1. IPART's 2016 Price Determination set an unfiltered water usage charge and a common water service charge applied to drinking water and unfiltered water customers. We are proposing that the services be considered 'raw water' (untreated) and prices be calculated in a different manner. 2. All residential dwellings currently pay \$100.88 ('deemed' 20mm water meter). Non-residential properties pay based on their actual meter size relative to the 20mm base.



Trade waste services

Hunter Water receives trade wastewater from our customers via property connections to our wastewater network and tankers that deliver wastewater directly to our wastewater treatment plants. We have around 2,300 connected trade waste customers and around 30 tankered trade waste customers.

Trade wastewater discharges are often higher strength than domestic wastewater, placing a greater load on our wastewater treatment facilities. We also incur administrative costs in managing customers and monitoring discharges to ensure that we comply with all necessary regulatory obligations. Our proposed trade wastewater charges are set to recover these costs.

We arrived at our proposal by considering:



Customer preferences

We are proposing to introduce after-hours access to tanker receipt, in response to findings from a customer survey. This will be offered on a pay-for-service basis.



Cost reflectivity

We have undertaken a comprehensive review of all trade wastewater charges to ensure that they are cost reflective, simple to administer, easy to understand and are not out of step with other jurisdictions.

We are proposing changes in the pricing structure to reflect the service required to manage the risks associated receiving the high-strength waste.



Customer impacts

We used a model to assess several different options for our revised charges and tested the potential bill impacts for our customers. The customer impact analysis has informed decision-making in relation to our proposed charges and has also provided a platform for engaging with customers about our proposed charges.

We are proposing to:

- Maintain our pricing structure that is based on the risk of receiving the type of trade waste
- Remove the pollutant charges for everything except biochemical oxygen demand (BOD) and total suspended solids (TSS) because BOD and TSS are now the only significant cost drivers
- Remove inspection fees for everyone except major customers
- Remove the pollutant charge and delivery processing fee
- Increase the usage charge for tankers when automated receipt upgrades are complete
- Increase all agreement fees to better reflect the cost of managing compliance
- Introduce an annual agreement fee for trade wastewater received via a tanker.



Read more on our proposed trade waste pricing in **Technical Paper 9**



Miscellaneous services

Hunter Water offers a range of miscellaneous and ancillary services related to water, wastewater or stormwater services for which no alternative supply exists. These services are typically discrete, one-off activities that are only utilised by a small number of customers.



Development fees

These charges cover the administrative and application processing costs associated with managing potential new developments. Examples include advice on servicing requirements, complex works design review and inspection.



Customer services fees

These are charges for services that are largely administrative in nature and related to individual properties. Examples include damaged meter replacement and provision of wastewater pipe location diagrams.

We are proposing to reduce the number of miscellaneous charges from 55 to 45 for simplicity and administrative efficiency. We are proposing price reductions for 31 charges and price increases for six of our services.



Charges for miscellaneous services are set on a cost recovery basis – based on direct labour costs, the direct costs of materials and contractors, and indirect costs based on overheads. Revenue from these charges makes up only around 1% of our overall revenue.

We propose price reductions for some services due to improved processes, reduced staff time and automation. Our proposed prices are up to 20% lower.

Our proposed price change have been affected by increases in some of our costs, such as materials and contractors, and decreases in others.

We are proposing to retain the current practice of increasing charges for miscellaneous services by the change in the consumer price index each year over the 2020–25 price period.

Read more on our proposed trade waste pricing in **Technical Paper**



Impacts of our proposals

Our proposed prices will mean increases to bills for most customers. The extent of the increase depends on the type of customer and the types of services that they receive from us.

Where possible, we have tried to phase in bill increases across the five-year price period, smoothing our revenue requirements rather than having a higher increase at the start of the price period. We have also taken customer impacts into account in arriving at our proposed pricing structures and price levels.

Impacts on residential customers

How much bills change for residential customers and consumers depends on how much water is used, the dwelling type and tenancy type. Here are the bill impacts for a sample of typical water and wastewater customers, by the end of the five-year price period. A detailed summary of impacts on residential customers is provided in Technical Paper 8.

| CUSTOMER TYPE | WATER USE (kL) | IPART 2019-20 | 2024 -25 | CHANGE 2020-25 | |
|------------------------|----------------|---------------|----------|----------------|-------|
| Apartment | 115 | \$955 | \$1,272 | 33% | \$317 |
| House | 185 | \$1,236 | \$1,515 | 23% | \$279 |
| Pensioner (in a house) | 100 | \$672 | \$868 | 29% | \$197 |

Notes: Rounded to nearest whole dollar. Figures include 2.5% per year inflation.

Affordability

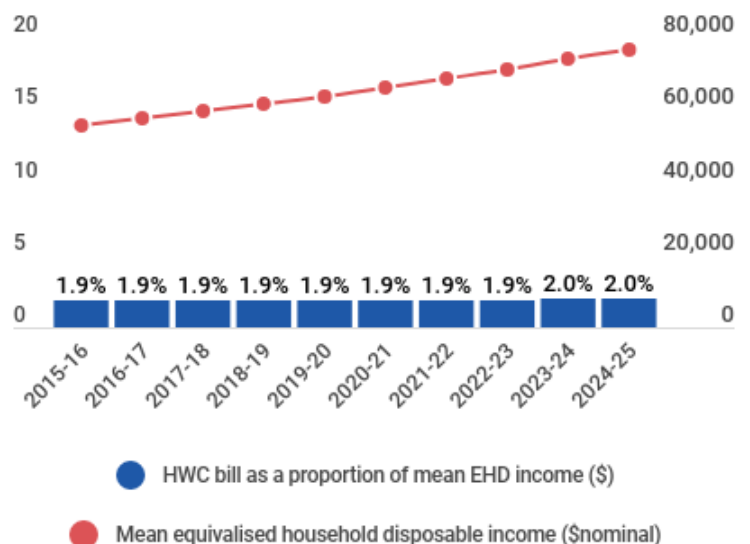
Our customer survey has provided insights on a number of factors that influence household bills.

For water, the most important consideration was the expected impact on the customer’s own bill. This was followed by keeping bills predictable and the ability to influence bills. Our proposal keeps water usage charges at 72% to 83% of the bill, depending on the dwelling type.

For wastewater, survey respondents indicated that fairness of bills across households was the most important factor.

Most customers (74%) are willing to pay an additional \$22 per year for stormwater amenity improvements and recycled water for public irrigation.

We have compared bills with the Australian Bureau of Statistics data on equivalised household disposable (EHD) income for New South Wales. This measure shows the funds available to households to pay for goods and services, including utility services. Looking out to 2025, average residential water and wastewater bills remain at around 2% of the “all persons mean EHD income”. We compare pensioner bills as a proportion of the “second quintile EHD income”. Pensioner bills remain at around 2% of this income measure.



Payment assistance for residential customers

Hunter Water recognises it is sometimes difficult for individual customers to find the money to cover all their household bills. These periods of financial pressure may be short or long term and usually cause considerable stress for both individuals and families.



We have a relatively high proportion of customers who may need payment assistance

Over half of our customers have average or below average household incomes relative to the rest of Australia and New South Wales:

- Two thirds of Hunter Water customers are 'middle Australians', much higher than the NSW average.
- Hunter Water has fewer affluent individuals and families compared to NSW and Australia.
- The proportion of young families establishing new homes in the Hunter is much higher than the NSW average.

This price period we have maintained our efforts in efficiently managing debt. Our focus has shifted to debt prevention, rather than aged debt collection. We offer a range of assistance measures to help manage bill payment for our customers, and for tenants who pay for water usage.

Around 1.8% of residential customers and consumers seek support through our financial hardship support programs. We do not take debt collection action for these customers.

Each year there are only a handful of complaints to the Energy and Water Ombudsman of NSW in relation to aged debt.

We will continue to provide various rebates and exemptions to mitigate the impacts of prices on customers

- 25% of our customers are eligible for, and receive, pensioner rebates
- Customers with health and special needs receive water usage bill concessions
- Nursing homes, religious, charitable and public benevolent bodies ('exempt' properties) receive a reduction in services charges

Customers experiencing hardship often avoid contact with Hunter Water due to a lack of understanding or knowledge of the options available to them

• In 2018 we contributed to a quantitative and qualitative study by the Public Interest Advocacy Centre on payment difficulties and disconnection from essential services (entitled Close to the Edge). As a result, we have implemented many of the recommended strategies to reduce disconnection and debt, and make bills more affordable long term.

• As an example, we have implemented proactive SMS engagement to notify a customer that a restriction notice is being issued, so that the customer can take action to remedy the situation and thereby prevent the restriction action. The SMS contains a payment link, a number to call to discuss options and details of assistance available.

Providing a hand up

We aim to provide a helping hand, addressing customer debt with compassion and treating customers experiencing financial hardship with dignity

Wrap around approach
We partner with local service providers and provide referrals to additional support services

Flexible Payment Options

- Direct debit (including installments)
- BPAY (telephone and Internet)
- In person (at Australia Post)
- By post



CentrePay

A free and voluntary service to make bill payments as regular deductions from Centrelink payments

Bring Your Bills Days

Free consultation day to help connect people experiencing financial hardship to a range of service providers and specialist agencies that can provide assistance.



Payment Assistance Scheme

Credits provided by Hunter Water through registered community welfare agencies based on individual needs and circumstances



Essential Plumbing Assistance

A plumbing service for customers who may be experiencing financial difficulty and unable to afford essential or emergency plumbing repairs. We provide support, payment assistance and a rebate on excess water usage.



Field Visits

Home visits to engage with customers when other avenues of making contact, such as phone calls, have been exhausted. The purpose of each visit is to break down any barriers, build rapport, gain an understanding of the customer's circumstances and provide options as a way forward to manage accounts.



Impacts on non-residential customers

It is difficult to generalise about the impacts of price changes on non-residential customers. Meter configurations, volumes of water used, wastewater discharge factors and trade waste composition vary from business to business making it difficult to define a 'typical' non-residential customer bill.

An analysis of non-residential water bills for a sample of small, medium and large non-residential businesses is provided (including 2.5% per year inflation). A detailed summary of impacts on non-residential customers is provided in Technical Paper 8.

| PROPERTY TYPE | IPART 2019-20 | 2024-25 | PRICE PERIOD CHANGE | | YEARLY CHANGE | |
|---|------------------|-----------|------------------------|-----|------------------|----|
| | | | | | | |
| Service station | \$2,173 | \$2,636 | \$462 | 21% | \$92 | 4% |
| Small shop - 20mm meter | \$1,109 | \$1,380 | \$271 | 24% | \$54 | 4% |
| Small shop - 25mm meter | \$1,972 | \$2,491 | \$520 | 26% | \$104 | 5% |
| Large licenced club | \$55,383 | \$69,168 | \$13,784 | 25% | \$2,757 | 5% |
| Medium licenced hotel | \$5,890 | \$7,220 | \$1,330 | 23% | \$266 | 4% |
| Regional shopping centre | \$349,720 | \$416,694 | \$66,974 | 19% | \$13,395 | 4% |
| Large office - Newcastle | \$20,930 | \$24,983 | \$4,052 | 19% | \$810 | 4% |
| Regional office - Maitland | \$6,554 | \$8,048 | \$1,494 | 23% | \$299 | 4% |
| Small industrial firm | \$1,190 | \$1,494 | \$305 | 26% | \$61 | 5% |
| Medium industrial firm with location-based charge | \$316,217 | \$380,744 | \$64,527 | 20% | \$12,905 | 4% |
| Large industrial firm with location-based charge and no sewer | \$394,378 | \$546,229 | \$151,851 | 39% | \$30,370 | 7% |
| Large industrial firm with location-based charge and sewer | \$542,523 | \$712,477 | \$169,953 | 31% | \$33,991 | 6% |
| Small nursery low discharge factor | \$1,867 | \$2,181 | \$314 | 17% | \$63 | 3% |
| Large nursery low discharge factor | \$15,529 | \$18,347 | \$2,819 | 18% | \$564 | 3% |
| Fast food outlet | \$3,566 | \$4,392 | \$826 | 23% | \$165 | 4% |
| Shopping centre with low strength trade waste | \$24,453 | \$30,741 | \$6,288 | 26% | \$1,258 | 5% |
| Shopping centre with high strength trade waste | \$33,729 | \$48,631 | \$14,902 | 44% | \$2,980 | 8% |
| Large industrial firm with high strength trade waste | \$160,679 | \$195,175 | \$34,496 | 21% | \$6,899 | 4% |
| Large industrial firm with high strength trade waste | \$48,456 | \$68,566 | \$20,110 | 42% | \$4,022 | 7% |

Financial impact on Hunter Water

Hunter Water needs to generate enough cash flow to cover the costs of operating and investing in assets. IPART's building block approach sets revenue requirements that should provide enough funds to cover these requirements.

IPART's financeability methodology sets targets for three financial ratios that a BBB credit rated business should achieve, under two scenarios:

A benchmark test - based on a hypothetical water utility.

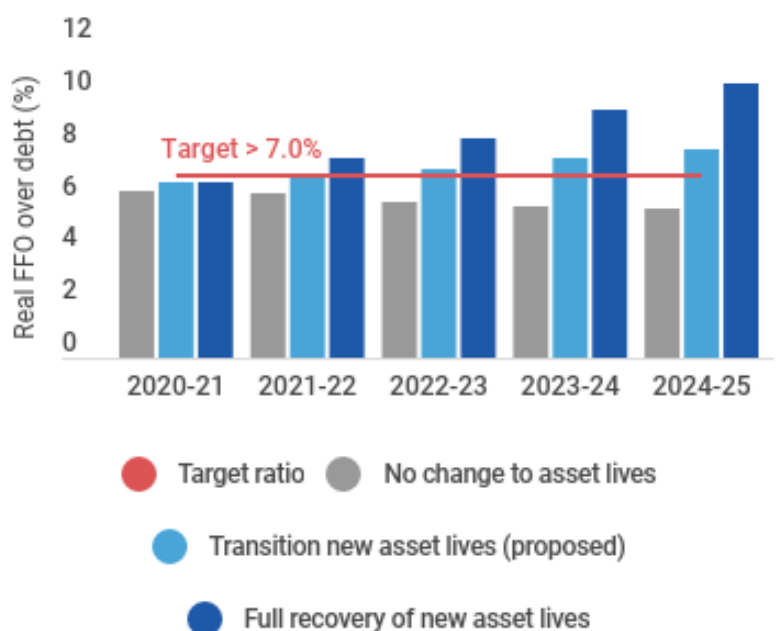
An actual test - using Hunter Water's actual debt and equity characteristics.

| RATIO | BENCHMARK TEST | | ACTUAL TEST | |
|----------------|----------------|------------------------|-------------|------------------------|
| | TARGET | HUNTER WATER METRICS | TARGET | HUNTER WATER METRICS |
| Interest cover | >2.2x | ✓ | >1.8x | ✓ |
| FFO over debt | >7.0% | ✗ 2020-22 ✓ 2023-25 | >6.0% | ✗ 2020-21 ✓ 2022-25 |
| Gearing | <70% | ✓ | <70% | ✓ |

Our weakest financial metric is funds from operations (FFO) over debt. Moody's credit rating agency advised this metric is close to minimum tolerance levels in their annual assessment. Whilst this ratio indicates a potential financeability concern in the first two years of analysis, it is encouraging to see results improve over the price period. The ratio improvement results from our proposed regulatory asset lives, which reflect better the economic life of our assets, increasing cash flows to the business as investment in these assets is recovered in a timely manner.

FFO over debt outcomes are quite different depending on whether we maintain the current regulatory asset lives, transition in new regulatory asset lives (as proposed) or implement new regulatory asset lives in full.

Benchmark test - Real FFO over debt scenarios

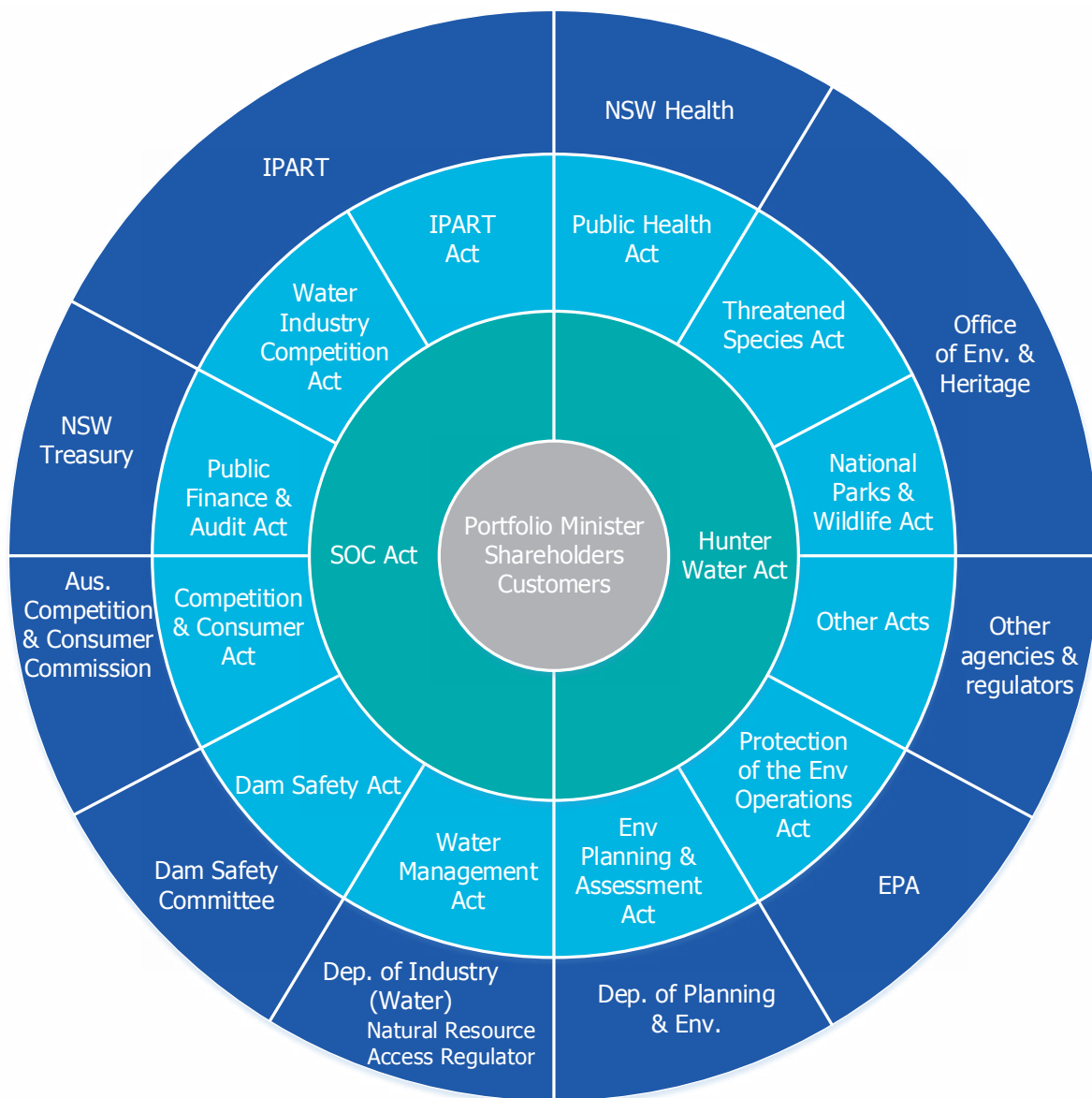


Our regulatory framework

We are a State-owned Corporation, wholly owned by the NSW Government. The Hunter Water Act 1991 and State-owned Corporations Act 1989 establish us and our principal functions. The Act sets out the requirement for an operating licence, issued by the NSW Government and administered by IPART. The licence both enables and requires us to provide essential water, wastewater and stormwater drainage services to connected customers in the area of operations.

Hunter Water operates within a comprehensive regulatory framework that includes regulation under various state and federal legislation.

Regulations and regulators are in place to protect public health and safety, consumers, and the environment and encourage competition.



Read more on our operating context in **Technical Paper 10**

Managing Director's declaration

In accordance with the Guidelines for Water Agency Pricing Submissions, December 2017 (the Guidelines), of the Independent Pricing and Regulatory Tribunal of New South Wales, I declare that:

- the information provided in our pricing submission submitted on 1 July 2019 is the best available information of the financial and operational affairs of Hunter Water Corporation and has been checked in accordance with the Guidelines; and
- there are no circumstances of which I am aware that would render the information provided to be misleading or inaccurate.
- a written explanation of how we have estimated our tax depreciation forecasts is provided in Technical Paper 6.

Certified by the Managing Director:

Jim Bentley
Managing Director

Date



List of technical papers & abbreviations

LIST OF TECHNICAL PAPERS

About this submission

1. Engaging with our customers and community
2. Service levels
3. Form of regulation
4. Capital expenditure
5. Operating expenditure
6. Revenue requirements
7. Demand for services and growth
8. Pricing of water, wastewater and stormwater services
9. Pricing of other services
10. Our role, operations and operating context

ABBREVIATIONS

| | |
|-------|---|
| BOD | Biochemical Oxygen Demand |
| EHD | Equivalised Household Disposable income |
| EPA | NSW Environment Protection Authority |
| IPART | Independent Pricing and Regulatory Tribunal |
| LRMC | Long Run Marginal Cost |
| SRMC | Short Run Marginal Cost |
| TSS | Total Suspended Solids |
| WACC | Weighted Average Cost of Capital |

Key statistics

| INDICATOR | UNITS | 2019-20 (FORECAST) |
|--|---------------------------|-----------------------|
| WATER | | |
| Number of treatment plants | No. | 6 |
| Total operating capacity of treatment plants - average | Megalitres per day | 340 |
| Total operating storage capacity (dams and aquifers) | Megalitres | 276,685 |
| Maximum day's demand | Megalitres per day | 299 |
| Average day's demand | Megalitres per day | 191 |
| Residential average consumption | Kilolitres per year | 175 |
| Per capita consumption (residential and non-residential) | Litres per person per day | 278 |
| Operating expenditure | \$'000 | 73,000 |
| Capital expenditure | \$'000 | 55,000 |
| WASTEWATER | | |
| Number of treatment plants | No. | 19 |
| Total treatment capacity | Megalitres per day | 513 |
| Total volume of sewage collected | Megalitres per day | 157 |
| Estimated volume of trade waste collected | Megalitres per day | 29 |
| Operating expenditure | \$'000 | 80,800 |
| Capital expenditure | \$'000 | 122,000 |
| STORMWATER | | |
| Length of stormwater channels/pipes | Kilometres | 96 |
| Operating expenditure | \$'000 | 1,700 |
| Capital expenditure | \$'000 | 4,000 |
| CUSTOMERS | | |
| WATER | | |
| Residential dwellings | No. | 239,598 |
| Non-residential billed end users | No. | 13,048 |
| Estimated population with service | No. | 585,658 |
| WASTEWATER | | |
| Residential dwellings | No. | 230,132 |
| Non-residential billed end users | No. | 11,697 |
| Estimated population with service | No. | 561,535 |
| STORMWATER | | |
| Residential dwellings | No. | 65,636 |
| Non-residential billed end users | No. | 3,310 |
| Estimated population with service | No. | 160,200 |



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