SUBMISSION TO IPART

On prices to apply from 1 July 2016

Submission to IPART on prices to apply from 1 July 2016

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Hunter Water Corporation
Submission to IPART on prices to apply from 1 July 2016

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CONTENTS

APPENDICES

TABLES

FIGURES

EXECUTIVE SUMMARY

Getting the basics right

Hunter Water is not proposing any significant changes to expenditure levels, pricing structures or the regulatory framework in this price submission. Hunter Water is concentrating its efforts on delivering core business services at least cost over the four-year price period.

Hunter Water already offers some of the lowest prices for water and wastewater services in Australia. Hunter Water's bill for a residential customer using 200 kilolitres per year was the lowest amongst large utilities with at least 100,000 connected properties in the latest National Performance Report. This is largely driven by the lowest operating costs per property relative to other metropolitan water utilities offering similar services.

Hunter Water has implemented a series of important changes to business practices in the current price period. These initiatives include an asset recycling program, a substantial reduction in the capital expenditure program, reducing regulated operational expenditure below allowed levels and contracting out the operation of all water and wastewater treatment plants. At the same time, Hunter Water has participated in the development of the Lower Hunter Water Plan and implemented the key reforms from that planning process.

This price submission describes Hunter Water's plans to contain costs and focus on the efficient delivery of core services. In terms of prices, Hunter Water proposes a modest increase over the four years, an average annual rise of one per cent in real terms. The majority of residential and business customers will see their bills increase by no more than the rate of inflation.

Tight management of expenditure

The main way that Hunter Water can maintain its financial position and ensure prices are affordable for customers is by tightly controlling its operating and capital expenditure programs.

Hunter Water is on track to outperform the regulated operating cost allowances set by IPART for the initial three years of the current price period. Hunter Water expects to spend $381 million over the current period, some $11 million less than the IPART allowance ($2015-16). Hunter Water has made savings in a range of areas: lower energy costs, lower labour costs, market testing of the treatment operations contract, lower defined benefit superannuation contributions and the repeal of the carbon tax.

Hunter Water proposes a modest real increase of 1.2 per cent per annum in operational expenditures relative to the 2015-16 base year over the next price period, which is less than the 1.3 per cent projected increase in connected properties. Additional costs in the next four years reflect increases in electricity usage, servicing growth, higher rates and taxes, and ensuring regulatory compliance.

Hunter Water's capital expenditure over the current three-year price period is in line with the IPART allowance of $239 million ($2015-16), after adjusting for unforeseen changes in circumstance. Forecast spending of $286 million for the period includes an IPART-acknowledged carryover of $36 million of capital programs from 2012-13, an additional $8.5 million on new projects supported by the Housing Acceleration Fund and expenditure on projects arising from the Lower Hunter Water Plan.

Hunter Water's capital expenditure program over the next four-year period is $388 million ($2015-16). The capital works program is similar in size to that delivered in the current capital program – $97 million per year in next price period compared with $95 million per year in the current period ($2015-16). The majority of the investment program will be driven by mandatory standards and asset service reliability (73 per cent) and connections growth (18 per cent). The level of annual capital expenditure is forecast to remain stable across the 10-year portfolio.

Sale of non-core assets and market testing of services

Hunter Water has successfully completed a number of non-core asset sales and is currently considering further sales. These are assets that are not essential to Hunter Water's core function of providing reliable and safe drinking water and sewer services.

- Hunter Water's head office in Newcastle was sold in 2014-15.
- Hunter Water Australia Pty Limited, a wholly-owned subsidiary of Hunter Water, was sold at the end of 2014. The engineering consulting business and the laboratory business were purchased by separate companies.
- Property agents have been appointed to sell the Tillegra property holdings, 6,000 hectares of land north of Dungog.
- Hunter Water is considering the sale of the Kooragang Industrial Water Scheme during 2015-16. The Scheme provides high quality water for industrial purposes under a contract to a large customer on Kooragang Island, saving up to 3.3 billion litres of drinking water per year.

Hunter Water uses the revenue generated from these asset sales to pay down borrowings or fund new investment in capital works.

In addition to the asset recycling program, Hunter Water has strengthened its use of competitive tendering to achieve price advantages. Hunter Water undertook a competitive tender for the operation and maintenance of the 25 water and wastewater treatment plants it owns. Veolia was the successful tenderer and commenced the treatment contract in October 2014. The treatment contract has delivered lower operational costs and enabled the bundling of the treatment contract and a range of smaller contracts with a specialist service provider.

The proportion of operating and capital expenditure outsourced is among the highest by large urban water utilities. In the current price period, 75 per cent of non-labour operating expenditure has been market-tested.

Weak financial position

Hunter Water's financial metrics are forecast to be stable over the next determination period and are within the Baa2 (BBB) benchmarks set by IPART, although the business is susceptible to a credit rating downgrade. There is no scope for any improvement in the financial position to protect against adverse market conditions such as water sales falling below forecasts or interest rates rising through time.

This price submission proposes a real post-tax weighted average cost of capital of 4.6 per cent, consistent with IPART's methodology and current market conditions. This weighted average cost of capital estimate allows for the maintenance of the credit metrics, but only marginally.

Hunter Water is below investment-grade in all but one of the four credit metrics published by Moody's Investor Services. It is only the 'net debt to regulatory asset base' ratio, an assessment of the actual gearing of the business, which ensures Hunter Water maintains an overall investment-grade credit rating. If Hunter Water were to be geared at IPART's notional economic level of 60 per cent, the overall credit rating basis would be BBB- with a risk of a further downgrade.

In its recent review of Hunter Water's credit rating, Moody's awarded Hunter Water a baseline credit assessment of Baa2 (BBB). The BBB assessment was underpinned by the predictability of the regulatory regime, the stable operating environment and monopoly-like market position. Moody's did note, however, that Hunter Water's rating is constrained by its leverage when measured on a 'funds from operations to net debt basis'.

Forecast cash flows, assuming a continuation of a real post-tax weighted average cost of capital of 4.6 per cent for next price period, are not sufficient to service the proposed moderate capital program. Hunter Water anticipates that it will need to borrow an additional $199 million over the coming price period.

As the NSW Government requires State-owned Corporations to maintain a minimum of an investment-grade credit rating, this presents a difficult financial position which, in the absence of any significant increase in revenues, reinforces the need to eliminate all activities and associated costs that are not considered to be part of a core undertaking.

This submission proposes that Hunter Water will not undertake any material discretionary spending that is not essential for the provision of core water, sewerage or stormwater services to the standards required by the operating licence or by other legislative or regulatory instruments.

Timing of the price period

In mid-2014, IPART agreed to a request from Hunter Water to start the next price period from 1 July 2016, one year earlier than originally scheduled. Hunter Water sought to realign its price determination cycle with that of the other major NSW water utilities. Such an approach enables a better comparison of costs between businesses. It also ensures a degree of consistency in the price movements that are driven by IPART's decision on the weighted average cost of capital for water utilities.

Customer engagement

Hunter Water has developed the expenditure and pricing proposals contained in this submission after considering a range of feedback from customers. Hunter Water commissioned an independent survey of 400 customers in 2014, specifically for this price submission, that sought views on affordability, price structures and assistance for customers experiencing financial hardship.

The survey results showed that most Hunter Water customers considered that water bills provided value for money and were more affordable than other utilities. Around one third of customers expressed some concern with the fairness of bills, such as the overall level of bills, high fixed sewer service charges and control over bills. Hunter Water has attempted to address these concerns in the submission whilst adhering to IPART's pricing principles.

Hunter Water recognises that some customers may not always have the financial means to pay their bills when they fall due. Hunter Water has a range of measures to assist such customers, which are outlined in detail in the submission.

Annual revenue requirement

The annual revenue requirement is driven by the key building blocks: the allowed rate of return on the regulatory asset base, depreciation and operational expenditure. Hunter Water's overall revenue requirement increases by inflation plus one per cent (the X factor) per annum over the price period. The separate X factor for each product offering varies depending on the relative allocation of operating and capital expenditure in the period, as shown below.

Real change in revenue requirement for water, sewer and stormwater services

	Average annual increase
Water	2.8%
Sewer	-0.6%
Stormwater drainage	1.2%
Total revenue requirement	1.0%

Proposed prices

The submission provides a detailed breakdown of the impact of bills on different household types (owners of houses and home units, pensioner customers) and on a range of non-residential businesses. Most customers will see no increase in bills above the rate of inflation. Owners of flats and units will see bills rise progressively across the four years as the fixed sewer service charge increases.

The main features of the proposed prices are:

- **Water usage charges will stay the same at $2.24 per kilolitre ($2015-16) across the four years.**
- **Water service charge for residential customers will increase from $17.89 per year in 2015-16 to $58.72 in 2019-20 ($2015-16).**
- **Sewer service charges for standalone houses will decrease from $598.13 in 2015-16 to $549.07 in 2019-20 ($2015-16).**
- **Sewer service charges for flats and units will increase over the price period to align with the charge for standalone houses. The increase will be phased in across the four years. The charge will rise from $433.63 in 2015-16 to $549.07 in 2019-20 ($2015-16).**
- **Stormwater charges for residential units will increase annually in real terms by 1.1 per cent while for houses and non-residential stormwater customers the annual real increase will be 1.4 per cent.**
- **The Clarence Town special levy to fund the town's sewerage scheme remain constant in real terms at $78.86 ($2015-16) until it ceases in 2019.**

Hunter Water considers that the effect on overall prices proposed in this submission are modest and are designed to ensure that the business is able to maintain the delivery of water, sewerage and drainage services in accordance with its operating licence at prices that remain affordable to its customers.

Any further reduction to the prices proposed in this submission would further impact on Hunter Water's ability to invest in the maintenance, refurbishment and expansion of its infrastructure and may adversely impact on the standard of service provided to customers.

Pricing of water services

To maintain a strong water conservation signal, Hunter Water's charging structure is based on the well-accepted, pay-for-use philosophy with most of the Corporation's water revenue coming from usage charges.

Hunter Water proposes to maintain the current water usage price in real terms for the period to 2019-20 ($2.24 in $2015-16). The usage price is consistent with past IPART modelling of the long-run marginal cost of Hunter Water's next source augmentation. As the Lower Hunter Water Plan 2014 did not identify a source augmentation, Hunter Water has no basis to recalculate the cost of incremental supply measures for this price submission.

Maintaining the usage price in real terms ensures that a high proportion of a customer's water account is subject to the variable usage charge, some 88 per cent of the typical household water bill in 2019-20. Hunter Water currently has the highest ratio of variable to fixed water charges of any major urban water utility in Australia, considerably higher in most cases.

There is a real increase in the revenue requirement for water services of 2.8 per cent per annum over the next determination period. Consequently, the fixed water service will increase from $17.89 per year in 2015-16 to $58.72 in 2019-20 ($2015-16) for each residential dwelling. Under IPART's approach to setting service charges, the fixed water charge is calculated as a balancing item to enable Hunter Water to recover all efficient costs. While the increase is large in percentage terms, the base is low reflecting the fact that Hunter Water has the lowest water service charge in the country.

Pricing of wastewater (sewer) services

The fixed sewer service charge is the largest individual component of most customer's bills, accounting for about 55 per cent of the typical household bill.

A key element of IPART's 2012 review of pricing principles was that the residential sewer service charge should become a standard annual charge for all residential dwellings, unless there was evidence of material differences in the cost of servicing different residential types. As a consequence, the owners of flats and units in Sydney and on the Central Coast pay the same fixed sewer charge as the owners of houses.

Hunter Water had previously argued that flats and units should pay 75 per cent of the sewer charge of a standalone house, based in part on historical data relating to occupancy rates and water use by dwelling type. A more recent review of the costs of servicing flats and units relative to houses did not establish a strong basis for continuing this different treatment.

Hunter Water is proposing to transition the sewer service charge for flats and unit to 100 per cent of the stand-alone house charge across the four-year price period. This will see the sewer charge for flats and units increase, in equal steps, from $433.64 per annum in 2015-16 to $549.07 in 2019-20 ($2015-16).

The overall the level of sewer revenues recovered from customers falls 0.6 per cent in real terms across the price path. This reduction in revenues, in combination with the reallocation of sewer charges between residential customers, results in a real decrease in sewer bills for standalone houses, from $598.13 in 2015-16 to $549.07 in 2019-20.

Non-residential sewer customers also benefit from a slight fall in real terms in the fixed component of their sewer bills. The sewer usage charge that applies to non-residential customers will remain the same in nominal terms at 67 cent per kilolitres for the price period.

Pricing for stormwater drainage services

Hunter Water collects stormwater drainage charges from around 25 per cent of its customers whose properties are in the areas where the Corporation owns the major stormwater channels and related structures like detention basins. These charges enable Hunter Water to maintain and refurbish these drains and structures as required.

Hunter Water proposes to retain the current stormwater tariff structure for the next price period. As there is a real increase in the revenue requirement for stormwater services of 1.2 per cent per year, charges for customers whose properties are serviced by stormwater channels will increase by a similar amount. The stormwater charge for a residential house will increase from $72.41 in 2015-16 to $76.43 in 2019-20 ($2015-16). Stormwater charges for townhouses, flats and units will increase from $26.79 in 2015-16 to $27.97 in 2019-20 ($2015-16). Non-residential charges will increase by 1.4 per cent per year in real terms over the same period.

Typical bills from 2016-17 to 2019-20

The estimated typical residential bill in 2015-16 is $1,069 per year. This bill will decrease by $8 in real terms to $1,061 per year by 2019-20 – a decrease of $2.06 per year. The increase in the water service charge is more than offset by the decrease in the sewer service charge. The Environmental Improvement Charge (EIC), the program used to fund backlog sewer services in smaller towns, will remain the same in real terms.

Components of the typical residential bill increase ($2015-16)

	2015-16	2019-20	Difference	Overall %
Water bill	432.29	473.12	40.83	9.4%
Sewer bill	598.13	549.07	(49.06)	(8.2%)
EIC	38.67	38.67	-	-
Total	**1,069.09**	**1,060.86**	**(8.23)**	**(0.8%)**

The previous table presented the change in the components of a typical bill over the proposed period in $2015-16 terms. The following tables project typical bills for freestanding houses, a single strata unit and a pensioner after inflation (at 2.5 per cent per year) is included.

The components of the nominal annual bill for a typical freestanding house using both water and sewer services is shown below. The total bill increases from $1,069 to $1,171 over the period 2015-16 to 2019-20, a rise of $25 per year. All of this increase is due to the effect of inflation.

Annual bill for freestanding house using 185 kL per year ($nominal)

	2015-16	2016-17	2017-18	2018-19	2019-20	Av Annual bill change
Water service	17.89	17.57	32.49	48.27	64.82	11.73
Water usage	414.40	425.50	434.75	445.85	456.95	10.64
Sewer service	598.13	603.95	604.65	605.30	606.07	1.99
EIC	38.67	39.63	40.62	41.64	42.68	1.00
Total	**1,069.09**	**1,086.65**	**1,112.51**	**1,141.06**	**1,170.52**	**25.36**

The annual bill for a flats and units, consuming 150 kilolitres of water on average, will rise from $826 in 2015-16 to $1,084 in 2019-20, an increase of $64 per year over the period.

Annual bill single strata unit using 150 kL per year ($nominal)

	2015-16	2016-17	2017-18	2018-19	2019-20	Av Annual bill change
Water service	17.89	17.57	32.49	48.27	64.82	11.73
Water usage	336.00	345.00	352.50	361.50	370.50	8.63
Sewer service	433.64	452.96	503.87	554.86	606.07	43.11
EIC	38.67	39.63	40.62	41.64	42.68	1.00
Total	**826.20**	**855.16**	**929.48**	**1,006.27**	**1,084.07**	**64.47**

In nominal terms, the pensioner customer annual bill will rise from $563 in 2015-16 to $615 in 2019-20, a rise of $13 per year. Excluding the effect of inflation, pensioner bills fall slightly over the period, a total saving of $6 by 2019-20 or a 1.1 per cent reduction in real terms.

Annual bill pensioner customer using 100 kL per year ($nominal)

	2015-16	2016-17	2017-18	2018-19	2019-20	Avg annual bill change
Water service	17.89	17.57	32.49	48.27	64.82	11.73
Water usage	224.00	230.00	235.00	241.00	247.00	5.75
Sewer service	598.13	603.95	604.65	605.30	606.07	1.99
Rebate	(276.65)	(281.20)	(287.86)	(295.25)	(302.87)	(6.56)
Total	**563.37**	**570.32**	**584.28**	**599.32**	**615.02**	**12.91**

Trade wastewater charges and miscellaneous fees

The current trade wastewater charge structure will continue with only one minor change. Charges will increase in line with inflation.

Hunter Water offers a range of non-contestable, miscellaneous services to customers on a direct cost-recovery basis. These services are used by a very small number of customers and, generally, only occasionally and one at a time.

Hunter Water has reviewed its business processes to ensure costs of these services are aligned with the service provided. Price increases are proposed for 19 services and reductions for six services.

Hunter Water is proposing to implement a third-party certification model for developer network assets from 1 July 2016. This approach better allocates risk and liabilities to developers. Hunter Water will retain a role in conducting compliance audits based on project by project assessment of risks.

Bills for non-residential customers

It is difficult to define a typical non-residential customer. Bills for non-residential customers are influenced by the nature of the individual customer's business and their demand for water and sewer services. The water component of the bill can vary with the size of the water connection and the volume of water used. Sewer bills vary according to the volume of waste the business typically discharges to the sewer. Additional trade wastewater charges may also apply when the waste includes a range of specified contaminants and is more costly to treat than normal household waste. Stormwater charges may also apply and these are charged according to the land area occupied by the business.

Hunter Water is not proposing any change to the structure of water, wastewater or stormwater prices that would affect non-residential customers in the next determination period. On average, the price proposals result in an annual real increase of less than one per cent for non-residential customers, broadly consistent with the overall increase in the proposed annual revenue requirement.

1 THIS SUBMISSION

1.1 Submission structure

Hunter Water has prepared this submission in accordance with IPART's November 2014 guidelines for water agency pricing submissions[1] and Submission Information Package[2]. Appendix P includes a list showing where the specific information items requested in the guidelines are addressed in the submission.

The submission is structured to logically progress through the steps of IPART's price setting process, starting with an introductory outline of Hunter Water's role and functions in Chapter 2 and operating performance in Chapter 3.

This is followed by information about the physical and financial data inputs to the price setting process:

- Chapter 4 provides information about the growth in customer numbers and connections to the water supply, sewer and drainage systems. The chapter also provides forecast consumption levels for residential and non-residential customers over the coming price period.
- Chapter 5 details the operating costs incurred over the current price period and the projected operating costs for the next five years. It provides commentary on the factors behind expected moderate increases in operating costs.
- Chapter 6 provides information on the actual capital investment over the current price period and the projected capital expenditure for the next determination period. It supports the projected expenditure with a summary of the business drivers for the proposed program. It also provides information sought by IPART about capital investment decision making, prioritisation and procurement.
- Chapter 7 assembles the information from the previous three chapters into the total revenue requirements to be covered by future prices. Separate revenue requirements are presented for water services, sewerage services and stormwater drainage for the next five years, as required by IPART's submission guidelines.
- Chapter 8 describes how the achievement of the revenue requirements detailed in Chapter 7 will impact Hunter Water's financial position.

Proposed water, sewer and drainage prices for the next five years are the subject of the next three chapters. For water and sewerage services, the structure of prices follows the principles for price structures published by IPART in March 2012.[3]

- Chapter 9 provides details of Hunter Water's water pricing proposals for residential and non-residential customers. The chapter also proposes maintaining the prices for sales between the Hunter and the Central Coast adopted by IPART for the 2013 price determination.
- Chapter 10 details the proposed sewer prices for the coming price period including continuing the reform of price structures for multi premises (e.g. flats and units) commenced by IPART in the 2013 price determination.
- Chapter 11 outlines the proposed stormwater drainage charges.

Chapter 12 provides information about how these price proposals affect different customers. It also provides an overview of the various programs Hunter Water has in place to assist customers in financial hardship. Chapter 13 outlines the ways Hunter Water has informed the community about its activities that affect the prices it charges (e.g. its construction program), the process for this price review and how it has consulted the community in the preparation of this submission.

Chapters 14 and 15 of the submission outline Hunter Water's proposals for trade wastewater charges and the miscellaneous charges that apply to the services that are used on an occasional basis by a relatively small number of customers.

Chapter 16 addresses the pricing of services provided by Hunter Water to *Water industry Competition Act 2006* licensees that on-sell water and wastewater services to end use customers in certain geographic areas. This is an emerging area of competition in the water sector.

[1] IPART, 2014 (a).
[2] IPART, 2014 (b).
[3] IPART, 2012 (c).

1.2 Quality assurance

IPART's 2014 guidelines for water agency submissions require that the submission, information returns and other materials provided by the water agency be subject to a quality assurance (QA) check. Section 2.17 of the guidelines sets out IPART's specific requirements for the QA check.

The QA check may be carried out by an external party or parts of the water agency that did not specifically work on the materials.

Hunter Water engaged external consultant Danu Consulting Pty Ltd to carry out a QA check for consistency between the submission, Hunter Water's modelling and the data provided in the 2015 Annual Information Return and Special Information Return. These returns are provided to IPART with the submission.

This QA check was carried out in May 2015 and the consultant's certification letter is provided at Appendix Q.

1.3 Reader notes

- In general, past values and prices in this submission are provided in nominal terms – that is, in the dollars of the year to which they apply. Where past values are provided in real terms, such as to show aggregated figures over several years, this is indicated by the notation showing the relevant year (e.g. '$2015-16' for values in 2015-16 terms). This practice is in line with IPART's submission guidelines.
- Projected prices and values are mostly quoted in 2015-16 terms, indicated by the notation '$2015-16'. Exceptions are noted as explained above.
- Projected customers' bills are presented in nominal dollars. Nominal dollars are dollar terms consistent with the year in which the cost occurs, including expected inflation. This practice is in line with IPART's Submission Information Package.
- Annual inflation used for indexation of dollar values is consistent with advice from IPART in its Submission Information Package provided in November 2014.
  - Annual inflation of 2.4 per cent per year is used to convert $2011-12 to $2012-13. This is based on the All groups CPI for Australia, June Quarter 2013 divided by June Quarter 2012, as published by the Australian Bureau of Statistics (ABS).
  - Annual inflation of 3.0 per cent per year is used to convert $2012-13 to $2013-14. This is based on the All groups CPI for Australia, June Quarter 2014 divided by June Quarter 2013, as published by the ABS.
  - Annual inflation of 2.4 per cent per year is used to convert $2013-14 to $2014-15. This figure is based on the Bloomberg Mean Consensus inflation forecast as at 10 October 2014.
  - Annual inflation of 2.5 per cent per year is used to convert $2014-15 to $2015-16. This figure is based on the midpoint of the Reserve Bank of Australia inflation target range.
  - Annual inflation of 2.5 per cent per year is used for indexed nominal projections beyond 2015-16. This figure is based on the midpoint of the Reserve Bank of Australia inflation target range.
- Prices for 2015-16 (the last year of the current price period) are provided for comparative purposes. The current price determination provides prices in $2013-14 as well as the inflation adjustment methodology. The key input into the inflation adjustment is the March Quarter CPI for the All Groups index number published by the Australian Bureau of Statistics in April each year. As the price submission date was moved forward from September to 30 June, the March Quarter CPI information needed to index determined prices for 2015-16 to 2015-16 dollar terms was released on 22 April 2015 and therefore was not available in time for the modelling, quality assurance and approvals. Hunter Water has therefore forecast the March 2015 CPI based on the information provided in IPART's November 2014 Submission Information Package (see previous reader note). The 2015-16 prices quoted in this submission will therefore vary slightly from those published on the Hunter Water website, which will be based on the actual March 2015 CPI. Prices published on Hunter Water's website prevail where there is a discrepancy.
- Some totals in tables may not appear to add precisely due to rounding of the component terms in the table.
- As required by IPART's submission guidelines, tables providing information about future costs, revenue requirements and prices show five years of projected data to June 2021 even though Hunter Water is seeking a four-year price determination to 30 June 2020. Columns containing data for the last year of the current price period and additional year following the next price period are shaded.
- Footnotes show abbreviated references. A full reference list is provided at the end of the submission.

2 HUNTER WATER'S OPERATING CONTEXT

Main points

- *Hunter Water is a vertically integrated water utility – an operator and retailer from catchment to tap. Its primary purpose is to supply reliable, high quality water and wastewater services to the people of the Lower Hunter region.*
- *Hunter Water operates across eight local government areas and will serve a population of around 564,000 in June 2016.*
- *The typical residential bill comprises a fixed water service charge and a water usage charge, a fixed sewerage service charge and an environmental improvement charge. Some customers also pay stormwater charges. Customers are billed three times per year.*
- *In 2013-14, Hunter Water's annual residential bill was the lowest amongst similar sized Australian urban water utilities based on a normalised usage volume of 200 kilolitres. Hunter Water's typical residential bill was the second lowest amongst large utilities and 19 per cent below the national median when compared using each utility's average annual volume of residential water supplied.*
- *The NSW Government regulates Hunter Water through various regulatory bodies and instruments. The overarching regulatory instrument is the operating licence, which sets out operating responsibilities, system and service standards and customer rights.*
- *Hunter Water has planned its capital and operating expenditure programs to meet known operating licence requirements and mandated standards for the 2016 determination period. IPART will reset the operating licence in July 2017.*
- *The chapter outlines a number of external factors that may affect Hunter Water's operating context over the upcoming pricing period.*

2.1 Overview of role, operations and structure

2.1.1 Role

Hunter Water is a State-owned Corporation providing water and wastewater services to over half a million people in the Lower Hunter region. Hunter Water was established in 1992 under the *State Owned Corporations Act 1989*, arising from the Hunter District Water Board, which had its origins in the 19th Century. The *Hunter Water Act 1991* details the specific roles and responsibilities of Hunter Water. Hunter Water also manages the trunk stormwater channels in the Newcastle, Lake Macquarie and Cessnock local government areas.

Hunter Water's primary purpose is to supply reliable, high quality water and wastewater services to the people of the Lower Hunter region. Its role involves the collection, treatment and distribution of drinking water in accordance with the guidelines set by the National Health and Medical Research Council (NHMRC). Hunter Water transports, treats, recycles or disposes of the wastewater of the region in accordance with the guidelines set by the Environment Protection Authority. Treated wastewater is reused where it is environmentally, socially and economically beneficial.

2.1.2 Operations

Hunter Water's area of operation is 5,366 square kilometres and will serve a population of around 564,000 persons in June 2016.[4] Hunter Water covers the local government areas of Cessnock, Dungog, Lake Macquarie, Maitland, Newcastle, Port Stephens and a small part of Singleton Shire. Services are also supplied to MidCoast Water for the township of North Karuah in the Great Lakes Shire.

At 30 June 2014, there were 235,835 properties connected to the water network and 224,326 to the wastewater network.[5] Hunter Water provides services to its customers using a regulatory asset base with a value of approximately $2.4 billion.[6]

Hunter Water's major water sources are Grahamstown Dam (182,305 megalitre capacity), Chichester Dam (18,356 megalitres), Tomago Sandbeds (60,000 megalitres) and Anna Bay Sandbeds (16,024 megalitres).[7]

[4] Annual information return, Non-financial data, Table 1.2 Customer Profile, Estimated population with service – water supply (row 73).
[5] National Water Initiative National Performance Report indicators C4 and C8.
[6] IPART, 2013(a), Table 7.4, p.81. Closing RAB 2014-15 converted to $2015-16.
[7] Hunter Water, 2014, 2013-14 Compliance and Performance Report, Table 3.3, pp.42.

Water is delivered via an extensive network of 4,862 kilometres of pipes, 87 reservoirs and 127 pumping stations.[8] An average of 196 megalitres of water was supplied each day in 2013-14. Hunter Water also has the capacity to supply up to an average of 35 megalitres per day to the Central Coast.

Wastewater is collected through 4,903 kilometres of pipes and 426 wastewater pumping stations, delivered for treatment at one of 19 wastewater treatment plants (WWTPs), then recycled where possible and beneficial.[9] Hunter Water supplies over 4,700 megalitres of recycled water for direct sale each year.[10]

Stormwater is conveyed using 94 kilometres of assets.[11]

Hunter Water's area of operations is illustrated in Figure 2.1.

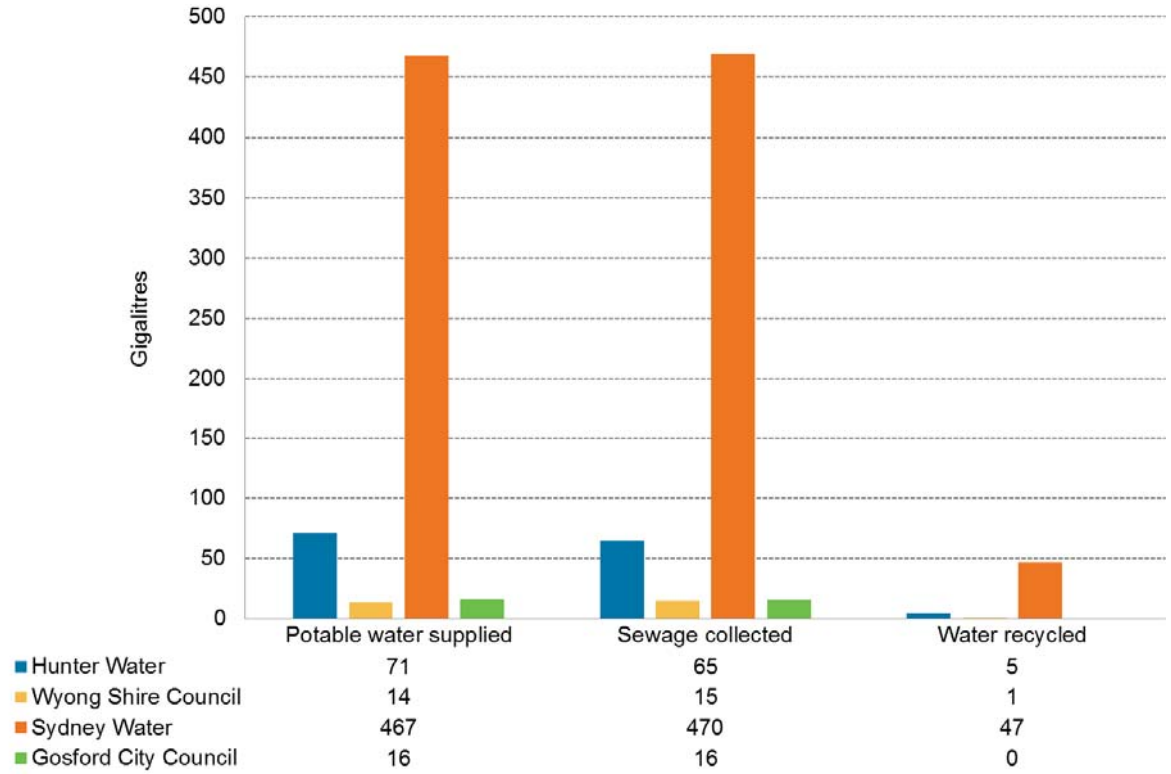
Figure 2.1 Hunter Water area of operations

Source: Hunter Water.

[8] Annual Information Return, Non-financial data, Table 1.1: Operating Statistics, Total length of water mains in operation at year end (row 41). Data for 2014.
[9] Annual Information Return, Non-financial data, Table 1.1: Operating Statistics, Total length of sewers (row 55). Data for 2014.
[10] National Water Initiative National Performance Report indicators W21 and W22.
[11] Annual Information Return, Non-financial data, Table 1.1: Operating Statistics, Total stormwater channels under control (row 63). Data for 2014.

The scale of services provided by Hunter Water is shown in Figure 2.2.

Figure 2.2 Scale of operations relative to other NSW metropolitan water utilities



Source: Hunter Water, based on Bureau of Meteorology (2015). Rounded to nearest integer.

Notes:

a) National performance report indicator W11.1 Total urban potable water supplied.
b) National performance report indicator W18 Total sewage collected.
c) Summation of National performance report indicators W20 to W25 Volume of recycled water supplied by end use.

2.1.3 Structure

Hunter Water has two nominated shareholders: the NSW Treasurer and Minister for Finance and Services.

Hunter Water is structured across four divisions: Planning and Operations, Customer Services, Business and Technology Services and Finance (see Figure 2.3). This structure supports the efficient coordination of 435 full time equivalent employees across key functional areas.[12] Over the last three years the senior management team has been streamlined from eight to five senior executives (including the Managing Director), reflecting a return to the core business of providing safe and reliable water and wastewater services. Productivity has improved throughout the organization, as shown in Figure 2.4. Over the longer term the number of full-time equivalent employees has more than halved and the number of connected properties served per employee has almost tripled.

[12] Annual Information Return, Non-financial data, Table 1.1: Operating statistics, Total employees (including recycled water employees) (row 22), projection for financial year ending 30 June 2015.

Figure 2.3 Hunter Water's organisation structure

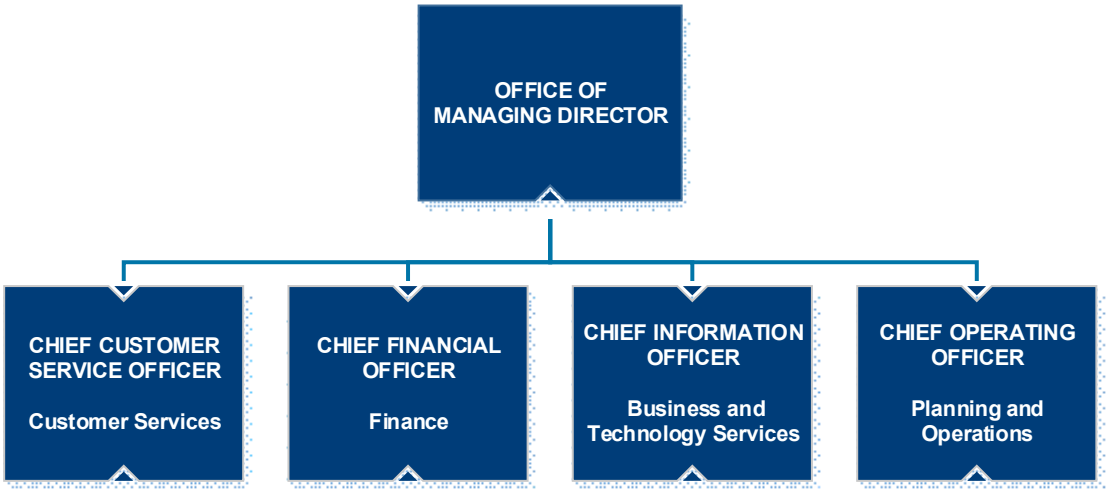
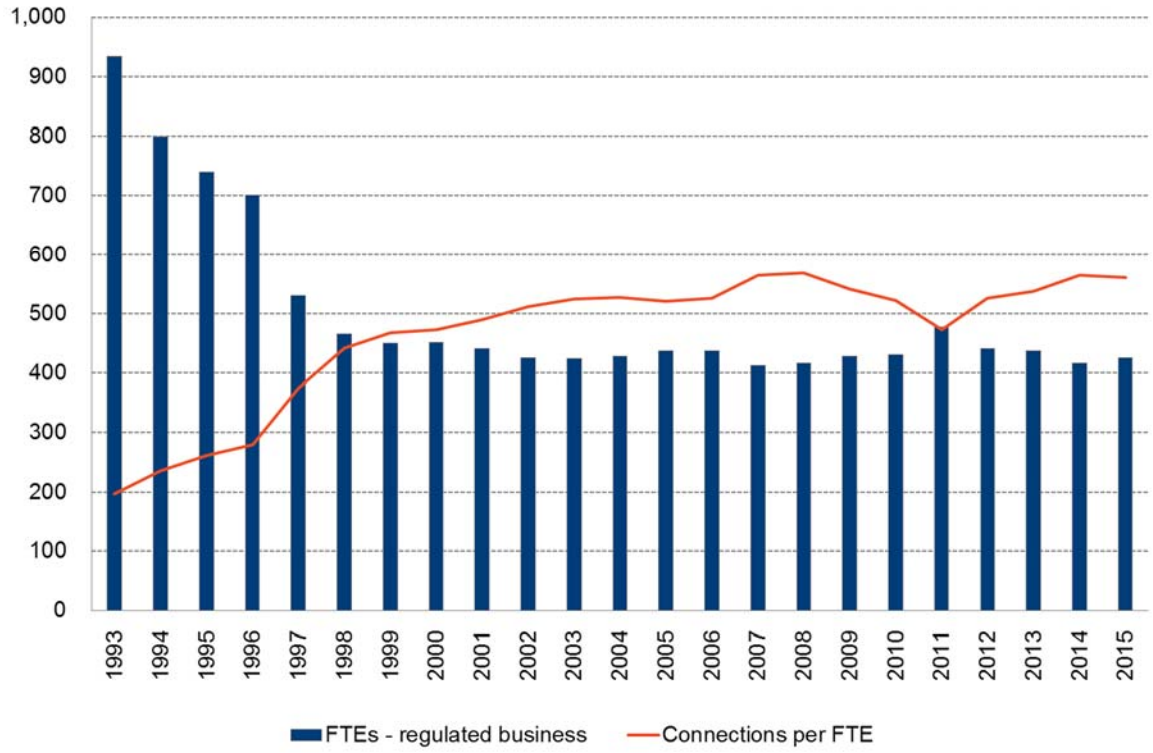


Figure 2.4 Number of full-time equivalent employees and employees per connection



Source: Hunter Water. Regulated FTEs from annual information return, Non financial, Table 1.1 – Operating Statistics (VW1+VS1+VD1). Connections from annual information return, Non financial, Table 1.2 – Customer Profile, Row 180 Total customers.

Notes:

a) In 2012 there was a definitional change in the metric 'total customers'.

b) Connections per FTE in 2010-11 deviates from the trend due to the delivery of a large wastewater treatment plant upgrade program in that year. Connections growth was also lower than trend levels in the years following the global financial crisis.

2.2 Current prices and charges

Hunter Water's residential customers, and the majority of non-residential customers, are billed three times a year. Residential customers pay a fixed service charge and variable usage charge for water and a fixed service charge only for sewerage services. Non-residential customers pay a fixed service charge and a usage charge for both water and sewerage services.

2.2.1 Water service charge

A uniform water service charge for water availability applies to all residential customers regardless of their type and ownership structure (e.g. houses, townhouses, flats and units).

The water service charge for non-residential customers varies according to meter size. All properties with a standard 20mm diameter meter pay the same charge as residential customers. Customers with larger meters, mainly commercial and industrial customers, pay higher service charges.

2.2.2 Water usage charge

The water usage charge is applied to the volume of water used by an individual customer. Usage charges are measured in kilolitres. Two rates apply:

- A basic rate for all consumption up to 50,000 kilolitres. To put this volume into perspective, it is equivalent to the annual consumption of over 270 houses.
- A location-based rate for consumption greater than 50,000 kilolitres per year in specific areas only. The location-based charge only applies to consumption in excess of 50,000 kilolitres by eligible customers – all consumption under 50,000 kilolitres is charged at the rate applying to all other customers. The location-based rate provides more cost-reflective charging to customers using very large volumes of water without drawing on much of Hunter Water's extensive distribution infrastructure.

2.2.3 Sewerage service charge

Sewerage service charges are a fixed charge set at a level to recover the capital and operating costs of the sewerage system. Most of the operating costs are fixed and do not vary with the volume of wastewater discharged. For residential customer's this is the only sewer charge paid for their use of the sewerage system. In 2015-16, townhouses, flats and units will pay 72.5 per cent of the charge for freestanding houses.

2.2.4 Sewerage usage charge

Sewerage usage charges are applied to the imputed volume of sewerage discharged by non-residential customers above a threshold 'free allowance'. A sewer discharge factor is used to calculate the proportion of the customer's metered water usage that is discharged into Hunter Water's sewerage system. Discharge factors depend on the nature of the individual customer's business. Businesses that typically discharge most of their water use to the sewer (such as commercial office buildings) have high discharge factors while businesses that use most of their water for uses like irrigation (such as a garden nursery) have low discharge factors.

The usage charge is a small variable component to non-residential customer's bills. It is intended to cover variable costs associated with sewage treatment, mainly power and chemicals.

2.2.5 Environmental improvement charge

The Environmental Improvement Charge (EIC) is an annual charge levied on all sewered properties in Hunter Water's area of operations and on properties where there is a commitment to make sewerage services available. This charge contributes to the cost of providing sewerage to established, but unsewered, areas in the Lower Hunter. These are often referred to as sewerage 'backlog' areas. Eligible pensioners are exempt from paying the EIC.

2.2.6 Clarence Town sewer levy

This annual charge is only applied to customers who have properties in the Clarence Town area. It contributes to the cost of the sewerage scheme for Clarence Town completed in March 2012. More information about this levy, including its sunset provisions, is provided in Chapter 10 of this submission.

2.2.7 Stormwater drainage charge

Stormwater drainage charges only apply to customers whose property is located in the catchments of Hunter Water's stormwater drains. The stormwater drainage networks are in parts of Newcastle, Lake Macquarie and Cessnock council areas.

Charges currently comprise a service charge for residential customers in houses, a service charge for residential customers in flats, units or townhouses, and a land-area-based service charge for non-residential customers.

2.2.8 Current water, sewer and drainage charges

The current prices charged by Hunter Water are listed in Table 2.1. In addition, IPART sets a range of charges for miscellaneous services that are not used by all customers. These services are generally paid up front and cover a wide range of services such as initial connection to the water or sewer system, disconnection from the system, standpipe hire, meter testing and special meter reads. These charges are only incurred by customers who require these miscellaneous services from time to time. The charges do not affect the majority of customers.

Table 2.1 Water, sewer and drainage prices 2015-16

Water		
Service	Residential house, residential multi premise, mixed multi premise and non-residential with a single 20mm meter [a]	17.89
	Non Residential - 25mm meter (base) [b]	29.20
Usage – Unfiltered ($/kL)	All volumes [c]	1.87
Usage – Potable ($/kL)	Up to 50,000 kilolitres per year	2.24
	Over 50,000 kilolitres per year (location based prices)	
	Dungog	1.68
	Kurri Kurri	2.22
	Lookout (New Lambton)	2.05
	Newcastle	2.00
	Seaham – Hexham	1.73
	South Wallsend	2.09
	Tomago – Kooragang	1.68
	All other locations [g]	2.24
Sewer		
Service	Residential house [d]	598.13
	Residential multi premise and mixed multi premises [a]	433.64
	Non Residential 20mm stand alone	598.13
	Base – all other customers (100% discharge) [e]	1,857.22
Usage ($/kL)	Non Residential, over 75 kilolitres per year [f]	0.67
Stormwater Drainage		
Service	Residential house	72.41
	Residential multi premise and mixed multi premises [a]	26.79
	Non-residential – small area < 1,000m^2 or low impact	72.41
	Non-residential – medium area 1,001m^2 to 10,000m^2	130.89
	Non-residential area – large area 10,001m^2 to 45,000m^2	832.55
	Non-residential area – largest area > 45,000m^2	2,645.21

Source: Hunter Water.

a) A multi premise is a premise where there are two or more properties. Flats and units are an example of a residential multi premises. A mixed multi premise is a multi premise that contains both residential and non-residential properties.

b) This is the base non-residential water service price. Prices for larger meter sizes are calculated as *base charge X (meter size)^2/625*.

c) Discounted price for the supply of (untreated) raw water for customers serviced by the upper Chichester Dam pipeline who do not receive filtered water from the Dungog water treatment plant.

d) Residential houses with a 20mm water meter pay a flat sewer service charge of $598.13. No discharge factor applies to this charge.

e) This is the base sewer service charge for all other customers. Charges applying to individual customers are calculated according to water meter size using the relationship in note (a) and applying the customer's discharge factor. The above mentioned service charge of $1,857.22 is based on a 25mm meter size.

f) This charge only applies for the imputed volume of sewage discharged in excess of the discharge allowance of 50 kilolitres pa in 2015-16.

g) Users with annual consumption greater than 50,000 kilolitres outside the zones listed pay the $2.24/kL rate.

Hunter Water bills represent value for money. The Bureau of Meteorology compares residential bills across Australian urban water utilities, with the latest report covering the 2013-14 financial year. Hunter Water's bill for a hypothetical residential customer using 200 kilolitres per year was the lowest amongst large utilities with at least 100,000 connected properties.[13] Its typical residential bill, based on each utility's average annual volume of residential water supplied, was the second lowest amongst large utilities and 19 per cent below the national median.[14]

2.3 Regulatory arrangements

Hunter Water is governed by the *State Owned Corporations Act 1989* and *Hunter Water Act 1991*. The NSW Government regulates Hunter Water's operations through a number of regulatory bodies and instruments.

2.3.1 Operating licence

Hunter Water's operating licence is issued by the portfolio Minister responsible for State-owned water utilities: the Minister for Primary Industries and Minister for Lands and Water. IPART is responsible for administering all aspects of the operating licence.

The operating licence is Hunter Water's overarching regulatory instrument. It sets out operating responsibilities, system and service standards and customer rights. It also establishes frameworks for drinking water quality, recycled water quality, infrastructure performance, asset management, environmental management and water supply and demand management. A standard customer contract forms part of the operating licence.

IPART conducts an annual independent audit to assess Hunter Water's compliance with the operating licence. The audit assesses performance in meeting the service standards and other conditions of the licence. IPART publishes the results of audits and reviews on its website. An overview of Hunter Water's compliance history is provided in Chapter 3.

The operating licence covering the current price period came into effect on 1 July 2012 and is due for review by IPART prior to its expiry on 30 June 2017.

A full copy of the operating licence is available on Hunter Water's website.

2.3.2 Pricing

Hunter Water's pricing structure is periodically reviewed by IPART. The current price determination came into effect in on 1 July 2013. Prices were set for the four-year period ending 30 June 2017. On 14 July 2014, IPART announced that the timing of Hunter Water's price review would be brought forward by one year such that new prices will apply from 1 July 2016. The revised timing aligns Hunter Water and Sydney Water's price reviews, which will facilitate performance comparison between the two largest metropolitan water utilities in NSW.

This submission is Hunter Water's formal proposal to the next price review and determination, which will lead to new prices coming into effect from 1 July 2016. Information provided on Hunter Water's performance during the current price period refers to the truncated three-year price period from 1 July 2013 to 30 June 2016.

2.3.3 Wastewater systems

The Environment Protection Authority is responsible for the issue of licences under the *Protection of the Environment Operations Act 1997* for Hunter Water's wastewater pipe network, pumping stations and treatment systems.

The licences stipulate the quality and quantity conditions for discharge from each of the wastewater treatment works and are reviewed every three years under the legislation. The licences also specify operational controls and performance reporting for the wastewater pipe network and pumping stations.

2.3.4 Access to water sources

Hunter Water extracts water from the Williams, Paterson and Allyn Rivers as well as groundwater sources under conditions specified in its water licence and approvals package issued under the *Water Management Act 2000.* The package is issued and administered by the NSW Office of Water.

Hunter Water's water licence and approval package consists of water access licence condition statements and combined water supply work and water use approvals held for urban and town water supply. The combined approvals contain rules for the operation of Seaham Weir and the pumps that extract water from the weir pool; release requirements for Chichester Dam; and access conditions to ensure the sustainable use of groundwater from the Tomago and Tomaree aquifers. There are also detailed monitoring and reporting requirements for each of the groundwater sources and surface water storages. The combined approvals specify requirements for scientific investigations into the sustainable use of Hunter Water's groundwater and surface water entitlements.

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[13] Bureau of Meteorology, 2015(a), Table 4.6, p.43.
[14] Ibid, Table 4.1, p.36.

Additional conditions are set out in the NSW Government's Water Sharing Plans covering unregulated rivers in the Hunter River catchment, the Paterson River and the coastal sandbed groundwater sources.[15]

Hunter Water operates and manages its dams in accordance with the *Dams Safety Act 1978.*[16] This Act exists to protect the safety, welfare and interests of the community from dam failure by ensuring the risks from prescribed dams are tolerable and the security of dams and their stored waters are protected.

2.3.5 Drinking water quality

Hunter Water supplies high quality drinking water to customers. The drinking water supply is regularly tested throughout the water supply system and consistently complies with the latest NHMRC's Australian Drinking Water Quality Guidelines.

Under the operating licence, Hunter Water is required to comply with the guidelines to provide a solid foundation for managing and assessing drinking water quality.

Hunter Water also works closely with the NSW Department of Health (NSW Health) through a Memorandum of Understanding to ensure that all current and emerging issues associated with drinking water quality are identified, assessed and appropriately managed. A full copy of the Memorandum of Understanding is available on Hunter Water's website, NSW Health website[17] and the Hunter New England Local Health District website.[18]

Hunter Water is exempt from the drinking water quality assurance program requirements of the *Public Health Act 2010* and the *Public Health Regulation 2012* on the basis that the operating licence requirements appropriately manage the delivery of safe drinking water, subject to various conditions including satisfactory annual operational audit findings.

An overview of regulatory arrangements by area of regulation is provided in Table 2.2.

2.3.6 Service levels for the 2016 price period

Hunter Water will continue to deliver high-quality water and wastewater services to its customers in 2016 and beyond. Compliance with mandated standards has been a primary consideration in developing this price submission, as outlined in the operating and capital expenditure proposals in Chapters 5 and 6. Hunter Water is not planning to exceed mandated service levels so as to ensure there is no additional cost on customers. Hunter Water plans to meet all regulatory standards set out in the operating licence and by other regulatory bodies as detailed in Table 2.2.

The operating licence covering the current price period came into effect on 1 July 2012 and is due for review by IPART prior to its expiry on 30 June 2017. The next price period will span two different operating licences. For pricing purposes, Hunter Water has assumed there will be no material changes to system or service standards (or, if definitions change, their equivalent). There have been no customer and stakeholder complaints on licence provisions in the current period.

[15] The relevant water sharing plans are listed in the references to this submission.
[16] The NSW Government is undertaking a review of the Dams Safety Act 1978 and Dams Safety Committee that regulates across 370 prescribed dams under the Act. Outcomes of the review are yet to be finalised.
[17] http://www.health.nsw.gov.au.
[18] http://www.hnehealth.nsw.gov.au/hneph.

Table 2.2 Regulatory areas snapshot and pricing implications

Area of regulation	Regulator/ Stakeholder	Regulatory instrument/s	Implications for next price period ($2015-16)
Pricing, operations, service and standards, customer protections	IPART	Price determination Operating licence Customer contract	Various asset renewals, rehabilitations and replacements, with a gradual increase in expenditure due to asset classes reaching end of life.
Obligation to shareholders	NSW Treasury	Statement of corporate intent	Commence upgrade of customer information system. Various efficiency and productivity improvement initiatives.
Wastewater licences	Environment Protection Authority	Environment protection licences	Capital works upgrades at three WWTPs and designs at three other WWTPs ($48 million). Biosolids storage infrastructure upgrades ($6 million). Wastewater network dry weather overflow reduction program. Complete current pollution reduction programs. Opex implications include incremental electricity costs due to WWTP upgrades (e.g. additional UV treatment at Burwood Beach WWTP)
Water extraction licences	NSW Office of Water	Water licence and approval package and Water Sharing Plans	Modifications at Seaham Weir to the release structure for environmental flows and fish passage ($6 million).
Dam safety	NSW Dams Safety Committee	Dams Safety Act 1978	Balickera Tunnel geological stability works ($8 million). In-kind support for the committee is forecast to continue.
Drinking water quality	NSW Health IPART	Memorandum of understanding Operating licence	Grahamstown WTP ultraviolet disinfection ($47 million) and associated incremental opex (electricity and chemicals).

Source: Hunter Water.

2.4 Operating context to 2020 and beyond

2.4.1 Financial sustainability

Hunter Water continues to strive for productivity and efficiency improvements that will ensure the organisation remains financially sustainable and services remain affordable[19].

Hunter Water needs to maintain an investment-grade credit rating so that it is able to access funding at a reasonable cost for day-to-day operations and investment in new or upgraded infrastructure. For the past few years Hunter Water has returned its focus to the core business of providing safe and reliable water and wastewater. Tight cost controls have also been implemented. In 2013-14 a capital structure review resulted in commencement of an asset recycling program, whereby non-core assets are sold to raise funds for investment in core activities (see Box 2.1).

Many of the actions Hunter Water is taking to improve its financial sustainability also help limit increases to customer prices and bills. For example, the prices listed in Chapters 9 to 11 are based on the moderate operating and capital expenditure proposals contained in Chapters 5 and 6.

Hunter Water recognises that some customers experiencing financial hardship may not be able to afford to pay their water and sewer bills. Information on managing the customer impacts of Hunter Water's pricing proposals is provided in Chapter 12.

2.4.2 Technology

The continual development of technologies will offer new challenges and opportunities to Hunter Water to meet evolving customer needs and deliver services efficiently. During the current price period a range of systems and platforms that inform the business and community have been updated. For example real time information has been made available online to advise the community of water outages. Hunter Water's enterprise resource planning software Ellipse has been upgraded. The system will support the Civil Assets and Mobility Project planned for implementation in November 2015. This project will provide centralised allocation of maintenance jobs with real-time job updates in the field via mobile devices. This will enhance Hunter Water's ability to more accurately measure, monitor and improve its maintenance program.

During the next price period, the customer care billing system software and associated infrastructure will be upgraded to facilitate online self service capabilities frequently sought by customers. In the background, technologies are being used to manage performance and identify efficiency improvement opportunities.

Hunter Water is committed to improving the quality of its services and the efficiency of its systems. It will continue to assess, trial and implement new technologies across the organisation.

[19] Water and sewer bills have remained a modest portion of equivalised disposable household income for the last decade (around two per cent).

Box 2.1 Asset recycling

Following the last IPART determination, Hunter Water reviewed all available options to help it achieve a stable investment-grade credit rating. This review, along with expert external advice, identified the sale of non-core assets and expenditure efficiencies as having the best potential to improve Hunter Water's financial position.

Hunter Water considers that certain assets are 'non-core' if it does not need to own them to fulfil the core functions of providing reliable and safe drinking water and sewer services.

Divestment opportunities across various asset categories were further assessed for impacts on strategic imperatives, operations, ability to meet customers' needs and risks. In some cases the sale of assets may affect prices because the asset is included in the regulatory asset base (*return on and of assets*[20]) or the sale changes Hunter Water's operating costs. The status of the asset recycling program and pricing implications are outlined below by asset class.

Head Office

Hunter Water's Head Office at Honeysuckle was sold for $25.8 million in 2014-15, achieving a record price per square metre result for the Newcastle CBD at the time of sale. Hunter Water anticipates that the regulatory value of the asset will be deducted from the regulatory asset base, as described in section 7.4.

A 10-year operating lease on the head office building commenced on 16 July 2014. The operating costs associated with the lease-back arrangement are addressed in Chapter 5.

Hunter Water Australia Pty Ltd (HWA)

HWA was established in 1998 as a wholly-owned subsidiary of Hunter Water. HWA consisted of three business areas: treatment plant operations, laboratories and engineering consulting. Hunter Water had outsourced its treatment operations to HWA until October 2014 when, following a competitive procurement process, Veolia Water Australia Pty Ltd commenced operation and maintenance responsibility. The remaining two business areas of HWA, providing services to a substantial external customer base, were sold in late 2014. The engineering consulting business was sold through a combination of management buy-out and private investors and will remain locally based. The laboratory business of HWA was sold to Australian Laboratory Services Pty Limited, a subsidiary of ALS Limited (ALS). As part of the transaction, a 5 year contract has been put in place under which ALS will provide high quality laboratory services to Hunter Water. This includes a binding commitment to ensure that facilities are retained in Newcastle for at least the medium term, thus protecting both local capabilities and local jobs.

The sale of HWA will have no impact on the regulatory asset base. The operating cost implications of competitive tendering of the treatment operations and maintenance contract is further discussed in Chapter 5.

Tillegra properties

Since the 1980s, Hunter Water acquired a number of properties totalling over 6,000 hectares in the Williams River valley north of Dungog as part of its plans for the construction of Tillegra Dam.

In 2010, following a Part 3A application to the NSW Government for the dam, the Minister for Planning determined that the dam proposal should not proceed. As a consequence of that decision, Hunter Water reviewed all landholdings acquired in the valley, and developed a land use strategy for these holdings.

In March 2015 Hunter Water appointed national rural estate agent Elders to sell its Tillegra properties through an expression of interest campaign, which closed in April 2015.

The disposal of Tillegra land will have no impact on the regulatory asset base as it is not included in the current value.

The disposal of Tillegra Land will have no effect on the recovery of operating costs. Since the 2013 price determination, Hunter Water has ring-fenced all Tillegra related operating costs and associated non-regulated revenue from regulated revenue calculations.

Kooragang Industrial Water Scheme (KIWS)

KIWS provides high quality recycled water to industrial users on Kooragang Island, saving up to 3.3 billion litres of drinking water per year.

A proposal to investigate the sale of KIWS was agreed by the Board on 25 June 2015. This submission is based on the assumption that a sale will be completed during 2015-16.

Adjustments to the regulatory asset base to reflect sale of KIWS are discussed in Chapter 7.

The disposal of KIWS will have no direct effect on recovery of operating costs as standard practice is to ring-fence all recycled water operating costs from regulated revenue calculations. The sale will indirectly affect operating costs through the allocation of corporate overheads, as discussed in Chapter 5.

2.4.3 Competition

Competition policy aims to improve the economic welfare of the community by encouraging innovation, productivity, efficiency and customer choice.[21]

At a national level, the *Competition Policy Review* (Harper Review) examined the current competition framework for its continued relevance and effectiveness. It made a case for further reform in the retailing of water and in creating more effective price signals/cost-reflective pricing[22]. It also canvassed the possibility of a federal economic regulator for water utilities and/or responsibility for access and pricing being undertaken by a national body (recommendation 46). Submissions to the review raised issues such as the potential for greater levels of competition in bulk water markets, water treatment and wastewater treatment services and retail.[23] The Water Services Association of Australia (WSAA) observes that private sector involvement nationally is currently focused on contestability for segments of the market.[24] The Competition Policy Review Final Report was released on 31 March 2015 and the Review has concluded. The Government has sought feedback on the Review's recommendations and expects to respond later in 2015.[25]

NSW has the most advanced framework for encouraging competition in the water sector. The *Water Industry Competition Act 2006 (NSW)* (WIC Act) and associated regulations (2007, 2008) establish the state-based legislative framework for private sector involvement in urban water.

Urban water competition within Hunter Water's area of operations has emerged over the last twelve months. Developers are using private network operators to provide self-contained sewerage and recycled water services to greenfield urban development areas. The pricing of services provided by Hunter Water to private network operators (WIC Act licensees) is discussed in Chapter 16.

Water industry reform is continuing in the area of water competition, such as the review of 'last resort' arrangements currently underway.[26] The WIC Act includes some provisions for a retailer of last resort to ensure continued service provision to customers in the event of failure of a retail licensee. There are currently no operator of last resort arrangements. Whilst the review is yet to be finalised, it may potentially result in further obligations on public water utilities, the costs of which are not yet quantifiable and therefore excluded from this submission.

2.4.4 Water demand and supply - the Lower Hunter Water Plan

The Lower Hunter Water Plan (LHWP) addresses the region's ability to meet the water needs of a growing population and business community as well as the ability to respond to droughts when they occur.

The Metropolitan Water Directorate (MWD)[27] led a whole of government approach to the development of the LHWP that was released in April 2014. This followed a period of comprehensive planning in close consultation with Hunter Water, other government agencies, stakeholders and the community of the Lower Hunter.

The planning process took into account a large range of factors including population and water demand projections, water supply system modelling, drought security objectives, climate change research and economic, social and environmental impacts. The process was also consistent with the National Urban Water Planning Principles.

The population and water consumption projections underpin the demand for services and growth estimates used in developing future prices, as discussed in Chapter 4.

Investigations, modelling and analysis for the LHWP found the Lower Hunter's water supplies are reliable under typical climatic conditions, and will be able to meet the region's water needs in the medium term. However, the region is vulnerable to drought. Water storage levels can fall quickly in prolonged periods of hot dry weather because storages are small, or shallow, and have high evaporation rates.

The measures included in the plan will reduce the amount of drinking water required to serve the Lower Hunter's needs through water efficiency and recycled water, making better use of existing storages and providing extra supply as a contingency in extreme droughts. Some measures will apply all the time, while others will only be

[20] See Chapter 7 for further description of the building block approach to pricing.
[21] Commonwealth of Australian, 2014, p.4.
[22] Ibid, p.36.
[23] IPART, 2014 (c), p.15 and WSAA, 2014, p.3.
[24] WSAA, 2013, p.23.
[25] For further details see http://www.treasury.gov.au/ConsultationsandReviews/Consultations/2015/Competition-Policy-Review-Final-Report.
[26] For further details see http://www.metrowater.nsw.gov.au/water-industry-reform/last-resort-arrangements.
[27] The Metropolitan Water Directorate reports to the NSW Minister for Primary Industries. The Directorate leads a whole-of-government approach to water planning for greater Sydney and the Lower Hunter and provides advice on NSW urban water policy and reform.

MWD maintains its role as the lead agency in the next phase of implementing, monitoring and evaluating the plan, and developing future iterations of the LHWP. Hunter Water is responsible for operational activities under the LHWP as well as providing information for the evaluation of the plan. The evaluation process will include an assessment of:

- the LHWP's effectiveness and efficiency in delivering on its objectives
- whether actions identified in the LHWP have been implemented in a timely manner
- key assumptions underpinning the LHWP, including factors considered in sensitivity analyses on demand forecasts and supply modelling
- the actual supply and demand balance compared with the plan's forecasts
- how the measures in the plan perform if a drought is experienced in the region, including whether the measures deliver the expected water savings and/or supply
- whether the measures in the plan continue to be appropriate and relevant in view of potential changes in the supply-demand balance or regulatory regime, advances in technology, and other developments
- appropriate triggers for review of the LHWP.

It is anticipated that the LHWP will be reviewed and updated on a four to five year cycle, unless a significant issue triggers an earlier review. Hence a review of the LHWP is scheduled to occur within the next price path. Based on the current supply-demand balance, a major review to assist a significant government decision on the next supply augmentation for the Lower Hunter would be needed no later than 2023.

Hunter Water's costs for its role in the LHWP are discussed in Chapters 5 and 6.

The costs associated with MWD's ongoing role of leading the monitoring, evaluation and review of the LHWP are discussed in Chapter 5.

2.5 Customer input in decision making

Hunter Water acknowledges customers' expectations to provide input into decision making and the impacts this will have on the operating environment. Hunter Water appreciates the benefit of this advice and feedback to its business operations.

Ongoing opportunities for customer and community input include:

- a Consultative Forum that meets three times per year to consider self-generated topics of interest to members in addition to issues raised by Hunter Water
- an annual reputation study
- continuous feedback through Hunter Water's website or telephone contact centre, and
- project-specific engagement activities on local planning and construction activities and environmental considerations.

Hunter Water's engagement activities undertaken to support the development of this submission are detailed in Chapter 13. This included a telephone survey which sought community views on affordability, price structures, hardship programs and the divestment of assets to alleviate upward pressure on bills.

3 PERFORMANCE 2013 TO 2015

Main points

- *Hunter Water's performance is reported annually to key regulators, including IPART, the Environment Protection Authority and the NSW Office of Water.*
- *Hunter Water's performance is also reported publicly each year via an annual report, compliance and performance report, operational audit report and national benchmarking report.*
- *Full compliance with the 2012-2017 operating licence has been achieved so far this pricing period, including achievement of system performance standards.*
- *Continued compliance with the operating licence and other regulated standards has been a primary consideration in developing this price submission.*
- *Hunter Water's proposed operating and capital programs also assume that the system performance standards will remain unchanged when the operating licence is renewed in mid-2017.*

Chapter 2 of this submission outlined the various regulatory arrangements governing Hunter Water's operations. This chapter provides an overview of Hunter Water's performance against those regulatory arrangements during the current price period.[28] The following sections report on:

- operating licence and service level performance
- performance against other regulatory requirements
- other performance assessments
- sales and customer connections compared to those forecast by IPART at the 2013 price determination
- revenue performance compared to IPART's 2013 forecasts, and
- implementation of the 2013 price determination.

Hunter Water's performance is reported each year in:

- An annual report submitted to shareholders and presented to the Parliament of New South Wales. The report is available on Hunter Water's website. It provides an overview of Hunter Water's activities and performance for the financial year, including highlights, statistical information and audited statutory financial reports.
- An operating licence compliance and performance report submitted to IPART each September. The report is available on Hunter Water's website or in printed form by request. The report includes performance against indicators in the areas of infrastructure performance, environmental management and customer service. The set of 32 indicators consistently applies to Hunter Water and Sydney Water, in order to enable performance comparison.[29]
- An annual independent audit of Hunter Water's operating licence performance. This audit is commissioned by IPART and the results are published on IPART's website, usually in December each year.
- The Bureau of Meteorology's annual report on the performance of urban water utilities in Australia.[30] The National Performance Report presents annual performance data for Hunter Water in comparison with the 12 other major Australian utilities serving more than 100,000 connected properties. This report is based on data from performance indicators about customers, health, water resources, assets, environment, pricing and finances. IPART coordinates the data collection from NSW urban utilities for this report and implements any auditing requirements. The report is published in April each year and is available from the Bureau of Meteorology website.

[28] The current determination period is the three year period from 2013-14 to 2015-16 inclusive. Performance information is provided for the period 1 July 2013 to 31 December 2014. Full year performance information for 2014-15 is not available due to the requirement to provide this submission to IPART by 30 June 2015.
[29] IPART, 2012 (a).
[30] The National Performance Report was formerly published by the National Water Commission, with its last report being for 2012-13. The Australian Government announced the abolition of the Commission in the 2014-15 Budget. The *National Water Commission (Abolition) Bill 2014* was introduced into the Senate in September with an abolition date of 1 January 2015; however the Bill was not passed before Parliament adjourned for 2014. Responsibility for compilation and publication of the National Performance Report was transferred to the Bureau of Meteorology in 2014 in anticipation of the closure of the National Water Commission.

The chapter uses recent results from these performance reports to examine Hunter Water's performance over the current determination period. IPART is either the recipient or originator of the performance reports outlined above, and these reports are publicly available.

3.1 Operating Licence and service level performance

Hunter Water operates under a licence, issued by the NSW Government, which enables it to lawfully provide services within its area of operations. The operating licence sets out conditions relating to community consultation, customer and consumer rights, customer complaint and dispute handling, managing water demand and supply, environmental management and infrastructure management.

The operating licence sets the service levels that customers can expect from Hunter Water. These include:

- water pressure standards
- water continuity standards
- sewer overflow standards, and

} System performance standards (SPS)

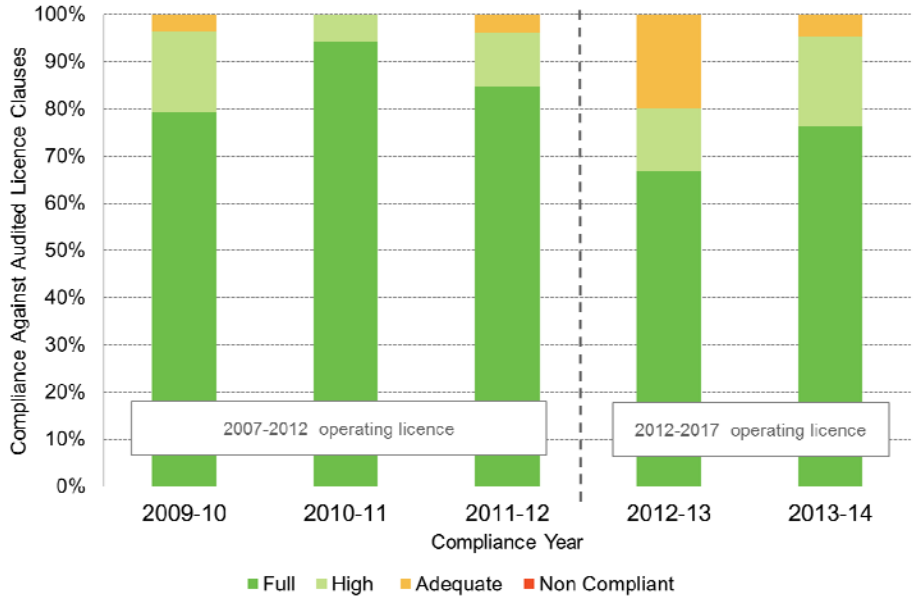
- drinking water quality requirements.

The current operating licence came into effect on 1 July 2012. The current licence removes many of the detailed and prescriptive requirements of earlier licences and replaces these with requirements for Hunter Water to have in place auditable management systems for key aspects of its operations.[31] The current licence also retains a comprehensive suite of reporting requirements. A separate Reporting Manual is a companion document that outlines all reporting obligations under the current licence. This manual is available from IPART's website.

3.1.1 Operational audit

An audit of Hunter Water's operating licence performance is undertaken annually to assess performance against the service levels as well as other components of the operating licence. The audit is commissioned by IPART. Hunter Water has been fully compliant with operating licence requirements over the past five years and audit results have improved since the current systems-based licence came into effect, as shown in Figure 3.1.

Figure 3.1 Overview of Hunter Water's operating licence compliance history



Source: Hunter Water based on IPART, 2010(a), p.2; IPART, 2011, p.2; IPART, 2012(b), p.2; IPART, 2013(b), p.3; IPART, 2014(d), p.2.

[31] For example, it requires Hunter Water to have in place a system for managing drinking water quality that is acceptable to NSW Health rather than requiring drinking water to meet specific water quality criteria.

3.1.2 System performance standards for water pressure, water continuity and wastewater overflows

The current operating licence retained the system performance standards and targets adopted by the NSW Government in 2010.[32] SPS are considered to be prescriptive minimum standards. The system performance standards were derived from a statistical analysis of previous performance and were based on meeting the targets in 19 out of every 20 years given the technologies, business practices and expenditure programs at the time.

Hunter Water has operated for nearly five years under the revised system performance standards. Hunter Water's performance over this period against the standards is presented in Figure 3.2. As can be seen from actual results presented, Hunter Water has met the targets in the system performance standards. A more detailed analysis of performance is presented in Hunter Water's annual compliance and performance report.

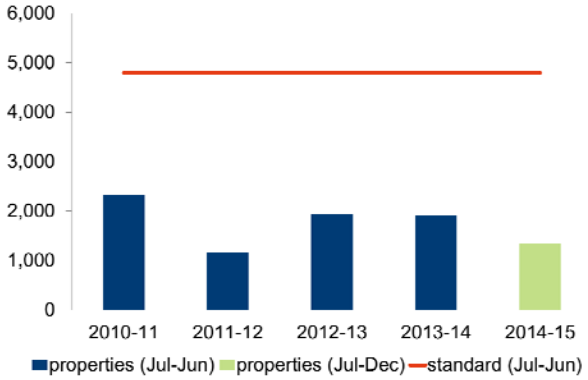
Hunter Water's performance is affected by various factors such as weather, asset condition, asset configuration and operational practices. For example, hot and dry weather conditions increase water demand, which lowers water pressure. Dry weather can also cause tree roots to seek out water in the sewer system, which can crack sewer pipes and cause overflows. Hunter Water cannot control weather related performance but it can influence other factors through its operating and capital expenditure programs.

Hunter Water has proposed a continuance of moderate expenditure within the next price period, as described in Chapter 5 and 6, while remaining focused on complying with the system performance standards contained within the operating licence. To further reduce the proposed capital and operating programs beyond that proposed by Hunter Water could potentially lead to Hunter Water breaching its operating licence. Hunter Water closely monitors performance and is able to address any risks of non-compliance that emerge through time as part of the annual planning process for the rolling ten-year capital expenditure program.

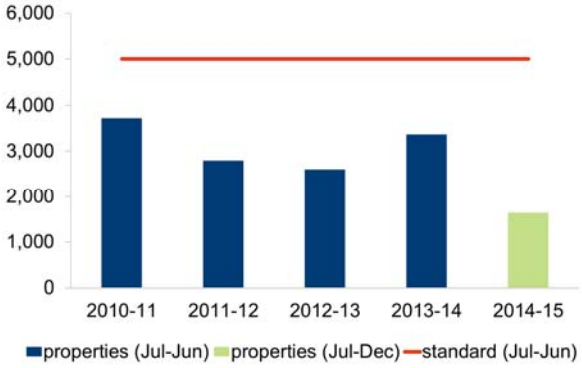
[32] The new SPS and targets were recommended to the Government by IPART in February 2010 after extensive review over a period of years. For further details see IPART, 2010(b).

Figure 3.2 Performance against system performance standards

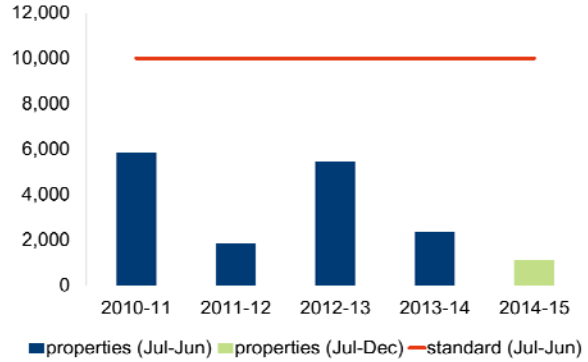
Hunter Water must ensure that no more than 4,800 properties experience a water pressure failure in a financial year (Water Pressure Standard).



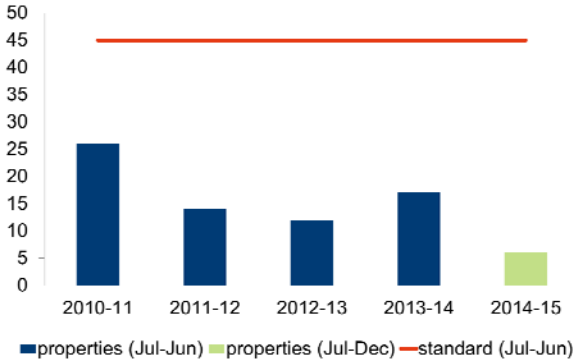
Hunter Water must ensure that in a financial year no more than 5,000 properties (other than public properties) experience an uncontrolled wastewater overflow in dry weather.



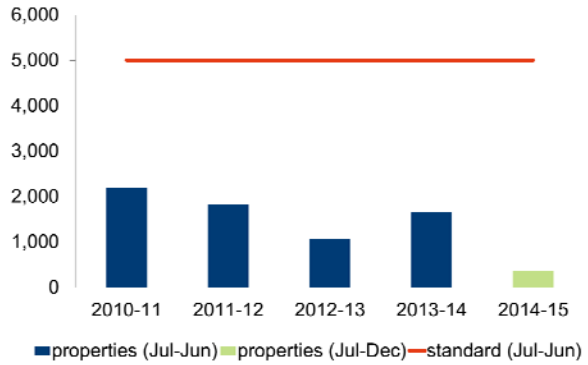
Hunter Water must ensure that in a financial year no more than 10,000 properties experience an unplanned water interruption that lasts more than 5 continuous hours.



Hunter Water must ensure that in a financial year no more than 45 properties (other than public properties) experience 3 or more uncontrolled wastewater overflows in dry weather.



Hunter Water must ensure that in a financial year no more than 5,000 properties experience 3 or more unplanned water interruptions that each lasts more than 1 hour.



Source: Hunter Water.

3.1.3 Water quality

Hunter Water has continued to produce high quality drinking water for its customers. Both microbiological and physical/chemical parameters have been fully compliant with operating licence requirements (see Table 3.1). Hunter Water remains committed to working closely with NSW Health to maintain a cooperative and consultative approach to the regulation of drinking water quality for the Lower Hunter region.

Table 3.1 Performance against water quality indicators

Indicator	2013-14	2014-15
Microbiological compliance – percentage of routine water quality samples that comply with the ADWG for *E. coli.*	99.9%	99.9%
Chemical/ physical compliance – percentage of routine water quality samples that comply with the ADWG for key chemical/physical parameters.	99.7%	99.9%

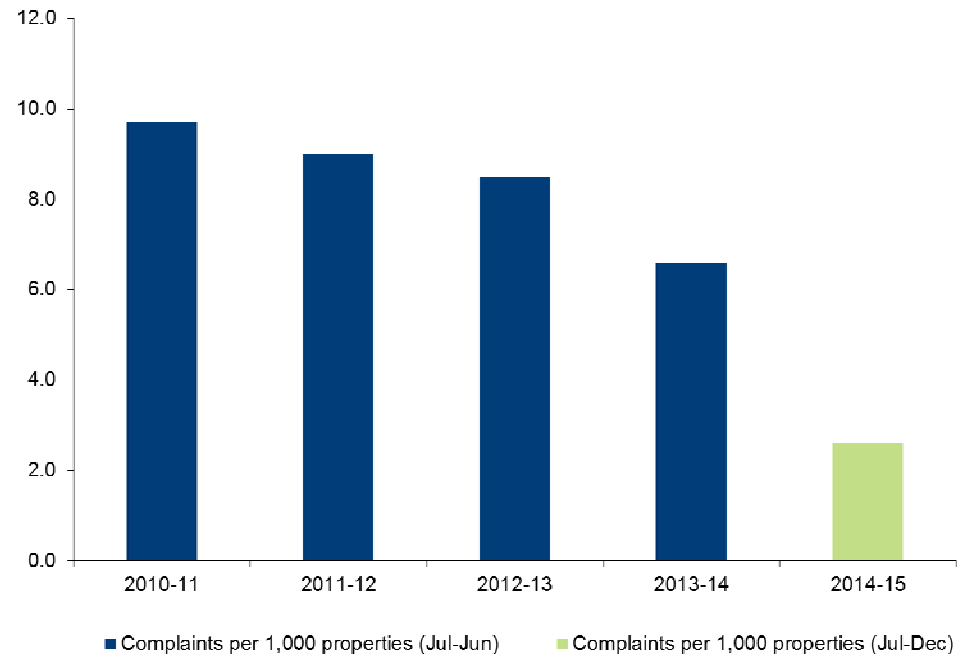
Source: Hunter Water.

a) Year to date as at 31 December 2014.

3.1.4 Customers

Customer complaint trends provide insight into customer satisfaction with the overall level of service provided by Hunter Water. Total water and sewerage complaints per 1,000 properties is a measure of complaints related to water quality, water pressure, water continuity, sewerage overflows, sewerage odours, drainage and billing, normalised to allow for comparison over time and across jurisdictions. Hunter Water has experienced a reduction in the number of complaints per 1,000 properties over the last five years, as shown in Figure 3.3.

Figure 3.3 Total water and sewerage complaints



Source: Hunter Water.

3.2 Performance against other regulatory requirements

3.2.1 Wastewater systems

The NSW Environment Protection Authority regulates Hunter Water's wastewater discharges to receiving waters[33] through licences granted for each wastewater system. Hunter Water is required to report annually on the performance of each of its 19 wastewater systems in addition to incident-based reporting.

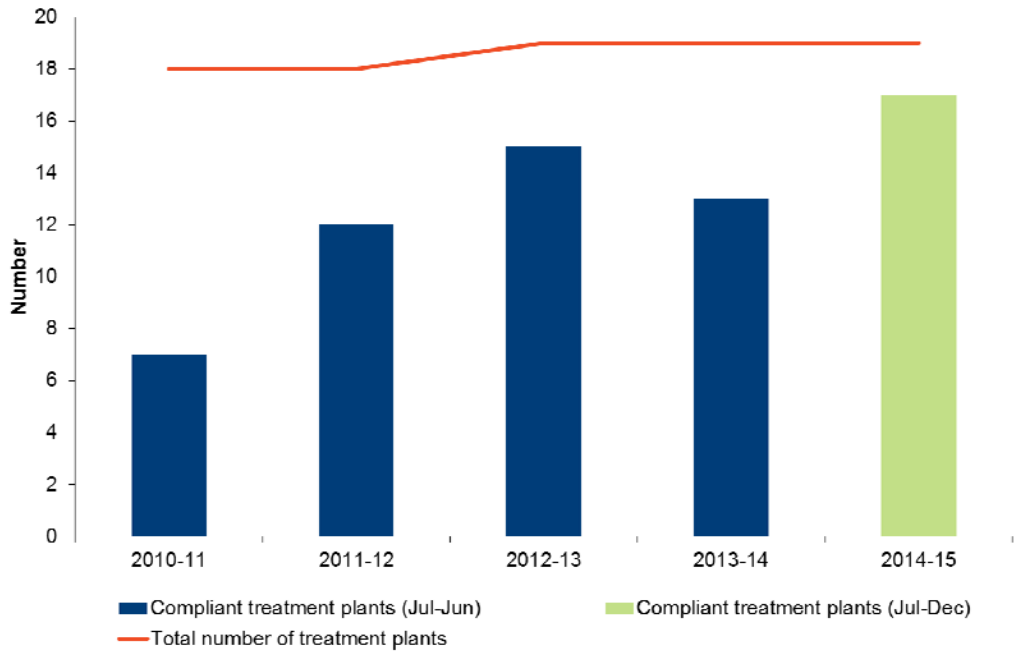
As outlined in Chapter 2, the system licences cover the quality and quantity conditions for discharges from the Hunter Water's wastewater treatment works as well as specifying operational controls and performance reporting for the wastewater pipe network and pumping stations.

The quality conditions prescribed for each individual treatment plant contain concentration limits and the majority of plants also include load limits.

Wastewater treatment plant performance has improved over the last five years, as shown in Figure 3.4. In 2013-14 six out of 19 wastewater treatment plant sites had non-compliances. The non-compliances related to various matters such as load limits and wet weather conditions. Further details of the non-compliances are available in Hunter Water's 2013-14 compliance and performance report. In addition, both monthly and annual pollution monitoring results are available on Hunter Water's website.

Midway through 2014-15 there have only been non-compliances at two of the 19 wastewater treatment plant sites. Repeated non-compliances are being addressed through capital upgrades to address problems at specific plants.

Figure 3.4 Compliant wastewater treatment plants



Source: Hunter Water.

In 2013-14, for the thirteenth consecutive year, local beaches have claimed the honour of being the cleanest in NSW. The NSW Government's Beachwatch Program rated all 17 Hunter beaches as good or very good.

3.2.2 Access to water sources

Hunter Water holds a water licence and approvals package issued by the NSW Office of Water. The licence facilitates the extraction of water from the Williams, Paterson and Allyn Rivers as well as groundwater. Hunter Water is required to report to the NSW Office of Water annually on compliance against water licence conditions.

[33] 'Receiving waters' are defined as streams, rivers, lakes or the ocean that receives stormwater or wastewater discharges.

Overall Hunter Water has complied with the majority of licence requirements. Where there have been instances of non-compliance, the NSW Office of Water has been notified and corrective actions have been taken. In 2013-14 there were three non-compliances that required immediate notification to the NSW Office of Water. Each of the non-compliances related to Hunter Water temporarily failing to meet environmental flow requirements at Chichester Dam. In each event the standard minimum flow requirements (14 ML/day) were able to be restored within a short timeframe. There have continued to be a number of non-compliances related to environmental flow requirements at Chichester Dam in 2014-15. Each non-compliance was caused by late night storm-related failure of the hydropower generation facility on the dam outlet, through which the environmental flows are typically released. Hunter Water is actively working to rectify the situation.

3.3 Sales, revenue and connections compared to IPART forecasts

Appendix A contains detailed information on actual sales, revenue and connections realised during the current determination period compared with the corresponding projections used for setting prices in 2013.

Hunter Water expects total actual water sales for the price period to be close to those forecast in the IPART 2013 determination, with annual variations due to weather conditions.[34] Water sales in 2013-14 were 3,707 megalitres higher than the IPART projections due to relatively warm and dry conditions. Hunter Water anticipates that water sales in the subsequent two years will be around 1,700 megalitres lower than IPART projections, reflecting a return to average weather conditions and consumption savings associated with implementing Water Wise Rules[35]. Water sales in the current price period are projected to be 260 megalitres or 0.15 per cent higher than the IPART determination.

Actual water customer connections were in line with the IPART determination for 2013-14 followed by slower than forecast connection growth in 2014-15. Hunter Water expects this trend to continue in 2015-16.

Hunter Water is on track to achieve IPART's total revenue allowance in the current price period. The over-recovery in 2013-14, due to higher than average water sales in the hot dry weather, is projected to be offset by under-recovery of revenue in 2015-16.

3.4 Implementation of the current determination

Hunter Water has fully implemented the current determination since it came into effect on 1 July 2013. Hunter Water has implemented the annual changes to prices required by the determination each year on 1 July. An updated price schedule has been provided to IPART for checking each year after the March quarter consumer price index was released by the Australian Bureau of Statistics. IPART has not reported any issues with the implementation or annual updating of the determination.

There have been two refunds, or rebates, during the current pricing period to address extraordinary circumstances. These were the bushfire rebate in 2013 and carbon tax refund in 2014 and 2015. IPART was informed of each situation.

In late 2013 NSW was affected by a series of bushfires covering a wide geographic area. Three of the six local government areas serviced by Hunter Water were affected: Port Stephens (5,000 ha), Newcastle (250 ha) and Lake Macquarie (240 ha). Hunter Water rebated almost 14,000 customer accounts in affected suburbs, for water used to defend property. The bushfire rebate was based on the difference between water consumption on the bill for the period during the bushfire and for the same period the previous year. If the difference was less than three kilolitres a minimum allowance equivalent to three kilolitres was still granted. Hunter Water intends to provide the rebate in future to any customer whose home is within a one kilometre radius of a Class 3 bushfire, where water is used to defend their property.

On 17 July 2014, the Australian Government repealed legislation relating to the carbon pricing mechanism, commonly known as the carbon tax, with retrospective effect from 1 July 2014.[36] IPART estimated that Hunter Water would over-recover about $3.1 million ($2015-16) as a result of the repeal because prices were set on the assumption that the carbon tax would remain in place for the current price period. As a result of the repeal, Hunter Water applied an annual refund as a credit of $13.23 ($2013-14) on each customers' bill during the November 2014 to February 2015 billing period.[37] An equivalent refund will also be provided to customers in 2015-16.

[34] IPART, 2013(a), p.185, Table 8.1. IPART determines prices based on average weather conditions whereas actual sales are based on actual weather conditions.
[35] Water Wise Rules are actions to help save water outdoors and were introduced in the Lower Hunter from 1 July 2014.
[36] The *Clean Energy Act 2011* (Cwlth) was repealed by the *Clean Energy Legislation (Carbon Tax Repeal) Act 2014* (Repeal Act). The Repeal Act commenced on 17 July 2014 (date of Assent); and abolishes the carbon pricing mechanism with retrospective effect from 1 July 2014.
[37] The refund was provided to all customers connected to either water and/or sewerage services provided by Hunter Water. The refund was provided to the current property owner.

4 CUSTOMER PROFILE, DEMAND FOR SERVICES AND GROWTH

Main points

- *This chapter provides information about the water demand and connection projections used in developing future prices.*
- *Hunter Water uses the Integrated Supply–Demand Planning model for forecasting future water demand. This model is the most contemporary approach to urban water demand forecasting in Australia.*
- *Hunter Water expects average demand over the four years starting in July 2016 to be around 55,000 megalitres per year. This is around 2,000 megalitres per year lower than the average annual demand adopted by IPART in 2013.*
- *Connections to the water supply system are forecast to continue at the historic rate of 2,910 properties per annum.*

4.1 Background

Hunter Water services a wide range of customers, meeting their needs for water (potable, unfiltered, recycled), wastewater (sewer, trade waste) and stormwater drainage services. There are also customers requiring development and trade-related services, ranging from individual households to plumbers and large commercial developers. Revenue is a function of both the quantities sold and the price. Therefore, projecting future sales is an important element of developing the proposed price levels for the coming price period.

This chapter describes Hunter Water's demand projection for the proposed price period as well as refinements in the forecasting methodology used. It provides projections of sales to potable water customers, sewer customers and stormwater customers. Projected sales for miscellaneous services are provided in Chapter 15 and Appendices M and N. Sales volumes and customer numbers for all other services are contained in the annual information return.

IPART has also sought information on how the actual demand and revenue projections during the current determination period compare to the projected sales and revenue used for setting prices in 2013. This information is provided in Appendix A.

4.2 Population projections

The residential population in the Lower Hunter region has grown at a reasonably consistent rate ranging from 1 per cent to 1.12 per cent per year over the last 25 to 30 years. The residential population is expected to increase from around 564,000 persons in June 2016 to 588,000 persons in June 2020.[38,39] The projected population growth is shown in Figure 4.1.

Historically, the housing stock in the Lower Hunter was dominated by a high proportion of standalone houses. Over the last 25 years, there has been an increase in the proportion of mulit dwellings (strata flats and units) in the composition of new property connections. The new build of residential properties is now around 65 per of single stand-alone dwellings and 35 per cent of multi dwellings. Hunter Water has forecast a continuance of this trend, hence the increase in the proportion of residents living in flats and units.

4.3 Consumption forecast

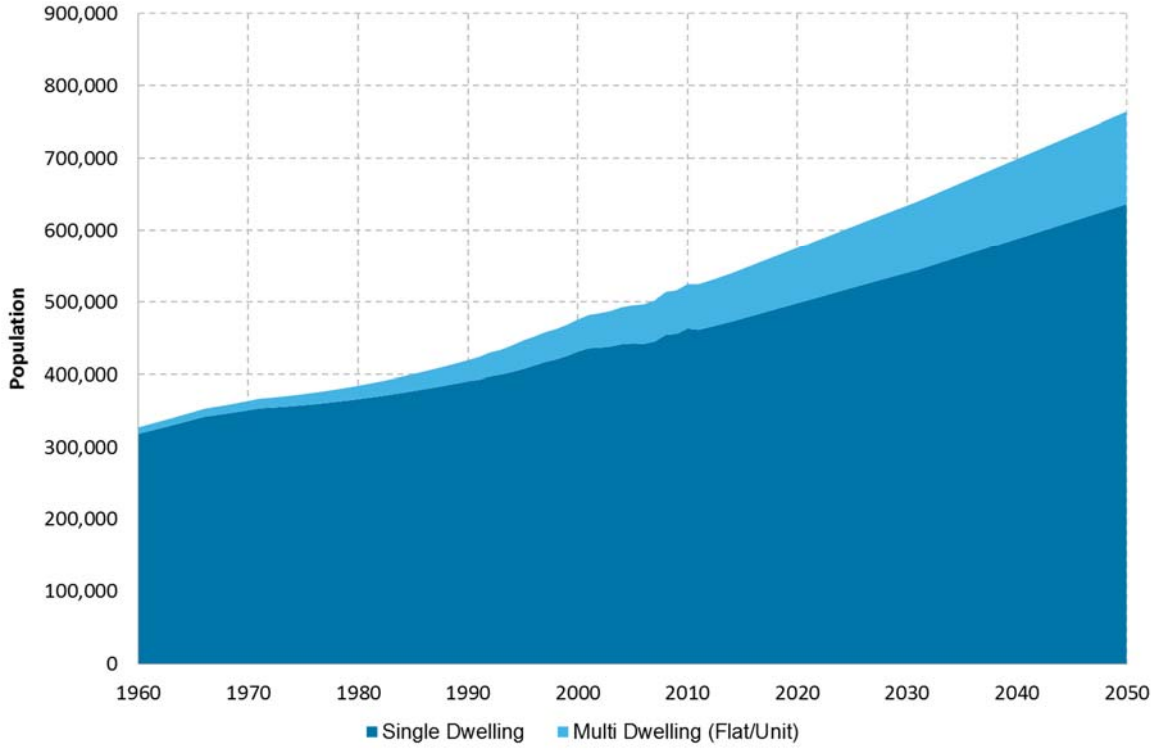
4.3.1 Demand model used in this submission

Hunter Water uses the Integrated Supply–Demand Planning (iSDP) model for forecasting future water demand. Development of the iSDP was funded by the National Water Commission for use by Australian water utilities as part of the Integrated Resource Planning for Urban Water project.[40] The iSDP model combines residential end-use analysis with a sector-based approach for the non-residential and non-revenue water sectors, which is considered to be the national and international best practice approach to demand forecasting.[41]

[38] This is a population estimate of customers supplied with water services and is less than the total population in Hunter Water's area of operations. It includes estimated population for private (houses, flats and units) and non-private (education facilities, boarding houses, gaols, etc) dwellings.
[39] Annual information return, Non-financial data, Table 1.2 Customer Profile, Estimated population with service – water supply (row 73).
[40] National Water Commission, 2011.
[41] Ibid.

End-use modelling is based on a disaggregated analysis of consumption in individual customer categories (e.g. residential, industrial, commercial and unaccounted-for water). Individual customer categories can be broken down further into individual end uses. The residential demand forecast is based on how water is used in and around the home (e.g. toilets, showers, taps, washing machines, gardens, etc). For each of the end uses, region specific information is required on the stock (number of households with each type of water using appliance), water intensity (how much water each type of appliance uses) and frequency of usage (number of times and/or duration of each use).

Figure 4.1 Projected population served



Source: Hunter Water.

For non-residential customers - including industrial and commercial customers, schools and hospitals - the forecast is based on metered data, historic trends in growth in connections to the water supply system, and the average use per customer.

Factors such as projected growth in population, the number of dwellings and occupancy rates are also integrated into the model to forecast demand.

Hunter Water first implemented the iSDP model for water demand forecasting in 2012. The model is used to provide consistent demand projections in both resource planning and financial forecasting. For example, the model used for this price submission was also used for the Lower Hunter Water Plan (LHWP).[42] Hunter Water's application of the iSDP and resulting demand forecast underwent two external reviews prior to adoption of its outputs for the 2013 price determination and 2014 LHWP.[43] The external reviews found that the demand forecast model was successfully applied and previous review comments have been adequately addressed. The review commissioned by the Metropolitan Water Directorate concluded that:

> *In general, SKM is of the opinion that the approach and forecasting method are reasonable and that the sources of data and information used by* [Hunter Water] *are sound. Most of the assumptions applied in the model are also appropriate.*[44]

Hunter Water has made updates to the iSDP model since development of the demand forecast used for setting prices in 2013.

[42] Refer to Chapter 2 for further details of the Lower Hunter Water Plan.
[43] In February 2012, Hunter Water sought a preliminary external review of its demand forecasts by the Institute for Sustainable Futures in order to identify high-priority improvements prior to independent reviews that might be procured by IPART and/or the Metropolitan Water Directorate. In 2012-13, Metropolitan Water Directorate engaged consultant Sinclair Knight Merz to undertake an independent peer review of the model.
[44] SKM, 2013, p.2.

The rate of connections growth has been updated to reflect a longer period of actual customer connections data. Customer consumption trends have been extended to span the past seven years, to ensure that water usage statistics are not influenced by one or two years of high or low water demand. Parameters on water efficiency have been updated with current information, such as the uptake rate of water efficient appliances and the water use performance of appliances.

4.3.2 Consumption projections

The projected residential water demand presented in Table 4.1 includes demand from all residential end-use components and sectors. The demand in this sector is expected to continue to increase as the number of connected dwellings and population increase, with usage attenuated by Water Wise Rules and increasing uptake of water efficient appliances.

Historically, commercial and industrial water use has been a key component of overall demand in the Lower Hunter region. Over the past 15 years the level of non-residential demand has declined significantly as a result of industrial closures, reduced business activity and more efficient water use. The supply of recycled water for industrial purposes has also offset non-residential use. These demand-side influences are difficult to forecast. With fewer medium and large customers, potential reductions in usage from business customers will have a relatively smaller impact on overall supply requirements. Hunter Water forecasts that non-residential demand will account for 34 per cent of total water consumption in 2019-20.

The Hunter Water iSDP model consumption projections for residential and non-residential customers for the proposed price period are shown in Table 4.1.

Table 4.1 Consumption projections (megalitres)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential	36,844	36,890	36,951	37,025	37,118	37,225
Non-residential	17,776	17,889	18,426	18,880	19,172	19,362
Total	**54,621**	**54,779**	**55,376**	**55,906**	**56,290**	**56,587**

Source: Hunter Water. Excludes inter-regional (bulk water) demand (see section 4.5).

4.4 Connection projections

The projected customer numbers relevant to price modelling and revenue modelling are provided in Table 4.2 to Table 4.4. This information is used to calculate the level of fixed (service) charges. The meter equivalent[45] projections for non-residential sewer connections shown in Table 4.2 have been adjusted to take account of the sewer discharge factors applying to each individual customer.

Over recent years, the format of customer number projections has varied to reflect changes in pricing structures. For example, Hunter Water's 2012 submission included customer numbers by year, service (i.e. water, sewerage and stormwater), customer type (e.g. residential and non-residential) and meter size, as required to support implementation of proposed new pricing structures for the four metropolitan water utilities[46]. The projections contained in the 2012 price submission directly matched data contained in the annual information return.[47]

Hunter Water considers the information provided in this submission to be the most appropriate for calculation of fixed charges. It differs from the information contained in the annual information return in two respects. Annual figures represent the 'averages' for each year, which is more appropriate in calculating expected revenue totals than balances at financial year end.[48] For water and sewer, average customer numbers are billable connections, or service agreements, which differ from property and dwelling numbers and are a more accurate reflection of service charge revenue.[49] For stormwater, average customer numbers are billable properties.

[45] 'Meter equivalent' (ME) means the relationship between a particular meter size and a 25 mm meter. It expresses larger meter in terms of an equivalent number of 25 mm meters, as derived using the formula $ME = (meter\ size)^2/625$. For example, a 50 mm meter is equivalent to four 25 mm meters. For pricing purposes, a property with 50 mm meter would therefore pay a water service charge equal to four times the 25 mm service charge.
[46] The four metropolitan water utilities are Sydney Water, Hunter Water, Gosford City Council and Wyong Shire Council. For further details of the pricing structure changes see IPART, 2012 (c).
[47] Annual information return, Table 1.2 – Customer Profile.
[48] End of financial year figures are provided in the annual information return but these would over estimate revenue due to intra-year connection growth.
[49] A property is considered to be parcel of land. A dwelling is a form of use of the property. There may be multiple dwellings per land parcel.

The billable customer numbers are based on actual charges levied in 2014-15 and an annual adjustment for growth (as discussed in section 4.2 and consistent with the growth used as a basis for the consumption forecast provided in section 4.3.2).[50]

Table 4.2 Projected billable water connections

	Unit	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential [a]							
Houses	No	185,327	187,229	189,130	191,032	192,933	194,835
Multi premise [b]	No	42,306	43,325	44,345	45,365	46,384	47,404
Total residential	No	**227,633**	**230,555**	**233,476**	**236,397**	**239,319**	**242,240**
Non-Residential							
Total 20mm individual	No	**5,817**	**5,900**	**5,983**	**6,066**	**6,148**	**6,231**
Multi premise [b]	ME	529	536	544	551	559	566
25mm & above	ME	14,656	14,865	15,074	15,284	15,491	15,699
Total ME	ME	**15,185**	**15,401**	**15,618**	**15,835**	**16,050**	**16,265**

Source: Hunter Water.

a) Includes 'vacant land' and 'other'.

b) A multi premise is a premise where there are two or more properties. Flats and units are an example of a residential multi premises.

c) Totals may not add precisely due to rounding.

Table 4.3 Projected billable sewer connections

	Unit	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential [a]							
Houses	No	174,574	176,168	177,758	179,344	180,926	182,503
Multi premise [c]	No	42,867	43,915	44,964	46,014	47,065	48,116
Total residential	No	**217,441**	**220,083**	**222,722**	**225,358**	**227,991**	**230,619**
Non Residential [b]							
Total 20mm individual	No	**5,063**	**5,164**	**5,267**	**5,371**	**5,476**	**5,583**
Multi premise [c]	ME	424	432	441	449	458	467
20mm & above	ME	7,082	7,223	7,367	7,513	7,660	7,810
Total ME [b]	**ME**	**7,506**	**7,655**	**7,808**	**7,962**	**8,118**	**8,277**

Source: Hunter Water.

a) Includes 'vacant land' and 'other'.

b) The meter equivalents (ME) in this table have been adjusted by the discharge factors applying to the customers with each meter size.

c) A multi premise is a premise where there are two or more properties. Flats and units are an example of a residential multi premises.

d) Totals may not add precisely due to rounding.

[50] IPART's guidelines for water agency submissions request connection numbers by meter size however the level of disaggregation by customer type is considered appropriate for the price structures described in Chapters 9 to 12.

Table 4.4 Stormwater properties

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential						
Stand alone residential	48,308	48,368	48,428	48,488	48,548	48,608
Multi premise (strata units)	15,722	15,917	16,112	16,307	16,502	16,697
Non Residential						
Small property (<1,000m^2)	1,999	1,999	1,999	1,999	1,999	1,999
Medium property (<1,001 - 10,000m^2)	908	908	908	908	908	908
Large property (<10,001 - 45,000m^2)	73	73	73	73	73	73
Very large property (>45,000m^2)	12	12	12	12	12	12

Source: Hunter Water.

4.5 Impact of competition on consumption and connections

Urban water competition within Hunter Water's area of operations is emerging through developers' use of private network operators to provide self-contained sewerage and recycled water services to greenfield urban development areas.[51] Some private network operators are seeking to purchase bulk potable water from Hunter Water for their distribution and retailing to customers within the development. In these circumstances, the residents within such developments would be customers of the private network operator/retail rather than Hunter Water customers.

Hunter Water's has not adjusted its demand and connection projections for the emergence of private sector competitors over the next price period. Private network operators are yet to secure licences for some major developments. In addition, planning and construction lead times for major residential projects can take a number of years.

Hunter Water anticipates that it will provide bulk drinking water to private network operators in new developments. Consequently, Hunter Water will have full details of the impact of private competitors on Hunter Water's growth projections. This information will be incorporated into Hunter Water's annual updates of demand and connections growth as project details become more certain.

4.6 Inter-region demand

Hunter Water provides treated water supply to two adjacent regions. The bulk supply provided to these areas is used to provide water services to properties that are geographically closer to the Hunter Water supply network or to supplement the quantity of water available to these areas.

4.6.1 Gosford City Council and Wyong Shire Council

Hunter Water began supplying water to the Central Coast in 2004-05 due to extremely low levels in its water storages. The link to the Central Coast was augmented to be able to supply up to 27 megalitres per day from December 2006 and up to 35 megalitres per day from January 2008.

At present only 14 megalitres of water per day can be transferred north to the Lower Hunter network. Wyong Shire Council is planning to construct a new pipeline from Mardi to Warnervale which will supply Central Coast customers in the Warnervale area and also meet commitments under the existing transfer agreement. When this pipeline is completed in around 2017, the capacity to transfer water north to the boundary of the Lower Hunter system will increase to 30 megalitres per day. As outlined in the LHWP, Hunter Water plans to modify its network to receive higher volumes of water from the Central Coast.[52] The pipeline will help both regions cope with drought conditions by making better use of existing water storages.

A combined source model has been developed and is used to determine the expected annual volume of transfers. The source model uses the current storage levels, proposed infrastructure upgrades and transfer rules as inputs. The amount transferred in any given year is dependent on weather conditions in each region. The model outputs are updated once a year.

[51] Refer to Chapter 2 for further details.
[52] Further information on the Lower Hunter Water Plan is provided in Chapter 2.

Storage levels on the Central Coast have improved from 13 per cent of capacity in 2007 to 59 per cent in January 2015, due to above average rainfall, transfers from Hunter Water, and completion of the Mardi Dam to Mangrove Creek Dam pipeline link in July 2012. The pipeline link will help secure the Central Coast's water supply in future and reduce the reliance on transfers from Hunter Water.

The most likely scenario is that no bulk supply transfers (net) will be made to the Central Coast during the coming price period. Transfers to and from the Central Coast, alternating a month at a time, are being used to manage water quality in the transfer pipeline. Over a year, approximately 365 megalitres will be sent in both directions.

4.6.2 MidCoast Water

A small number of mostly residential customers (approximately 90) in the Great Lakes Council area are supplied from the Hunter Water water supply. The area in North Karuah is connected to Hunter Water's water and wastewater services. These residential customers are customers of Midcoast Water and pay for these services at prices set by Midcoast Water.

5 OPERATING EXPENDITURE

Main points

- *Hunter Water is on track to out-perform the regulated operating cost targets set by IPART for the current price period.*
- *Cost pressures totalling $24 million have been more than offset by $35 million in efficiency savings ($2015-16). The net result is an overall saving of $11 million or 2.8 per cent ($2015-16) over the three years of the current price period. The favourable variance has been achieved through electricity optimisation, labour savings through restructuring, vacancy rates, lower defined benefit superannuation contributions, market-testing of the treatment operations contract and repeal of the carbon tax.*
- *Modest increases to regulated operating costs are proposed for the next price period. The average annual real increase in operating costs of $5.9 million (excluding inflation) is 1.2 per cent relative to the 2015-16 base year, which is less than the projected growth in connected properties.*
- *The additional costs in the next four years reflect real increases in electricity expenditure due to installation of energy intensive treatment technologies such as ultraviolet disinfection at Burwood Beach wastewater treatment plant, increased chemical usage to optimise drinking water quality and manage wastewater odours, servicing growth, rates and taxes, labour-related costs (including defined benefit superannuation) and biosolids management to manage regulatory risks.*
- *Efficiencies of $4.9 million have been factored into the operating expenditure proposal to maintain customer affordability.*
- *Less than half of the total operating spend is considered controllable by Hunter Water. The remaining costs are locked-in for the short to medium term due to contractual terms for outsourced items, embedded savings from previous efficiency initiatives or the regulatory nature of the costs.*

5.1 Introduction

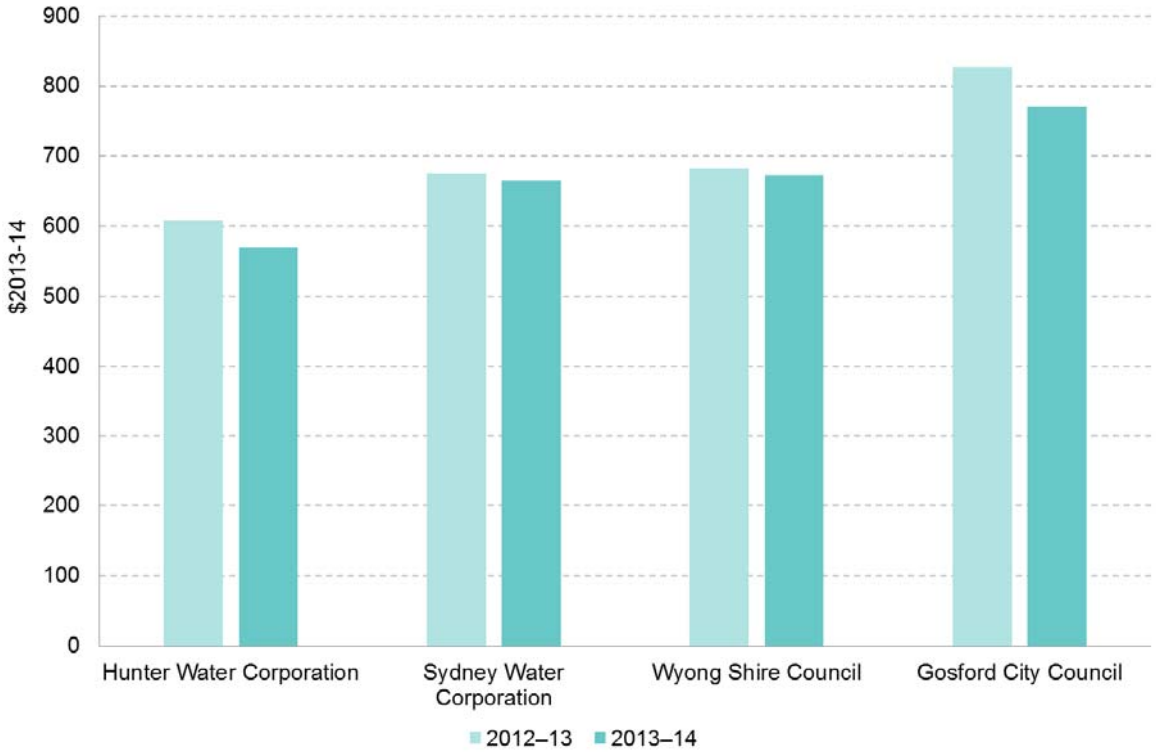
Hunter Water continues to deliver services at a low operating cost relative to similar sized Australian water utilities.[53] The 2015 National Performance Report published by the Bureau of Meteorology shows that for 2013-14, Hunter Water had the lowest operating cost per property amongst its cohort, being 39 per cent lower than the median for large utilities and 36 per cent lower than the national median across all utility sizes.[54] Hunter Water's operating cost per property is also consistently well below that of the neighbouring NSW utilities for which IPART sets prices, as shown in Figure 5.1. Hunter Water continues to identify further opportunities for cost efficiencies but generally faces greater challenges than other comparable agencies in containing operating costs while maintaining service levels due to material diseconomies of size, its relatively small number of customers, extensive service area and topography.[55]

5.2 Major components of Hunter Water's operating expenditure

Hunter Water's operating expenditure consists of 65 per cent non-labour costs. Non-labour cost components can be broken down into more detailed categories, as shown in Figure 5.2 for the 2015-16 total operating expenditure budget of $129 million.[56] Each cost category varies in its degree of market dependence and the level of embedded savings from previous cost-minimisation actions, which affects Hunter Water's ability to drive further efficiencies.

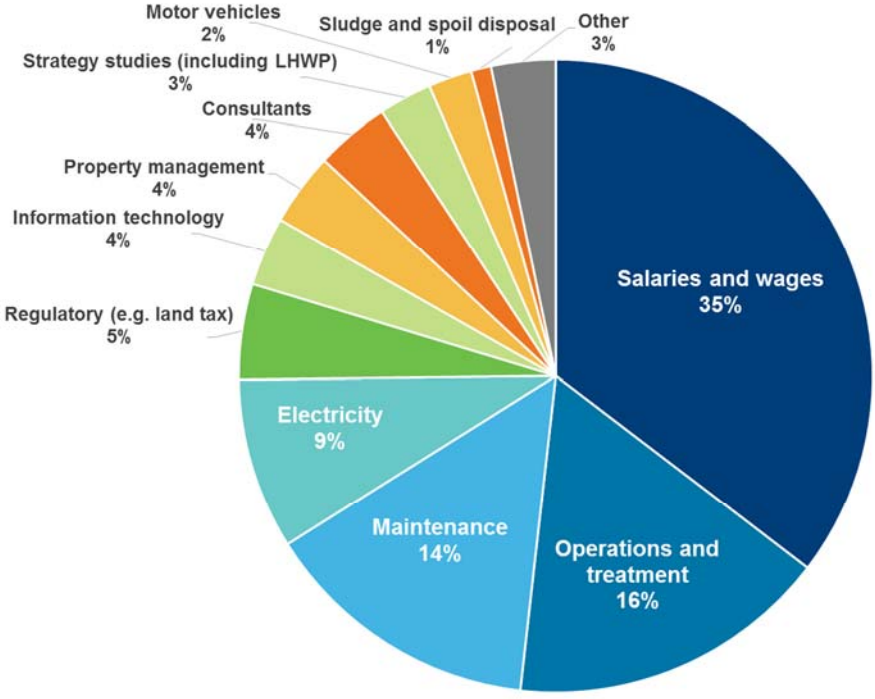
[53] Hunter Water's cohort consists of urban water utilities with more than 100,000 connected properties.
[54] Bureau of Meteorology, 2015(a), Table 5.11, p.63.
[55] Hunter Water's extensive area and the geography mean Hunter Water has longer water and wastewater main lengths per connection requiring maintenance than Sydney Water. The relatively flat topography of Hunter Water's service area means that pumping is required for all water supplied and for much of the wastewater delivered to treatment plants. The water and wastewater networks together have over 500 pumping stations.
[56] Total operating costs (regulated, nonregulated and unregulated), including recycled water.

Figure 5.1 Metro utilities combined water and sewer operating cost per property ($2013-14)



Source: Bureau of Meteorology, 2015(b), Indicator F13.

Figure 5.2 Major operating cost components ($m 2015-16)



Source: Hunter Water.

The majority of non-labour operating costs are either uncontrollable or only partially-controllable. Costs set with reference to regulatory requirements are uncontrollable. These costs include land tax, council rates and bulk water (extraction) licences and charges. The remaining non-labour costs are contained to efficient levels by:

- Internal governance controls that challenge the need for expenditure, and
- Leveraging competitive procurement processes and outsourcing of services, where appropriate.

Oversight of operating expenditure has been strengthened since the 2012-13 price review. A senior management Expenditure Review Committee (ERC) has been established to challenge the need for, and scrutinise the procurement of, all goods and services contracts for expenditure exceeding $50,000. In 2013-14 the ERC reviewed proposals covering around $430 million in operating expenditure over the life of the contracts.

Once the proposed expenditure has been accepted as necessary, Hunter Water's standard procurement approach is to use competitive tendering to achieve price advantages. In the current price period, 75 per cent of non-labour operating expenditure has been market-tested.[57] The proportion of operating expenditure outsourced is among the highest by large urban water utilities.[58]

Procurement of goods and services for large cost categories is timed to align with price periods, where possible. This provides cost certainty for Hunter Water and ensures that savings obtained through open market competitive tension are passed on to customers as soon as possible. As an example, contractual arrangements for the operation and maintenance of Hunter Water's water and wastewater treatment plants have been locked-in the duration of the next price period (see Box 5.1).

Box 5.1 Treatment contract with Veolia

Veolia Water Australia Pty Limited (Veolia) commenced operation and maintenance responsibility for Hunter Water's 25 water and wastewater treatment plants in October 2014 following a competitive procurement process overseen by an independent procurement specialist. The contract was awarded for up to 10 years. Previously, treatment plant maintenance was performed in-house and treatment operations services were outsourced to Hunter Water's wholly owned subsidiary, Hunter Water Australia.

Veolia operates 68 water and wastewater treatment plants across Australia and New Zealand that provide services to over 3 million people. As part of a global network it can draw on extensive expertise to deliver services efficiently and meet the highest levels of regulatory compliance.

The new contractual arrangement provides a number of benefits including consolidation of a large number of smaller contractual arrangements previously held by Hunter Water for services such as waste, biosolids and water treatment residuals management, facilities management, mechanical maintenance and electrical maintenance.

It is estimated that approximately $1.3 million in savings will be realised through this contract over the current price period net of all transitional costs.

Labour-related costs comprise 35 per cent of Hunter Water's operating expenditure. Labour costs are influenced by employee numbers, vacancy rates, salary and wage conditions and defined benefit superannuation contributions.[59]

Employee numbers and vacancy rates are controllable in the short to medium term through restructuring, such as streamlining the senior management team from eight to five senior executives, as discussed in section 2.1.3. An employee 'vacancy rate' of five per cent has been formalised in employee planning since 2013-14.

Salary and wage conditions are controllable in the medium to long term through triennial renewal of enterprise agreements. Labour cost pressures are already contained by the NSW Public Sector Wages Policy, which requires any real wages growth to be offset by savings. Counterbalancing this, there is a need to attract and retain appropriately skilled employees.

Defined benefit superannuation contributions are prescribed by the SAS Trustee Corporation (State Super) based on actuarial assessments of fund membership and fund assets along with conditions in financial markets and are therefore uncontrollable.

[57] Based on 2013-14 data.
[58] WSAA, 2013, p.14.
[59] Defined benefit superannuation is a scheme whereby an employee's superannuation is calculated as a multiple of the number of years contributing to the scheme and their final average salary. Defined benefit superannuation is a legacy scheme that is no longer open to new members.

On top of the labour cost savings already achieved and outlined in the following section, there is little scope to extract further efficiency gains during the next price period from non-labour uncontrollable cost categories, nor labour-related costs, without impacting unfavourably on service delivery.

5.3 Expenditure performance between 2013-14 and 2015-16

As part of the 2013 determination, IPART allowed for an efficient level of operating expenditure of $391.8 million ($2015-16) over the three years 2013-14 to 2015-16.

Hunter Water has outperformed its regulated expenditure allowance so far this price period and expects to continue this trend. Cumulatively, regulated operating expenditure is expected to be $10.9 million below the IPART target as shown in Table 5.1 and Figure 5.3. This represents a 2.8 per cent favourable variance over the period.

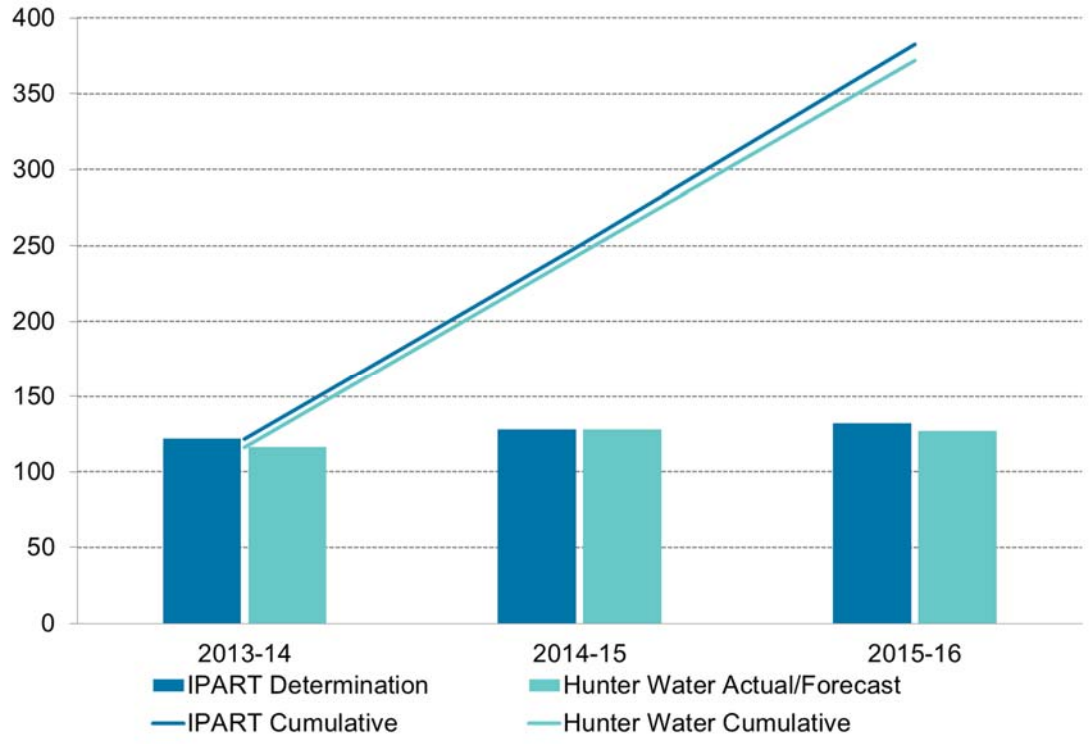
Table 5.1 Regulated operating expenditure 2013-14 to 2015-16 ($m nominal and 2015-16)

	2013-14	2014-15	2015-16	Total [a]	Total [a]
$ terms	*$nominal*	*$nominal*	*$nominal*	*$nominal*	*$2015-16*
IPART determination [b]	121.9	128.3	132.2	382.4	391.8
Actual/Forecasts [c]	116.3	128.3	127.2	371.8	380.9
Variance	**5.6**	**-**	**5.0**	**10.6**	**10.9**

Source: IPART, 2013(a), Table 5.6 and 5.8 and Hunter Water's AIR Table 5.2 less Tillegra land. IPART and Hunter Water have agreed adjustments to Table 5.8 to correct for a minor calculation discrepancy related to carbon tax adjustment. Totals may not add precisely due to rounding.

a) Total is for the regulated expenditure only, excludes recycled water.
b) Inflation has been applied to the determination on a product-by-product basis. Summary figures reported in this table have been rounded to match the totals across products in Tables 5.4 to 5.6.
c) 2013-14 actual and 2014-15 forecast are consolidated (group) operating costs. 2015-16 budget represents the full cost of all expenditure of Hunter Water alone (see Box 5.2 for further details).

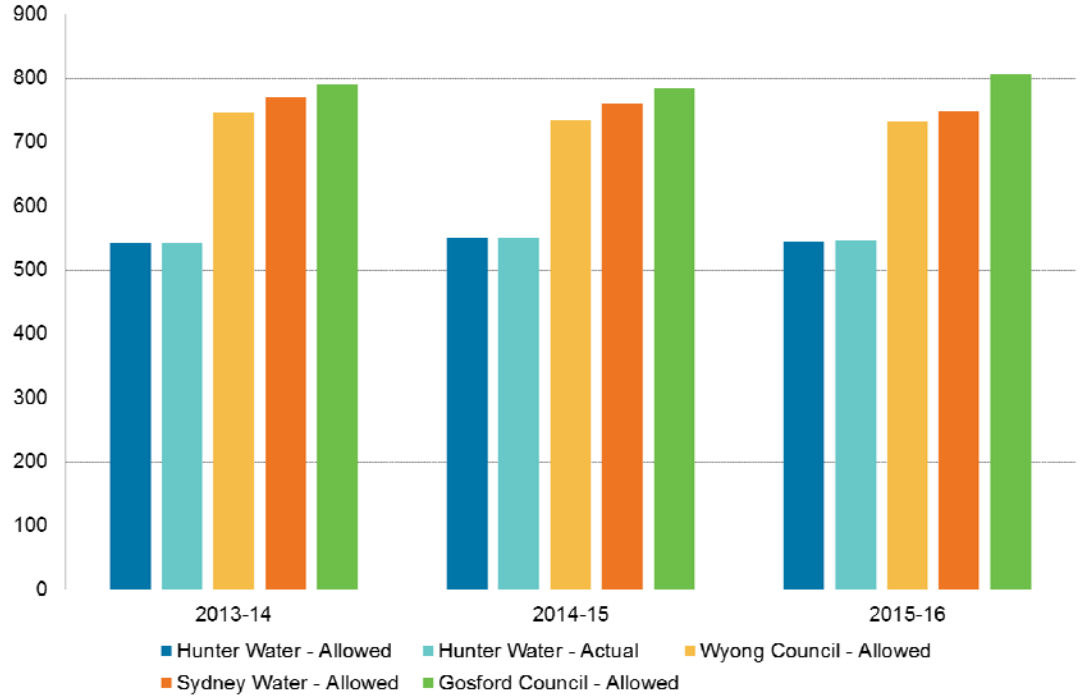
Figure 5.3 Regulated operating expenditure 2013-14 to 2015-16 ($m nominal)



Source: Hunter Water.

Hunter Water's operating costs per property, based on regulated expenditure, have remained relatively stable at around $550 per property. These costs closely match the operating expenditure allowed by IPART, on which current prices are based. Hunter Water's operating costs per property are well below the IPART-allowed costs for other NSW utilities, as shown in Figure 5.4.[60]

Figure 5.4 Regulated operating expenditure per property ($2015-16)



Source: Hunter Water based on Sydney Water, 2011; IPART, 2012; Gosford City Council, 2012; Wyong Shire Council, 2012; IPART, 2013.

Box 5.2 Basis of operating expenditure – adjustments related to subsidiary

In its last two price determinations, IPART has determined the efficient level of operating expenditure allowed to be recovered by Hunter Water through prices on a consolidated (group) basis. The group consisted of the parent entity, Hunter Water Corporation (Hunter Water), and its wholly owned subsidiary company, Hunter Water Australia Pty Ltd (HWA).

IPART considered it appropriate to determine operating costs on a group basis because Hunter Water purchased services from HWA and consolidation of the two companies' financial accounts eliminated any profit margin paid by Hunter Water to HWA. It was IPART's contention that elimination of this profit margin was necessary because the services provided by HWA (particularly the treatment operations contract) had not been competitively market tested and therefore could not be verified as being efficient. Conversely, Hunter Water considered that group operating expenditure artificially suppressed operating costs because market prices would include a profit margin regardless of the relationship between Hunter Water and the provider.

Consolidated operating expenditure is no longer relevant to setting Hunter Water's prices because the treatment operations contract has been competitively tendered and the remaining businesses of HWA have been sold (See Box 2.1 for further details on the sale of HWA and Box 5.1 for further detail regarding the treatment operations contract). HWA now exists as a 'shell' company, has no employees, has ceased trading and is in the process of being wound-up. The operating expenses within this chapter are therefore presented in different terms.

Operating costs for the current price period are:

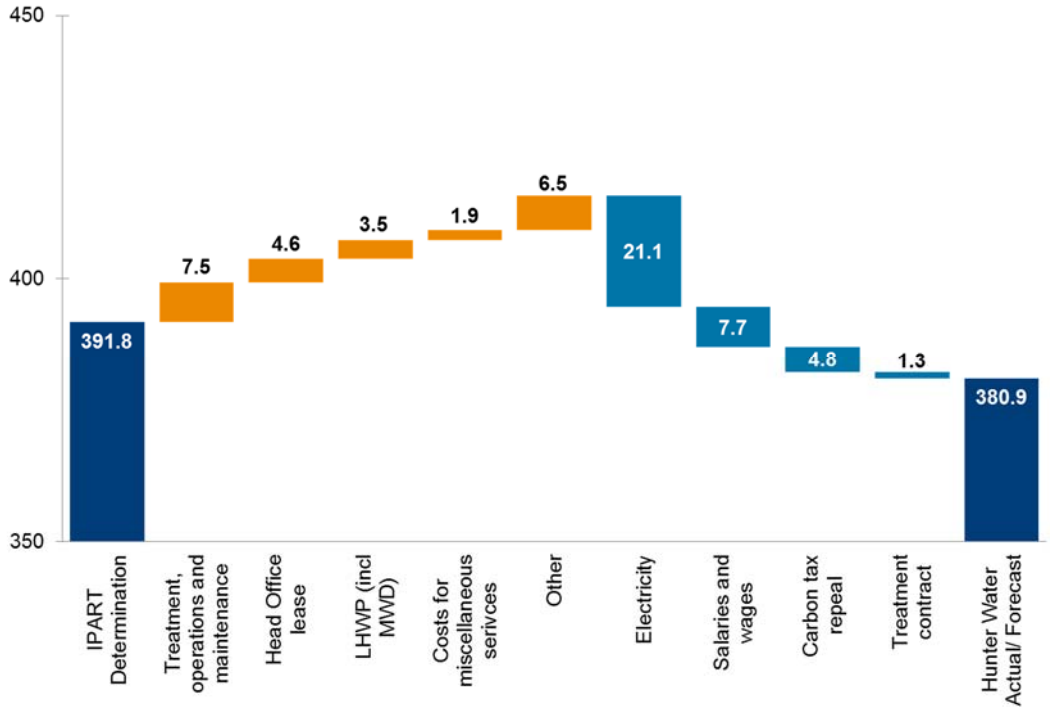
- Consolidated for 2013-14 and 2014-15, consistent with the 2013 determination.
- The total costs of Hunter Water alone for 2015-16. Hunter Water alone is the entity formerly referred to as the 'parent'. However, 'group' and 'parent' become identical post-sale of HWA.

Operating costs for the next price period are the total costs of Hunter Water alone.

[60] Figures 5.1 and 5.4 are not directly comparable for definitional reasons.

During the current price period, Hunter Water faced cost pressures totalling $24 million ($2015-16) from items not included in the 2013 IPART allowances and increases in some cost categories. These have been more than offset by savings achieved through efficiency initiatives. The major items contributing to the variance between the regulated expenditure allowance and actual expenditure are shown in Figure 5.5.

Figure 5.5 Operating expenditure variance relative to regulatory allowance ($m 2015-16)



Source: Hunter Water.

The main categories of cost pressures during the current price period include:

- Treatment, operations and maintenance – The cost of core business activities has increased due to the nature of jobs conducted during the period, increasing regulatory expectations and associated charges and increasing stakeholder expectations.

  Maintenance cost were adversely impacted by a higher average cost per job as a result increased bulk materials costs and more expensive job types being undertaken. For example, civil maintenance employees repaired a higher proportion of main breaks compared with leaks. Repair of breaks requires more extensive excavation to access a longer length of pipe. Road and path restoration costs have also increased due community expectations of like-for-like replacement and higher standards for existing work (such as tinted or stencilled driveways).

  Recent changes to the *Protection of the Environment Operations (Waste) Regulation 2014* will require North Lambton depot, which receives spoil from other Hunter Water facilities, to obtain an environment protection licence as a waste transfer site. This will incur additional costs for monitoring and reporting.

  Hunter Water has purchased bulk drinking water from the Central Coast to maintain functionality of the interconnection and to maintain water quality at the southern end of its water network. These costs are offset by revenue from equivalent sales to Gosford City Council and Wyong Shire Council to maintain the functionality of the interconnection or other operational reason, albeit with a timing variance.[61]

- Head Office lease – Hunter Water's Head Office in Newcastle was sold in 2014 as part of an asset recycling program aimed at improving Hunter Water's financial position.[62] Subsequent lease expenditure is classified as an operating cost. This represents a change in expenditure type as office accommodation costs were formerly recovered through prices via a return *on* and *of* capital in the regulatory asset base.

[61] IPART set the interchange price at the same level regardless of the purchaser. IPART, 2013(a), p.125.
[62] Further information on asset recycling is provided in Chapter 2, Box 2.1.

- Lower Hunter Water Plan – The LHWP was finalised in the first year of the current price period. The NSW Government confirmed ongoing roles and responsibilities for both Hunter Water and the Metropolitan Water Directorate (MWD) in implementation, monitoring, reporting, review and funding. Cost of implementing the plan and funding the related activities of MWD were allocated to Hunter Water (see Box 5.3).
- Expenses with revenue offsets – This expenditure variance is due to a difference in the quantity of miscellaneous and ancillary charges sold by Hunter Water compared with the quantity IPART allowed for in the 2013 determination and a change in the level of debt collection activities. Additional costs have been offset by additional revenue.[63]
- Other – IPART's regulatory operating expenditure allowance was based on the consolidated (group) view of Hunter Water and its subsidiary (HWA), which eliminated any profit margin earned by HWA on the treatment operations contract. The regulatory allowance assumed HWA would hold the treatment operations contract for the full price period. Hunter Water considers that a regulatory expenditure allowance based on group operating costs artificially suppressed the treatment operation costs because market prices would include a profit margin regardless of the relationship between Hunter Water and the provider. HWA held the treatment operations contract for around 40 per cent of the current price period, on which no profit earned by HWA was recovered. Veolia will hold the treatment operations and maintenance contract for the remaining 60 per cent of the current price period. Hunter Water's expenditure on the contract will therefore exceed the regulatory allowance due to the regulatory treatment of the profit margin. Hunter Water considers that the treatment operations and maintenance contract is efficient, despite the contract including payment of a profit margin to Veolia, because it has been market-tested and will result in lower costs to hunter Water over the contract period compared to the previous contract. There are also a range of other 'one-off' and unavoidable cost increases, such as licencing costs of upgraded software and resolution of legal matters.

Box 5.3 Lower Hunter Water Plan

As mentioned in Chapter 2, the Metropolitan Water Directorate (MWD), within the NSW Department of Primary Industries, led a whole of government approach to the development of the Lower Hunter Water Plan (LHWP) that was released in April 2014. The release followed a period of comprehensive planning in close consultation with Hunter Water, other government agencies, stakeholders and the community of the Lower Hunter.

MWD maintains its role as the lead agency in the next phase of implementing, monitoring and evaluating the plan, and developing future iterations of the LHWP. Hunter Water is responsible for operational activities under the LHWP, and will be the primary provider of evidence to address the evaluation of the plan. A review of the LHWP is scheduled to occur within the next price period.

Under the *Roles and Responsibilities Protocol for Implementing, Evaluating and Reviewing the Lower Hunter Water Plan* agreed between MWD and Hunter Water in 2014, Hunter Water is to contribute financially towards implementing and reviewing the plan and developing the next iteration, and specifically:

- Hunter Water is to fund the cost of its work to implement the plan
- Hunter Water will fund MWD's efficient costs for implementing, monitoring, evaluating and reviewing the plan to an upper limit agreed by the parties

The NSW Government has approved in-principle that MWD's ongoing costs for leading the monitoring, evaluation and review of the LHWP be funded by Hunter Water and recovered from customers through IPART pricing determinations.

[63] Revenue is not shown in Figure 5.5. Only operating expenditure is shown. The additional revenue is incorporated into totals provided in Appendix A.

Over the current price period, Hunter Water is on track to deliver around $35 million ($2015-16) in savings, which is above the $6.3 million ($2015-16) efficiency target recommended by Atkins/Cardno at the last price review and in addition to the self-imposed real cumulative savings of $14.6 million ($2015-16) incorporated into its 2012 price submission for the three years.[64,65]

Some examples of savings and efficiencies delivered are:

- Electricity – Demand management of electricity use (see Box 5.4), reductions in direct electricity costs based on the repeal of the Carbon Tax on 17 July 2014 and savings from procuring electricity through competitive tendering during a period of suppressed wholesale electricity market prices in April 2014.
- Salaries and wages – Savings have been achieved by managing employee numbers through restructuring and achieving vacancy rates in excess of the five per cent formally incorporated into human resource planning. Employer contributions for defined benefit superannuation have been lower than expected due to an improvement in the level of under-funding in Hunter Water's account, with a resulting approval to defer an increase in contributions proposed by the SAS Trustee Corporation.
- Treatment contract - Market testing of the operations and maintenance contract for treatment plants through competitive tendering addresses a potential efficiency identified in Atkins/Cardno's 2012 review for IPART (see Box 5.4). [66]

The above examples are a few instances where Hunter Water has achieved efficiencies and savings through reprioritising and reallocating resources and other cost reduction strategies. Unforeseen drivers of costs or pressure on input prices are encountered regularly and require addressing on an ongoing basis in order to offset or limit their impact on Hunter Water's costs. This is particularly important given that revenue remains largely fixed (subject to sales projections being realised) during a price period, regardless of the cost pressures encountered.

Box 5.4 Electricity savings

Electricity is a significant cost driver in the provision of services by Hunter Water to the community, constituting around 9 per cent of total operating costs. Hunter Water has addressed the cost pressures associated with increasing energy prices and upgrades to more energy–intensive wastewater treatment process (for environmental protection) by dedicating modest resources to energy cost saving initiatives.

Demand-side efficiency measures to reduce the quantity of electricity used have involved:

- Installing more energy efficient electrical and mechanical hardware, such as control systems, blowers and pump drives.
- Improved operational practices, such as switching off equipment when not in use.
- Renewable energy generation of around 0.5 GWh per year, from solar panels on head office, cogeneration using biogas at Cessnock wastewater treatment plant and hydro power turbines at Dungog water treatment plant and Chichester Dam.

Further initiatives to reduce electricity charges have included:

- Procuring electricity through competitive tendering during a period of suppressed wholesale electricity market prices in April 2014.
- Identifying further opportunities to take advantage of lower off-peak tariffs.
- Correction of billing errors.
- Capacity charge reductions.

Annual savings of $253,000 will be achieved through energy efficiency projects completed in 2013-14.

[64] Hunter Water, 2012, pp.51-2 indexed to $2015-16.
[65] Atkins/ Cardno, 2012, Table 2, $5.8 million ($2012-13) for the first three years.
[66] Atkins/Cardno, 2012.

5.3.1 Operating costs 2013-14

Hunter Water's operating expenditure in 2013-14 was $116.3 million, which was $5.6 million lower than the IPART-determined allowance (in nominal terms). This represents a genuine saving because it was achieved whilst maintaining full compliance against system performance standards for water pressure, water continuity, sewer overflows and drinking water quality targets set in the 2012-17 operating licence.

There were variances in expenditure at the product level, as shown in Table 5.2. Expenditure on core products was favourable due to electricity savings ($4.3 million), which were partially offset by higher motor vehicle/ plant and trailer repairs and maintenance and leasing ($0.7 million). These input costs affected core product expenditure to differing extents. For example, there were higher electricity savings in wastewater than water. Savings in water expenditure were also partly offset by an additional $1.4 million in costs for the LHWP (including MWD).

Under-expenditure on drainage appears large as a percentage, however it is small in absolute terms. Drainage represents less than one per cent of Hunter Water's regulated operating expenditure.

Table 5.2 Variation on target operating expenditure 2013-14 ($m nominal)

Component	IPART Decision	Actual Expenditure	Variation	% of target
Water	37.4	35.5	1.9	95%
Wastewater	48.6	44.0	4.6	91%
Drainage	0.8	0.7	0.1	88%
Corporate	35.1	36.1	(1.0)	103%
Total	**121.9**	**116.3**	**5.6**	**95%**

Source: IPART, 2013(a), Tables 5.6 and 5.8 as corrected for a minor calculation discrepancy related to carbon tax adjustment and converted to $nominal in Table 5.1 of this submission. Hunter Water Annual Information Return 2015, Opex by item, Table 5.2 Operating Expenditure of Regulated Business Activities by Item, Water (rows 84 to 104) less Tillegra land (row 98), Wastewater (rows 186 to 205), Drainage rows (211 to 230) and Corporate (rows 105, 206 and 231).

5.3.2 Operating costs 2014-15

Forecast regulated operating expenditure for 2014-15 is consistent with the IPART-determined allowance of $128.3 million (see Table 5.3). Hunter Water expects all cost pressures to be offset by savings in the cost categories described in section 5.3 and Figure 5.5.

At a product level, drainage costs have increased through refining the direct allocation of labour costs to more accurately reflect true costs of maintaining the drainage network. The majority of electricity savings relate to wastewater, which had lower costs than allowed for by IPART. Head office lease costs are allocated to corporate, which represents a change in cost type.

Year-on-year, costs are $12 million higher in 2014-15 than 2013-14 (in nominal terms), due to:

- Movements in the overall price of goods, as measured by the change in consumer price index (CPI) - $2.8 million
- Head office lease costs - $2.0 million
- Net increases in labour-related costs - $2.1 million
- Strategies and studies, including investigations contributing to regulatory compliance (e.g. management of wastewater overflows) - $1.0 million
- Direct regulatory costs, such as ongoing increases to licence fees - $0.5 million
- Operational transitioning to the new treatment contract whilst maintaining regulatory compliance (demobilisation of the contract with HWA and commencement of the contract with Veolia), sale of HWA in 2014 (see Box 2.1) and associated changes to reporting that mean the profit margin on the treatment contract is no longer eliminated (see Box 5.2).

Table 5.3 Variation on target operating expenditure 2014-15 ($m nominal)

Component	IPART Decision	Forecast Expenditure	Variation	Per cent of target
Water	39.9	39.9	-	100
Wastewater	50.9	47.2	3.7	93
Drainage	0.8	1.3	(0.5)	(162)
Corporate	36.7	39.9	(3.2)	(109)
Total	**128.3**	**128.3**	**0**	**100**

Source: IPART, 2013(a) and Hunter Water Annual Information Return 2015 (for details see Table 5.2 notes).

5.3.3 Operating costs 2015-16

Hunter Water's forecast regulated operating expenditure is $127.2 million in 2015-16, which is $5.0 million below the IPART-determined allowance (see Table 5.4). Savings in the cost categories of electricity, salaries and wages, carbon tax and treatment contract (described in section 5.3 and Figure 5.5) are partially offset by head office lease costs ($2.4 million), operational costs driven by new capital expenditure ($1.0 million), proactively managing future compliance risks ($0.8 million), new strategic initiatives ($0.7 million) and contractual obligations ($0.3 million).

At a product level, wastewater benefits from the majority of electricity savings, consistent with the rest of the current price period. Water expenditure is forecast to be affected by implementation of the LHWP, including additional investigations and studies. Drainage costs have increased for the same reason as in 2014-15.

Year-on-year, costs in 2015-16 are close to those for 2014-15 (in nominal terms) as savings and cost pressures become embedded in the business.

Table 5.4 Variation to target operating expenditure 2015-16 ($m nominal)

Component	IPART Decision	Projected Expenditure	Variation	% of target
Water	40.0	43.7	(3.7)	(109%)
Wastewater	52.8	44.3	8.5	84%
Drainage	1.0	1.3	(0.3)	(130%)
Corporate	38.4	37.9	0.5	99%
Total	**132.2**	**127.2**	**(5.0)**	**96%**

Source: IPART, 2013(a) and Hunter Water Annual Information Return 2015 (for details see Table 5.2 notes).

5.4 Projected operating expenditure - methodology, major assumptions and risks

Hunter Water's budgeting process ensures an ongoing focus on meeting regulatory and compliance obligations, optimising processes and providing quality core business services to the community.

Hunter Water maintains a rolling five-year operating expenditure budget that is refined each year based on the Strategic Business Plan and the Statement of Corporate Intent (SCI)[67] agreed with shareholders. Hunter Water's planning is also influenced by the statutory and regulatory framework including the *State Owned Corporations Act 1989*, the *Hunter Water Act 1991*, other legislation including the *Protection of the Environment Operations Act 1997,* the *Independent Pricing and Regulatory Tribunal Act 1992* (under which IPART regulates the operating licence) and a range of other legislation and regulations.

Annual operating expenditure budgets are prepared using both bottom-up and top-down approaches. The bottom-up approach builds operating budgets by product, process (network or treatment), location and expense type (cost category).

[67] The Statement of Corporate Intent (SCI) is similar to an achievement plan or performance agreement. It is tabled in parliament.

The top-down approach involves a detailed review of budgets by the Expenditure Review Committee, Executive Management Team and by the Board of Directors before inclusion in the SCI. This process involves consideration of overall expenditure levels across the business, such as accommodating unforeseen items in the current price period within the IPART-allowed expenditure through identification of further efficiencies or setting stretch targets for the next price period to maintain customer affordability.

The main assumptions underpinning the operating expenditure forecasts for the next price period include:

- Connections, water sales and volumes of wastewater processed affect variable operating costs. Total water sales are forecast to remain relatively stable for 2013-14 to 2017-18. Connections and billable property growth is forecast to continue at its historic rate. Detailed projections are provided in Chapter 4.
- The current retail contract for purchase of electricity expires at the end of 2017. Moderate real adjustments to electricity prices have been assumed.
- Hunter Water has assumed annual inflation of 2.5 per cent for the price period from 2016, as instructed by IPART.[68] For a number of items in recent years, there have been regular real cost increases and Hunter Water retains the risk associated with future real price increases for inputs.
- Hunter Water invited input from the Environment Protection Authority on its wastewater strategies and studies, signaling its intention to deliver strategies and studies already listed as (mandatory) pollution reduction programs on various existing environment protection licences and to undertake studies on existing compliance issues that require greater clarity prior to agreeing a solution.
- Costs have been forecast assuming there will be no changes to regulatory requirements or increases in mandatory performance requirements. For a number of years, changing regulatory requirements (licence conditions and pollution reduction programs) have driven the need for more technically advanced processes at wastewater treatment plants (for example implementing ultraviolet disinfection at Burwood Beach wastewater treatment plant). Advanced processes and higher effluent quality standards are often more energy intensive, require higher quantities of chemicals or supervisory oversight. As a result, assuming no future changes carries a degree of risk, if tighter requirements do eventuate.
- The LHWP is scheduled for periodic review, anticipated to occur five-yearly, unless certain triggers are reached earlier. For example, changes to water resource access arrangements may affect the forecast timing of a supply-demand imbalance and trigger an earlier review. Reviews are generally more expensive than annual monitoring and implementation. Hunter Water's operating expenditure proposal is based on a review commencing in 2018-19.
- While weather conditions can impact significantly on Hunter Water's operating costs, average weather conditions are assumed. No expenditure allowances have been made for items that have historically arisen from time to time, such as increased failures from extreme weather events, or cost variations due to weather fluctuations. For example, a dry year can lead to additional pumping requirements from river systems into off-river storage, additional ground water extraction, continued pumping to ensure adequate water supply and pressure and increased main breaks due to ground contraction. A wet year can lead to additional pressures on the wastewater system leading to higher costs including increased electricity for pumping of wastewater to treatment plants and increased chemicals and electricity for treatment of increased flows.
- Full-time equivalent employee numbers (FTEs) will remain stable over the coming price period at around 460 people.[69]
- Any wage increases above 2.5 per cent provided through the enterprise bargaining negotiations will be offset by productivity improvements, as required by the NSW Public Sector Wages Policy.

[68] IPART, 2014, p.7 (Guidelines for water agency pricing submissions).
[69] Annual information return, Non-financial, Table 1.1 – Operating Statistics, rows 16 to 18.

5.5 Projected operating expenditure 2016-17 to 2019-20

Hunter Water's projected regulated operating costs are estimated to be $532.4 million ($2015-16) for the four-year price period commencing 1 July 2016. The expenditure distribution is shown in Table 5.5.

Table 5.5 Projected real operating expenditure 2016-17 to 2020-21 ($m 2015-16)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Total [a]
Water	43.7	43.8	44.3	45.1	45.4	44.8	178.6
Wastewater	44.3	44.2	47.1	47.1	47.8	48.4	186.2
Drainage	1.3	1.4	1.3	1.4	1.4	1.3	5.5
Corporate	37.9	39.5	40.2	41.2	41.2	40.6	162.1
Total regulated	**127.2**	**128.9**	**132.9**	**134.8**	**135.8**	**135.1**	**532.4**
Total Unregulated [b]	2.1	1.6	1.6	2.4	3.1	3.1	8.7
Total Opex	**129.3**	**130.5**	**134.5**	**137.2**	**138.9**	**138.2**	**541.1**

Source: Hunter Water.

a) Total excludes 2015-16 and 2020-21; it represents operating expenditure for the proposed price period only.
b) Expenses related to recycled water and landholdings at Tillegra.

The expenditure proposal represents a real cumulative increase of $23.6 million (4.7 per cent), when compared with the base 2015-16 operating costs of $127.2 million extrapolated over the next four years, as shown in Table 5.6. The average annual increase in operating costs is $5.9 million ($2015-16) or 1.2 per cent, which is less than the annual rate of growth in connected properties of around 1.3 per cent.

Table 5.6 2015-16 budget and projected operating expenditure ($m 2015-16)

	Annual	Four Years
2015-16 base year operating expenditure [a]	127.2	508.8
Price period proposal [b]	133.1	532.4
Variance	(5.9)	(23.6)

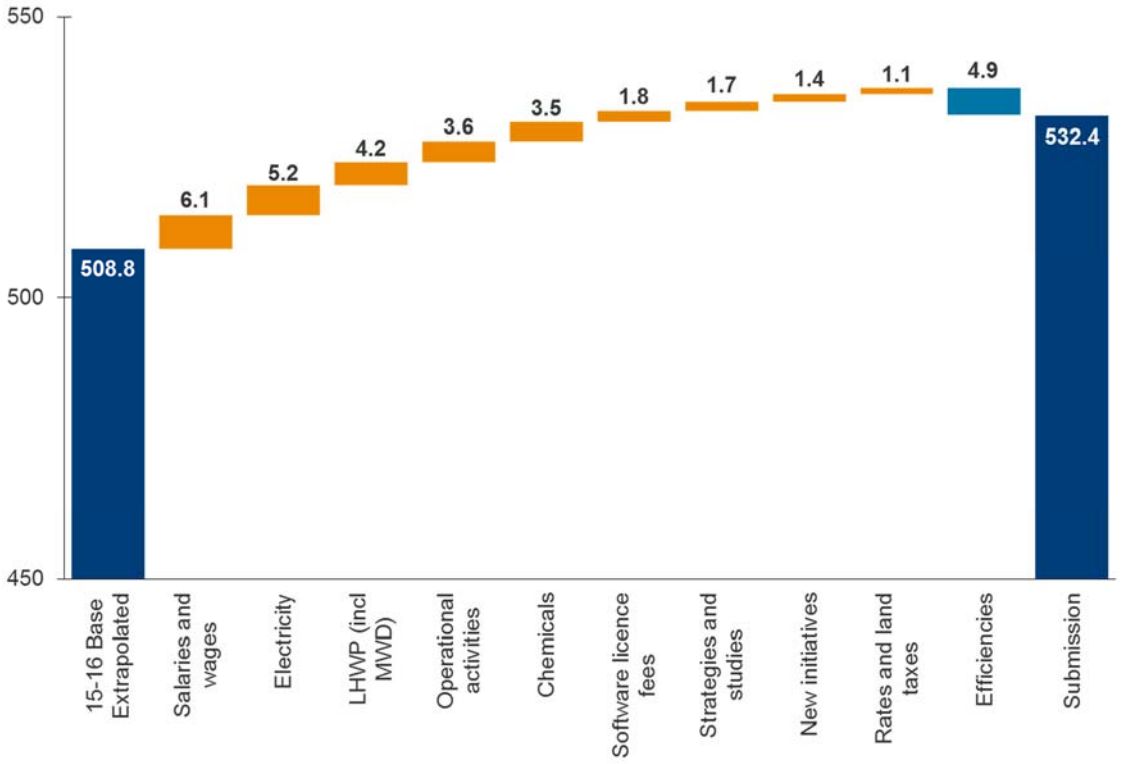
Source: Hunter Water.

a) Extrapolated over four years.
b) Average expenditure per year for four years.

Real regulated operating costs per property will remain under $600 ($2015-16).

Hunter Water considers its proposed real increase in operating expenditure in the next price period to be modest. Input cost increases of $28.5 million have been tempered by $4.9 million in savings initiatives. The categories of costs contributing most to the variance next price period relative to 2015-16 are shown in Figure 5.6.

Figure 5.6 Projected operating cost movements 2016-17 to 2019-20 ($m 2015-16)



Source: Hunter Water. Totals may not add precisely due to rounding.

5.5.1 Cost increases

Some of the main drivers of real increases over the next price period include:

- Labour-related costs - Hunter Water continues to comply with the NSW Public Sector Wages Policy (2011), which requires any real wages growth to be offset by productivity savings. An allowance has been included for performance-based salary and wages regrades to ensure Hunter Water remains at a midpoint within the market and remains competitive at attracting and retaining appropriately skilled employees. The SAS Trustee Corporation has also required additional employer contributions to defined benefit superannuation totalling $2.4 million due to the continued underfunding of Hunter Water's superannuation account. Initiatives to contain labour costs are described in the section on efficiencies embedded in Hunter Water's expenditure proposal.
- Electricity - Reflecting anticipated real price increases as well as the impacts of connection growth and wastewater treatment plant upgrades on electricity consumption.[70] Hunter Water's contract for purchase of electricity is set to expire December 2017. Electricity cost projections have been validated by external energy consultants that provided site-based forecasts for six years from 2014-15.
- LHWP – Hunter Water is required to fund its costs associated with implementation, monitoring and review of the LHWP as well as those of the MWD (see Box 5.3). The MWD is the lead agency for metropolitan water planning so these costs are largely outside of Hunter Water's control, including the timing and extent of the LHWP's periodic review. The MWD provided its projected costs for inclusion in this submission.

[70] Modern wastewater treatment processes are energy intensive so electricity consumption increases as treatment plants are upgraded. Energy is typically used within modern treatment plants for transfer pumping, aeration, driving skimmers and scrapers, biosolids dewatering and UV disinfection.

- Operational activities (excluding electricity) - The cost increases are primarily driven by servicing growth and higher quality treatment attributable to recent wastewater treatment plant upgrades to meet EPA licence requirements and pollution reduction programs. The treatment contract with Veolia, which came into effect in October 2014, has delivered real savings against projections in the 2014-15 SCI over the price path 2016-17 to 2019-20. Veolia will also be responsible for ongoing maintenance within the treatment plants, which was not carried out by HWA. The compliance risk associated with operating and maintaining the treatment plant has been incorporated in the contract price except to the extent that the risk relates to inherent asset capability. Water network operations will need to be supported by additional laboratory sampling and analysis to aid implementation of the disinfection optimisation strategy as outlined in 'chemicals' below.

- Chemicals – The cost of chemicals is forecast to increase due to higher quantities required for drinking water quality management and wastewater odour management. NSW Health has endorsed Hunter Water's disinfection optimisation strategy that aims to improve disinfection residuals throughout the water network to control microbiological water quality. This requires an increase in chlorine usage. New wastewater pumping stations and capital upgrades to a number of wastewater treatment plants to meet demand growth are necessitating additional chemical use for odour control. Wastewater odour control is required to comply with environment protection licence conditions and to meet community expectations.[71]

- Software licences and fees – Ongoing implementation costs associated with upgrades of information technology systems. These capital upgrades are described in section 6.6.6.

- Strategies and studies - Development of proactive asset maintenance strategies reflecting an increased focus on asset management and servicing studies to ensure the efficient utilisation of upgraded assets and to inform an efficient capital prioritisation process. Wastewater treatment strategy expenditure is also projected to increase, in order to meet Environmental Protection Authority expectations such as mandatory pollution reduction programs and the new effects-based assessment approach to developing wastewater network strategies to manage wet weather overflows (see Section 6.6.4 for further detail). These studies are existing commitments and do not relate to changes to regulatory requirements or increases in mandatory performance requirements.

- New initiatives - New initiatives predominantly relate to the outcomes of capital expenditure projects, strategic initiatives, expedient management of future compliance risks and contractual obligations. Regulatory compliance requirements, contractual obligations and future compliance risks were prioritised over operating costs driven by new capital projects and over other strategic initiatives. Examples of new initiatives include preventative maintenance at borefields to ensure operability during drought, condition monitoring of critical pumps and customer service initiatives such as increasing customer service coverage and personalised customer service.

- Rates and land taxes - An increase in the land tax rate above CPI is expected due to land value appreciation. Moreover, several local councils have applied to IPART to increase their rates above the annual rate peg. For example, IPART has approved a rate increase for Newcastle City Council rate increase of 8 per cent per year for five years compared with the 2015-16 rate peg of 2.4 per cent.[72] Hunter Water's proposal incorporates anticipated modest increases, which may be inadequate to recover costs if special rate variations are approved.

Hunter Water has taken every opportunity to limit the impact of unavoidable cost increases by restricting expenditure to levels considered essential to maintain appropriate levels of service and meet regulatory requirements. In addition, Hunter Water has included considerable levels of 'target' reductions that will be challenging to achieve, but will need to be delivered in order to operate within the levels of expenditure committed to within this submission.

[71] Hunter Water's 2012 pricing consultation found that most people preferred current levels of performance over the risk of odours form wastewater pipes, pumping stations and treatment plant. Insync Surveys, 2012.
[72] Newcastle City Council, 2015, p.2.

5.5.2 Efficiencies proposed

Savings achieved during the current price period will continue to be realised throughout the next price period and are already incorporated into the 2015-16 cost base. In addition, Hunter Water intends to implement initiatives that are expected to deliver real savings of $4.9 million over the four years of the next price period, compared to the 2015-16 cost base. The most significant real cost savings over the coming price period are shown in Table 5.7.

Examples of new efficiency initiatives are:

- Improvements to in-house resource management with additional resources available as a result of outsourcing the maintenance of treatment plants to Veolia. This has enabled more in-house employees to be utilised in the field, reducing dependency on maintenance contractors. An increased emphasis on condition-based maintenance scheduling will also improve productivity. This is achieved by identifying underperforming equipment and scheduling planned work before breakdowns occur, reducing inefficiencies and overtime costs.
- A central dispatch team will be tasked with improving the scheduling and monitoring of maintenance activities. This will involve allocating resources to both reactive and preventative maintenance activities, so that there is a balance between cost prevention and attending to the expected increase in water main leaks and repairs due to the age profile of Hunter Water's assets.

Table 5.7 Expected operating expenditure efficiencies ($m 2015-16)

	2016-17	2017-18	2018-19	2019-20	Total
Maintenance contractors (in-house resource utilisation)	0.5	0.6	0.6	0.7	2.4
Workforce planning and preventative maintenance	0.4	0.4	0.4	0.5	1.7
Civil maintenance workforce rostering	0.2	0.2	0.2	0.2	0.8
Total projected cost efficiencies	**1.1**	**1.2**	**1.2**	**1.4**	**4.9**

Source: Hunter Water.

5.6 Allocation of operating costs to activities

In the current price path Hunter Water re-designed its general ledger account code structure (otherwise known as a chart of accounts) in order to improve the allocation of operating costs to products, processes and locations. This improves the cost information available to more accurately price Hunter Water's products, as well as ensuring that expenditure on non-regulated activities (e.g. recycled water) is appropriately valued and ring-fenced.

The new chart of accounts has provided an opportunity to further refine Hunter Water's activity-based costing (ABC) methodology. The ABC methodology enables more than 70 per cent of total operating expenditure to be captured directly by product (water, wastewater, stormwater or recycled water). The ABC methodology also facilitates reallocation of around half of the remaining shared or common costs directly to water, wastewater, stormwater or recycled water. This is done by utilising, for example:

- labour hours collected in asset management systems for jobs undertaken by the civil and electrical and mechanical maintenance workforce
- allocation of engineering and other employees' labour and associated costs to functions, based on both the nature of specific roles and where and how time is used, and
- the nature and purpose of individual parcels of land for attributing land rates and land taxes to properties held.

As a result of this methodology, less than one third of total annual operating expenditure remains as shared or common costs requiring apportionment (compared with 50 per cent previously). These remaining costs are allocated to products and activities in the same proportion as the overall values of expenditure already assigned to the respective water, wastewater, stormwater and recycled water products, and separated between source, treatment and transport functions.

The change to the chart of accounts has affected operating cost reporting categories in the annual information return. The integrity of historic data has been maintained. Mapping between the old and new chart of accounts has been provided to IPART.

5.7 Ring fenced expenditure

5.7.1 Recycled water - unregulated expenditure

Hunter Water has separately identified and reported amounts estimated to represent recycled water in accordance with IPART's requirements.

Hunter Water has developed 'flow diagrams' for each wastewater treatment plant that identify the specific processes and items of equipment (and therefore expenditure), that are involved in supplying recycled water as distinct from those involved only in wastewater treatment. These flow diagrams serve to identify the cost 'ring fencing' boundaries required by IPART. Hunter Water's process for defining and measuring recycled water was first presented to IPART at the Inter-agency working group meeting held in June 2010 and subsequently in a background paper submitted to IPART in June 2011[73]. The process remains the same as for the 2012 price submission, and has been adopted on the basis that it is an appropriate reallocation of costs that is consistent with the concept of ring fencing recycled water and wastewater costs.

Hunter Water's assumption is that where recycled water solutions are adopted as a 'least cost' solution to achieve necessary wastewater objectives (such as licence compliance), those expenditures remain classified as wastewater expenditure to ensure accurate product pricing for wastewater. This assumption recognises that if the recycled water option was not available to meet the wastewater objectives, another solution, of at least the same cost, would have to be adopted and would be charged to wastewater.

Income from recycled water customers is tracked by individual customer. Recycled water schemes are reported separately in the annual information return where additional expenditures are incurred solely for the purpose of satisfying a customer request to receive recycled water.

Hunter Water has changed the nature, timing and value of planned recycled water projects from that outlined in the 2012 price submission. Hunter Water has made the working assumption that it will sell its Kooragang Industrial Water Scheme, which provides recycled water to industrial users on Kooragang Island, during 2015-16. This assumption has the effect of adding around $0.8 million per annum to regulated operating expenditures. [74]

5.7.1 Landholdings at Tillegra

In its 2013 determination report, IPART formed the opinion that the costs of maintaining land at Tillegra that was purchased by Hunter Water as part of the former Tillegra Dam project should not form part of water operating costs incorporated into the water building block and therefore water prices.[75]

Direct operating expenditures and revenues relating to these properties have been excluded from the tables in this chapter and are separately disclosed in the annual information return to allow their impact to be excluded from any pricing decision.

5.7.1 Subsidiary - unregulated expenditure

Hunter Water Australia Pty Ltd (HWA) was a fully-owned subsidiary of Hunter Water. HWA was established to pursue commercial sales in a range of technical services throughout Australia and overseas and operated independently with its own management structure and Board of Directors.

All costs associated with external sales made by HWA prior to its cessation of trading have been removed from Hunter Water's regulated cost base and are shown as 'cost of external sales' in the Income Statement. These costs, which relate to unregulated sales by HWA, are reported in IPART's annual information return.[76]

[73] Hunter Water Corporation, 2011 (a).
[74] This is the annual portion of 'corporate' operating costs that were previously re-allocated to unregulated recycled water costs in proportion to the direct costs assumed to be incurred at Kooragang Industrial Water Scheme. See Chapter 2 for further details of Hunter Water's asset recycling program.
[75] IPART, 2013(a), p.61. The NSW Government decided in November 2010 not to proceed with the project.
[76] AIR tables 5.1 'Consolidated Operating Expenditure' and 6.3 'Consolidated Profit & Loss'.

6 CAPITAL EXPENDITURE

Main points

- *Hunter Water is on track to deliver the capital investment allowed in IPART's 2013 price determination, once adjusting for carryover from 2012-13 into the current price period.*
- *Hunter Water's capital expenditure program for the next price period is $388 million ($2015-16). The annual program is similar in size to that delivered in the current price period.*
- *Over the next four years, the majority of the investment program will be driven by mandatory standards and asset and service reliability (73 per cent) and connections growth (18 per cent). Less than 10 per cent of expenditure is attributable to other drivers – a combination of business decisions, discretionary standards and government programs.*
- *The level of annual capital expenditure is forecast to remain stable across the 10-year portfolio, assuming a continuation of current system performance standards, connection growth and regulatory arrangements.*
- *Hunter Water will continue to maintain a focus on implementing processes and practices that support efficient and effective capital portfolio planning and delivery.*

6.1 Introduction

This chapter presents information about Hunter Water's capital expenditure in the current price period and proposed capital expenditure over the next four-year price period.

The chapter compares actual capital expenditure for the current price period with that allowed in the 2013 IPART determination. Delivery performance is evaluated, as measured by progress against the physical output measures set by IPART. The proposed forward capital expenditure is presented in the form of an overview of the ten-year program and specific details of expenditure by product for the next price period. The chapter concludes with a description of capital portfolio planning and delivery processes, with a focus on the sources of efficiency gains.

Additional supporting information is available in the appendices.

6.2 Expenditure performance between 2013-14 and 2015-16

As part of the 2013 determination, IPART adopted a prudent and efficient capital portfolio of $239 million ($2015-16)[77] over the three years 2013-14 to 2015-16. The composition of this program is shown in Table 6.1.

Table 6.1 IPART determined capital expenditure 2013-14 to 2015-16 ($m nominal and 2015-16)

	2013-14	2014-15	2015-16	Total [a]	Total [a]
$ terms	*$nominal*	*$nominal*	*$nominal*	*$nominal*	*$2015-16*
Water	33.7	21.1	41.1	95.9	98.1
Wastewater	35.1	30.0	37.5	102.6	105.1
Stormwater	0.4	0.4	0.4	1.3	1.3
Corporate [b]	9.0	8.2	16.7	33.9	34.5
Total	**78.2**	**59.7**	**95.7**	**233.6**	**239.0**

Source: IPART, 2013(a) plus allowance for inflation using June quarter on June quarter ABS CPI, weighted average for all capital cities and 2.5 per cent p.a. for 2015-16. Totals may not add precisely due to rounding.

a) Total is for the regulated expenditure only, excludes recycled water.
b) Excludes capitalised borrowing costs.

Hunter Water is on track to deliver this investment level while achieving the majority of outcomes within time and budget. There is close alignment between the outputs delivered and the targets set by IPART (see Appendix B), as well as strong performance against regulatory compliance requirements. The distribution of the investment program over the current price period is shown in Table 6.2.

[77] IPART, 2013(a), p.66, $2012-13 indexed to $2015-16.

Table 6.2 Hunter Water capital expenditure 2013-14 to 2015-16 ($m nominal and 2015-16)

	2013-14 (actual)	2014-15 (forecast)	2015-16 (forecast)	Total [a]	Total [a]
$ terms	*$nominal*	*$nominal*	*$nominal*	*$nominal*	*$2015-16*
Water	40.8	29.3	27.9	98.0	100.8
Wastewater	33.0	36.5	69.1	138.7	141.2
Stormwater	0.2	0.4	0.6	1.1	1.2
Corporate [b, c]	11.9	15.4	14.9	42.2	43.2
Total	85.8	81.7	112.5	280.1	286.4

Source: Hunter Water. Totals may not add precisely due to rounding.

a) Total is for the regulated expenditure only, excludes recycled water.
b) Excludes capitalised borrowing costs.
c) Corporate excludes corporate allocation to recycled water.

As with any portfolio, there are variances at project, program and product level. However, Hunter Water has managed to deliver broadly within the IPART-determined allowance for each product as demonstrated in Table 6.3 and Figure 6.1.

The main variances are:

- Delayed delivery of projects from 2012-13 resulting in carryover of $36 million into the current price period.[78]
- The addition to the portfolio of $8.5 million in the price period for delivery of projects under round two of the Housing Acceleration Fund.[79]
- The delivery of several small projects that are partially or fully funded by external parties.
- Hunter Central Coast transfer capacity upgrade, which is an outcome of the 2014 Lower Hunter Water Plan (LHWP).[80]

Hunter Water has delivered a variety of projects over this period with the most significant being the completion of an upgrade of the high voltage network and commissioning of four major wastewater treatment plant upgrades to continue to meet effluent quality standards and provide capacity for growth.

The key drivers of the portfolio over the price period have been maintaining mandatory standards and catering for growth, comprising $184 million and $55 million in real terms ($2015-16) respectively.

Details of the major capital projects and associated expenditure in each year of the current price period are provided in Appendix C. Hunter Water aims to deliver its regulated services through capital expenditure within the total allowed by IPART over the price period.

The capital expenditure allowances set by IPART for each year of the price period are used as a guide in developing the annual capital budget at a project and program level. Each year, various events will result in some deviation between the IPART allowance and Hunter Water budget. In all cases, Hunter Water strives to ensure the resultant expenditure is in line with the intent of IPART's allowance and is prudent. Adjusting IPART's allowance for unforeseen changes in circumstances (e.g. carryovers between price periods, projects arising from the LHWP and projects receiving external funding), the variances between actual and allowed expenditure reduce, as shown in Figure 6.1. Hunter Water's cumulative actual capital expenditure profile over the current price period closely matches IPART's cumulative allowance after taking into account changes in circumstance.

The following sections provide a brief overview of expenditure in each year of the current price period.

[78] An estimated $28.5 million ($2012-13) in carryover is acknowledged in IPART, 2013(a), p.70. This equates to $30.8 million ($2015-16) when adjusted for inflation.
[79] The Housing Acceleration Fund is a NSW Government program to drive housing growth through co-funding of infrastructure projects such as water, wastewater, roads and electricity. The projects funded are Farley regional wastewater network, Lochinvar wastewater network upgrades and Lochinvar watermains project.
[80] No provision were made for the implementation of the LHWP in the current price period as the outcomes were unknown at the time of the price determination.

Table 6.3 Capital expenditure 2013-14 to 2015-16 ($m 2015-16)

	IPART Determination [A]	Actual/ Forecast [B]	Variance [B-A]	Variance %
Water	98.1	100.8	2.7	3%
Wastewater	105.1	141.2	36.1	34%
Stormwater	1.3	1.2	-0.1	-8%
Corporate [a]	34.5	43.2	8.7	25%
Total [b]	239.0 [c]	286.4	47.4	20%

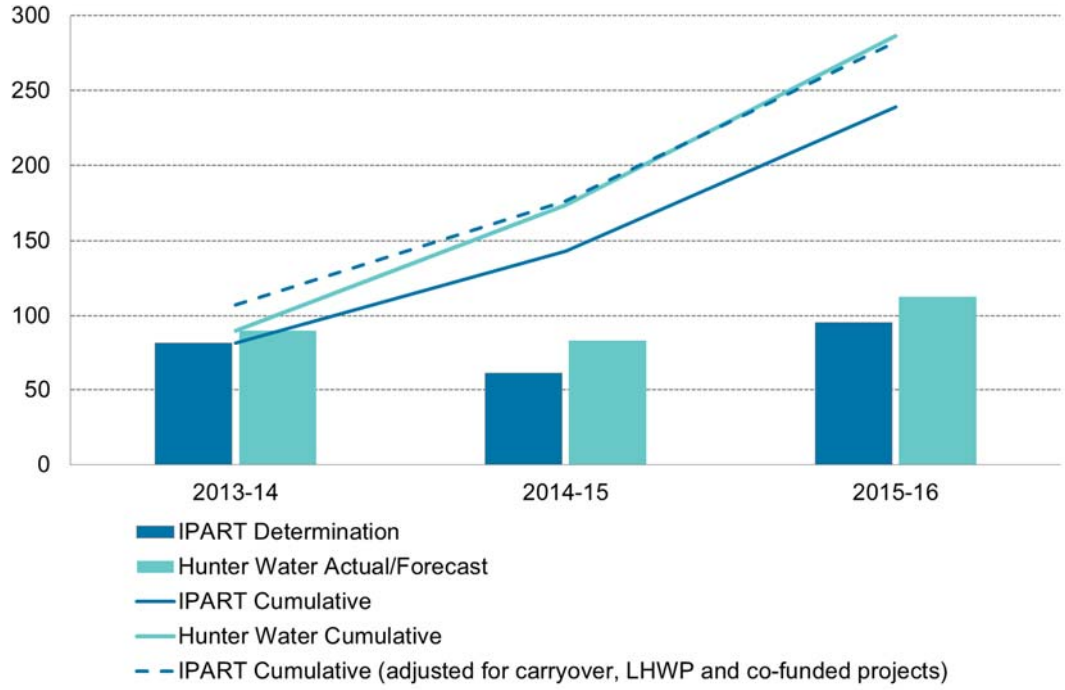
Source: Hunter Water. Totals may not add precisely due to rounding.

a) Excludes capitalised borrowing costs.

b) Total is for the regulated expenditure only, excludes recycled water.

c) Excludes carryover from 2012-13 into the current price period, which IPART has indicated will be assessed as part of the current price review (IPART, 2013, p.70).

Figure 6.1 Capital expenditure 2013-14 to 2015-16 ($m nominal)



Source: Hunter Water.

6.2.1 Capital expenditure 2013-14

Hunter Water made a capital investment in 2013-14 of $85.8 million compared with the IPART-allowed expenditure of $78.2 million (in nominal terms). This included $40.8 million of expenditure on water assets, $33.0 million on wastewater assets and $11.9 million on corporate assets such as IT systems.

The major projects completed were:

- Aberglasslyn and Windale/Gateshead Stage 2 wastewater network upgrades to reduce the frequency of wet weather overflows and provide further capacity for residential and industrial growth.
- Adamstown wastewater network upgrade to reduce wet weather overflows.
- Farley and Branxton wastewater treatment plant (WWTP) upgrades, predominantly to meet existing mandatory standards.
- Replacement of the Bellbird to Pelton Trunkmain to improve water continuity for around 1,000 residents in Paxton, Millfield, Ellalong, Kitchener and Abernathy, and improve maintenance access.

Significant progress was made on the upgrade of:

- High-voltage electricity networks serving water and wastewater treatment plants, major pump stations and borefields to comply with safety requirements.
- Maitland–North Rothbury water distribution systems to cater for growth.

6.2.2 Capital expenditure 2014-15

Hunter Water forecasts a capital investment in 2014-15 of $81.7 million compared with the IPART-allowed expenditure of $59.7 million (in nominal terms). This included $29.3 million on water assets, $36.5 million on wastewater assets and $15.4 million on corporate assets such as IT systems. [81]

The major projects expected to be completed are:

- Upgrade of high-voltage assets and electrical earthing rectification works across water and wastewater treatment plants, major pump stations and borefields.
- Relocation of assets associated with Waratah Reservoir for the Mater Hospital expansion, which was funded by NSW Health.
- Upgrade to the Telarah water pump station in the Maitland-North Rothbury water system to cater for growth.
- Grahamstown Dam Wave Protection Wall to prevent erosion during strong winds and thereby improve dam safety.
- Upgrade of the Enterprise Resource Planning system.[82]

Work continued on multi-year projects such as the wastewater treatment upgrade programs at Shortland, Morpeth, Karuah and Burwood Beach; replacement of the Belmont 6 rising main that transfers wastewater from Warners Bay, Eleebana, Valentine and parts of Belmont to the Belmont WWTP; emergency storage upgrade at Minmi 2 wastewater pump station to reduce overflows; and replacement of chemical storage facilities at various water treatment plants to comply with Australian Standards.

An ongoing major corporate investment project is the development of an Integrated Quality Management System and third party certification of its consistency with the Australian Standard *AS/NZS ISO 9001:2008: Quality Management Systems - Requirements*. Quality Management System certification is a requirement of Hunter Water's 2012-2017 operating licence.[83] In 2013-14, Hunter Water's Work Health and Safety Management System was certified as conforming to AS/NZS 4801:2001. Hunter Water's Environmental Management System certified to *ISO 14001:2004 Environmental Management Systems – Requirements with guidance for use* in October 2014. Hunter Water also committed to implement a new Asset Management System consistent with *ISO 55001:2014 Asset management – Management Systems – Requirements* by 1 July 2017.

6.2.3 Forecast capital expenditure 2015-16

Hunter Water forecasts a capital investment in 2015-16 of $112.5 million compared with the IPART-allowed expenditure of $95.7 million. This includes $27.9 million of expenditure on water assets, $69.1 million on wastewater assets and $14.9 million on corporate assets such as IT systems.

The major projects Hunter Water expects to complete are:

- Major upgrades to Morpeth and Shortland WWTPs.
- The first stage of the Belmont 6 sewer rising main replacement.
- Upgrade of the Beresfield 5 wastewater pump station.
- Remediation of the Belmont wastewater treatment inlet works.
- Upgrades to Lochinvar water pump station.
- Chemical storage upgrades to meet safety and/or environmental management requirements.

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[81] A forecast was required to allow sufficient time for a quality assurance check prior to lodgement with IPART on 30 June 2015.
[82] Enterprise Resource Planning refers to information technology system(s) or software that support electronic business process through the capture and processing of information on finance, payroll, human resources, procurement and inventory. Asset management and woks management (tasking field employees with jobs) may be included in the system or may link with the system.
[83] Part 7.

Work will commence on:

- Construction of the Burwood Beach wastewater treatment ultraviolet disinfection system to further improve water quality at Newcastle's beaches. The state-of-the-art system will use ultraviolet light to destroy bacteria, viruses and protozoa.
- Upgrades to the wastewater pump station emergency storage facilities in Port Stephens to address environmental compliance risks associated with overflows.
- Replacement of the Tarro to Beresfield water pump station section of the Chichester Trunk Gravity Main (CTGM).
- Lochinvar trunkmain upgrade.
- Replacement of the Swansea Channel crossing water main to mitigate the risk of interruptions to around 4,500 properties and environmental risks associated with water main breaks.
- Replacement of the current analogue SCADA[84] radio network with a modern and reliable digital technology. The Australian Communications and Media Authority has advised Hunter Water that it will decommission the frequency that is currently being used.

6.3 Performance against IPART 2013 output measures

On an annual basis Hunter Water reports its performance in delivering capital portfolio outputs against measures defined by IPART as part of the 2013 determination. Hunter Water's performance against these measures is detailed in Appendix B[85].

Hunter Water is on track to meet[86] or exceed 12 of the 15 targets (80 per cent). Under delivery against the remaining output measures has been due to higher than expected unit rates for renewal of mains and prudent changes to asset management strategies given circumstances arising during the period.

6.4 Projected capital expenditure - methodology, major assumptions and risks

Hunter Water maintains a rolling ten-year capital portfolio that is reprioritised and refined each year as part of the Statement of Corporate Intent[87] agreed with shareholders. The four-year price submission capital portfolio is a subset of the 10-year outlook.

The annual review of the composition and size of the capital portfolio is based on the Strategic Business Plan, which sets the appropriate risk profile and service levels for Hunter Water. It takes into account regulatory compliance requirements, population growth projections, renewal strategies, maintenance strategies, critical asset management strategies and long-term infrastructure investment strategies. The next stage involves a bottom-up approach to determine the projects and programs (sets of projects) required to deliver on the strategic objectives.

A gateway approval process is used to ensure that individual projects and programs are checked throughout their lifecycle, so that each adds value to the portfolio and is delivered in the most efficient manner. An overview of the gateways in the approval process is shown in Figure 6.2.

In refining the portfolio, it has been assumed that capital portfolio planning and delivery processes and governance will yield up to five per cent in savings per project.[88]

[84] A Supervisory Control and Data Acquisition system enables remote monitoring and control of plant and equipment.
[85] Figures for 2014-15 have been forecast at December 2014.
[86] Immaterial variance between actual and target output of ± 5 per cent.
[87] The Statement of Corporate Intent is similar to an achievement plan or performance agreement. It is tabled in parliament.
[88] For example, through value management, value engineering or contingency reduction. Value management is a structured, systematic and analytical method to 'improve' the value of products or services by examining the function of the options available. Value can either be increased by improving function, reducing cost or a combination of both. Value engineering is a similar concept that is applied at the component level of a design.

Figure 6.2 Gateway approval process

Source: Hunter Water.

Capital expenditure of $388 million ($2015-16) within the next price period is considered an appropriate balance between asset management, risk management, customer outcomes, customer affordability and Hunter Water's financial sustainability.

Hunter Water invited input from the Environment Protection Authority, NSW Office of Water, Metropolitan Water Directorate and NSW Health on priorities for its wastewater and water projects respectively. Hunter Water's intent is to deliver on those compliance issues where there is a good understanding of the most effective and efficient solution, and to undertake studies on those issues that require greater clarity. The Environmental Protection Authority acknowledged the capital works program to be consistent with its regulatory objectives and existing (mandatory) pollution reduction programs listed on various existing environment protection licences. NSW Office of Water, Metropolitan Water Directorate and NSW Health support the proposed water compliance projects.

The moderate capital expenditure proposal assumes that connection growth will occur in areas with spare asset capacity.[89] No buffer is provided for material changes in Hunter Water's current operating environment, such as future performance improvements that may be required by any of Hunter Water's five main operational regulators.[90] Any new performance improvement, if mandated, will be the subject of future capital programs.

[89] Refer to Chapter 4 for further details regarding demand for services and growth.
[90] These regulators are IPART (operating licence), EPA (Protection of the Environment Licences and PRPs), NSW Office of Water (Water Access Licences and water sharing plan requirements), NSW Health (Drinking Water Quality requirements) and NSW Dams Safety Committee (dam safety).

6.5 Ten–year capital expenditure plan

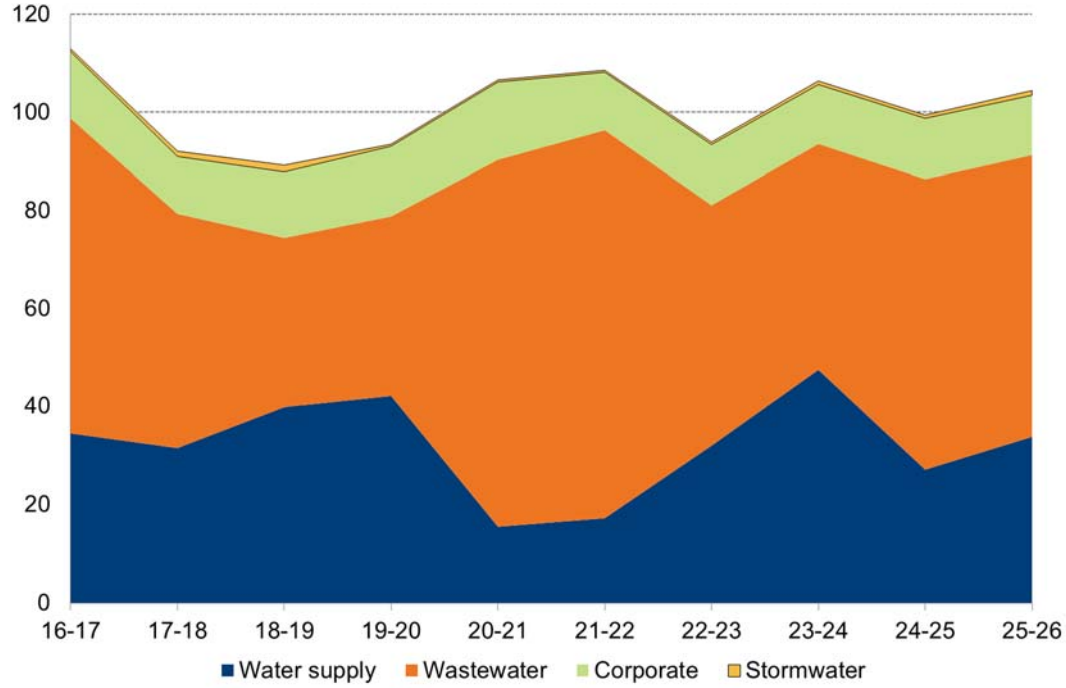
Hunter Water takes a long-term approach to asset planning producing strategy plans for up to 20 years, depending on the assets involved and the population growth expectations for the area served.

Strategic planning allows a robust ten-year portfolio to be maintained. All projects in the ten-year portfolio have passed through gateway 1, the preliminary business case, in the gateway approval process shown in Figure 6.2. This gateway confirms the preliminary (high-level) business case is valid and ensures key documentation has been completed, before the works are added to the capital portfolio. The need is generally developed from a catchment or asset strategy plan, taking account of population growth profiles, asset condition and asset performance.

The ten-year capital expenditure forecast of $1 billion has been developed to achieve credit metrics that are estimated to support a stable investment-grade credit rating whilst maintaining an acceptable strategic risk profile. Annual capital expenditure is forecast to remain stable at around $100 million across the period, which is similar in size to that delivered in the current price period. This projection is predicated on a stable regulatory regime and actual growth in line with the current projections.

The ten year projection is shown below by component (Figure 6.3) and by capital expenditure drivers (Figure 6.4).[91] Further details of the ten-year capital expenditure plan are provided in Appendix D.

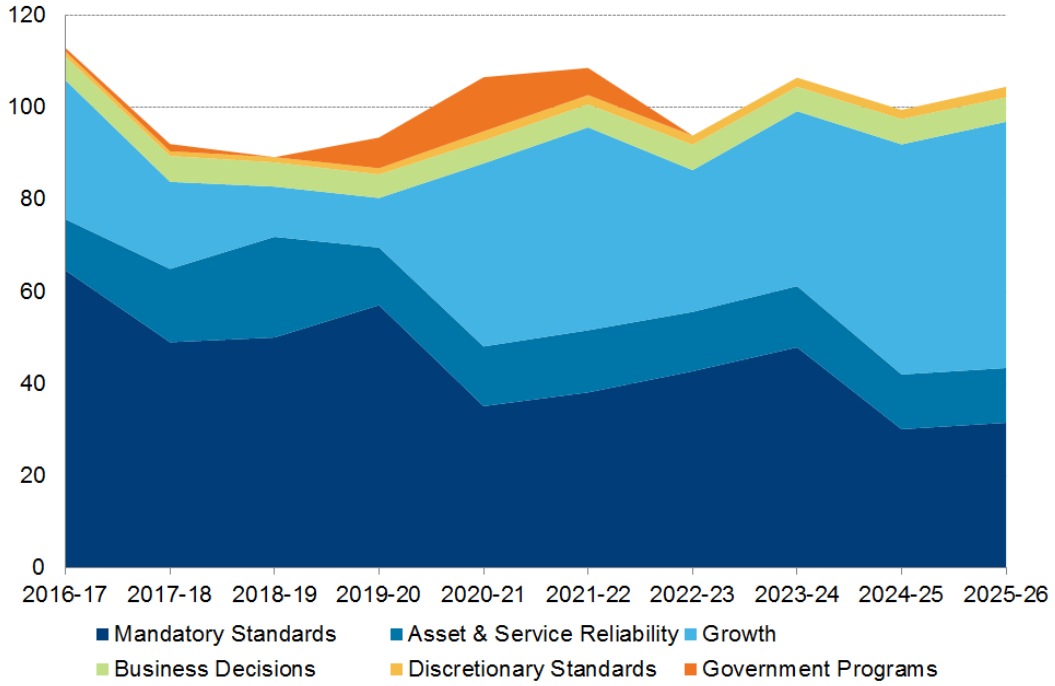
Figure 6.3 Capital expenditure 2016-17 to 2025-26 by component ($m 2015-16)



Source: Hunter Water.

[91] Refer to Section 17.2 for definitions of the terms used.

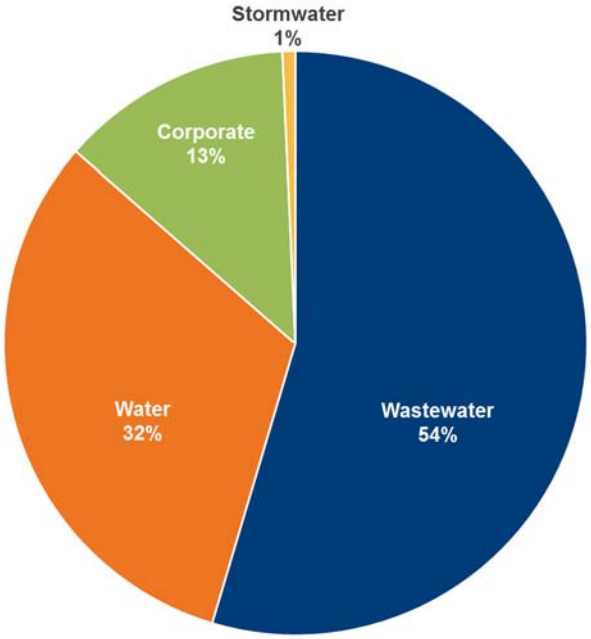
Figure 6.4 Capital expenditure 2016-17 to 2025-26 by driver ($m 2015-16)



Source: Hunter Water.

A summary of the ten-year expenditure plan by component is provided below in Figure 6.6. The wastewater component is the largest expenditure at 54 per cent of the projected expenditure, followed by water, corporate and stormwater at 32 per cent, 13 per cent and one per cent respectively.

Figure 6.5 Ten-year capital expenditure by component ($m 2015-16)



Source: Hunter Water.

6.6 Projected capital expenditure 2016-17 to 2019-20

Hunter Water's capital expenditure program for the next price period is projected at $387.7 million ($2015-16), as shown in Table 6.4.[92] The program is similar in size to that presented in the last price submission.

Each project included in the program has been assessed at a minimum through the preliminary business case gateway 1 in the gateway approval process as described earlier.

Table 6.4 Proposed capital expenditure program ($m $2015-16)

	2016-17	2017-18	2018-19	2019-20	2020-21	Total [(a)]
Water	34.4	31.4	39.7	42.0	15.5	**147.6**
Wastewater	64.3	47.9	34.7	36.8	74.8	**183.7**
Stormwater	0.6	1.1	1.4	0.4	0.4	**3.5**
Corporate [b]	13.6	11.6	13.4	14.2	15.9	**52.9**
Total	**112.9**	**92.1**	**89.2**	**93.5**	**106.6**	**387.7**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) Total is for the price period, excludes 2020-21.
b) Excludes capitalised borrowing costs.
c) Note in addition to regulated expenditure there is $9.8 million on non-regulated recycled water.

6.6.1 Capital expenditure prioritisation

Hunter Water operates in a highly regulated environment and has requirements to meet licence and other regulatory conditions and manage assets in line with growth. Hunter Water's assets are also aging and there is a continuing need to invest in renewing and replacing these assets to ensure continuing functionality.

Hunter Water strives to appropriately balance customer affordability with servicing customers' preferences and compliance risk. This is proving more challenging in each price period.

As outlined in section 6.4, Hunter Water developed new prioritisation criteria as part of the implementation of a portfolio management approach to the capital portfolio in 2011. The impact of capital expenditure on regulatory requirements is a fundamental decision making criterion for Hunter Water. This means that projects and programs are not only assessed on their contribution to strategic objectives, but also on their contribution to meeting regulatory requirements.

In Hunter Water's prioritisation framework, the alignment to business drivers is assessed by a consideration of an individual project's or program's contribution to meeting:

- regulatory requirements, referred to as 'compliance', and
- strategic objectives, referred to as 'value'.

Prioritisation using these criteria helps Hunter Water to understand the natural tension between 'running the business' (compliance) and 'changing the business' (value). The portfolio presented in this submission is heavily weighted to projects that address compliance requirements based on existing performance.

6.6.2 Overall program summary

Mandatory standards and growth are the dominant drivers in the overall proposed program.[93] Hunter Water intends to continue its focus on regulatory compliance beyond the next price period however a reduction in expenditure against this driver is forecast from 2020-21 as future regulatory standards are less certain. Hunter Water's capital expenditure by key expenditure driver is shown in Figure 6.6.

The forecast increase in expenditure to service growth from 2020-21 is indicative of reaching the limits of interim system upgrades and subsequent need for larger augmentations (such as Grahamstown Water Treatment Plant).

[92] Corporate capital expenditure is allocated across water, wastewater, stormwater and recycled water. The component of capital expenditure that is allocated to recycled water is not included in the $387.7 million.

[93] The drivers listed in the following tables are those set by IPART and defined in relation to Table 9.1 of the IPART Annual Information Return (AIR). A detailed definition of each driver is provided in the Glossary (section 16.2) at the end of the submission.

The forecast increase in expenditure on government programs in 2019-20 and 2020-21 relates to backlog and infill sewerage programs.

The capital expenditure programs for water, wastewater, stormwater and corporate components over the coming price period are summarised in the following sections.

Appendix E provides details on the projects with total expenditure greater than $5 million over the proposed price period.

Table 6.5 Proposed capital expenditure program by driver ($m 2015-16)

Driver [a]	2016-17	2017-18	2018-19	2019-20	2020-21	Total [b]
Mandatory standards	64.6	49.0	50.0	57.1	35.1	220.7
Asset and service reliability	11.1	15.9	21.9	12.5	13.0	61.4
Growth	30.2	18.9	10.9	10.8	39.8	70.8
Business decisions	5.1	5.6	5.3	5.1	5.0	21.1
Discretionary standards	1.1	1.0	1.1	1.3	2.0	4.6
Government programs	0.8	1.6	0.0	6.7	11.8	9.0
Total [c]	112.9	92.1	89.2	93.5	106.6	387.7

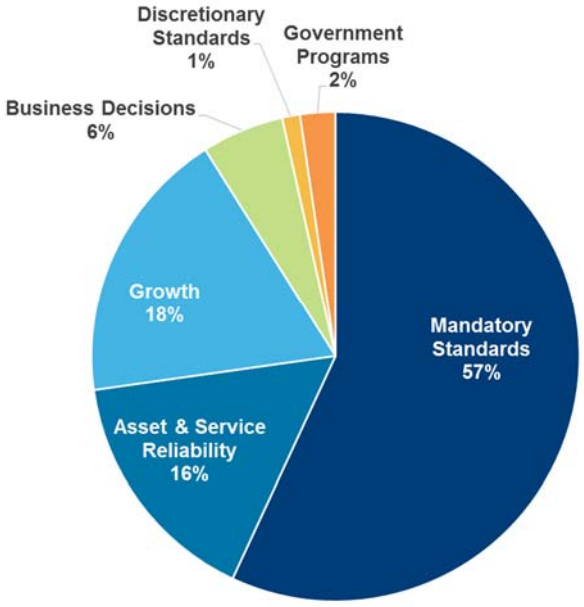
Source: Hunter Water. Totals may not add precisely due to rounding.

a) The drivers used in this and the following tables are those defined by IPART in Table 9.1 of the annual information return and provided in the Glossary (section 16.2) of this submission.

b) Total is for the price period, excludes 2020-21.

c) Excludes capitalised borrowing costs.

Figure 6.6 Capital expenditure program 2016-17 to 2019-20 ($m 15-16)



Source: Hunter Water. The drivers used in this figure are those defined by IPART in Table 9.1 of the annual information return and provided in the Glossary (section 16.2) of this submission.

6.6.3 Water

Hunter Water proposes to spend approximately $148 million ($2015-16) on water supply over the next four years, with $110 million on water distribution and trunk mains, $37 million on water treatment and water resources. A breakdown of the expenditure by the main drivers over the coming price period is provided in Table 6.6. The program includes expenditure on the existing system to improve performance, secure reliability and appropriately assess and manage known risks and expenditure on new works to cater for projected growth.

The water resources and treatment program is focussed on achieving statutory and regulatory compliance for existing assets such as chemical storage, high voltage lines and lifting equipment. Capacity upgrades are proposed in the water distribution system to ensure compliance with the operating licence pressure standard. These are focussed on addressing continued growth in known development areas.

Expenditure is also proposed to address known risks to the provision of a safe and reliable supply of drinking water. These risks include potential for deteriorating water quality from catchments, reliability and safety risks of key infrastructure and the need to ensure compliance is continually maintained.

The major water supply projects proposed are:

- Replacement of trunk main assets - Replacement of three further sections of the Chichester Trunk Gravity Main including Duckenfield to Tarro; the Hunter River Tunnel and completion of the Tarro to Beresfield water pump station. These projects are planned to reduce continuity of supply risks, reduce maintenance costs, improve employee and community safety and reduce risks to the environment.
- Balickera Tunnel geological stability works - Balickera Tunnel was constructed in 1962 and is a key piece of Hunter Water's water supply infrastructure, transferring water from the Williams River to Grahamstown Dam. Geotechnical investigations indicate that there is a risk of tunnel instability and rehabilitation is required to ensure the ongoing reliable transfer of water into Grahamstown Dam.
- Modifications to Seaham Weir release structure and fish passage - Harvesting of water from the Williams River at Seaham Weir Pool is governed by water access rules under licence by the NSW Office of Water. New infrastructure is required to implement impending changes to environmental flow release rules at Seaham Weir that were established during development of the Lower Hunter Water Plan.
- Operating licence program - Upgrades to the capacity of the water distribution network as growth occurs to ensure that it complies with the operating licence water pressure standard.
- Renewals and replacements of water treatment and distribution assets.

Table 6.6 Proposed water capital expenditure program by driver ($m 2015-16)

Driver	2016-17	2017-18	2018-19	2019-20	2020-21	Total [a]	Total [a]
Mandatory standards	21.1	19.9	24.4	33.7	8.2	**99.0**	**67%**
Asset and service reliability	1.9	5.1	8.3	0.9	1.0	**16.2**	**11%**
Growth	7.9	2.3	3.4	3.9	2.6	**17.5**	**12%**
Business decisions	3.2	3.8	3.3	3.1	3.2	**13.3**	**9%**
Discretionary standards	0.4	0.4	0.4	0.4	0.4	**1.6**	**1%**
Government programs	0.0	0.0	0.0	0.0	0.0	**0.0**	**-**
Total	**34.4**	**31.4**	**39.7**	**42.0**	**15.5**	**147.6**	**100%**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) Total is for the price period, excludes 2020-21.

6.6.4 Wastewater

Hunter Water is planning a similar program of investment in upgrading wastewater treatment plants to maintain regulatory compliance compared with the current price period. The program will ensure compliance, service growth, and improve effluent quality at some plants, dependent on the outcomes of receiving water investigations. The major items in the next price period include:

- Burwood Beach WWTP – Installation of an ultraviolet (UV) disinfection system to address the public health risks identified in the Quantitative Microbial Risk Assessment completed in 2010. The EPA has placed a pollution reduction program on the Burwood environment protection licence to deliver a UV system by the end of 2016.
- Farley WWTP – Two projects to increase capacity of the plant to cater for projected growth and implement the outcomes of the long-term effluent management strategy in order to maintain compliance with system licence conditions.
- Dungog WWTP – Capacity upgrade (inlet works, flow conveyance system and clarifiers), ensure safety compliance by addressing asset condition issues and address health risks by ensuring compliance with the disinfection requirements of the national reuse guidelines.[94]
- Dora Creek WWTP – Provide additional process capacity to ensure compliance with the system licence and maintain adequate biosolids quality as load increases.
- Biosolids Storage – Ensure the storage of biosolids at Hunter Water sites is fully compliant with regulatory requirements and minimise the risk of environmental harm. Works are not yet fully defined, but are likely to include upgrades to existing infrastructure such as impervious areas, bunding and draining.

The wastewater network upgrade program for the next price period will mainly address existing capacity deficiencies that present a high risk of wet weather overflow to customer properties and the environment. Hunter Water has developed a new effects-based assessment (EBA) approach to developing its wastewater network strategies. The EBA approach seeks to identify actual impacts of wastewater discharges on the receiving environment, including to the ecology and public amenity, and therefore the real benefits of addressing the impacts through upgrade works. This approach provides a strong foundation for prioritising upgrade works, which is supported by the Environment Protection Authority.

Initially, it is proposed to trial the EBA approach on the Lake Macquarie catchment, leveraging off existing wastewater catchment models, and hydrodynamic and ecological models of Lake Macquarie. It is expected outcomes from the trial will commence from 2018. If successful, the EBA approach will be progressively rolled out across other catchments in Hunter Water's area of operations.

In parallel to the Lake Macquarie EBA trial, high priority works to address other poor performing areas will be implemented, including in the suburbs of Mayfield, Elermore Vale and Dungog.

An emergency storage upgrade program will also commence in the next price path to reduce the risk of dry weather overflows from wastewater pump stations with less than 4 hours emergency storage.

The proposed wastewater capital program by expenditure driver is shown in Table 6.7.

Table 6.7 Proposed wastewater capital expenditure program ($m 2015-16)

Driver	2016-17	2017-18	2018-19	2019-20	2020-21	Total [a]	Total [a]
Mandatory standards	38.0	25.0	20.9	17.3	21.1	**101.2**	**55%**
Asset and service reliability	1.8	3.3	4.8	4.5	3.2	**14.3**	**8%**
Growth	22.3	16.6	7.6	6.9	37.1	**53.3**	**29%**
Business decisions	1.1	1.1	1.1	1.1	1.2	**4.5**	**2%**
Discretionary standards	0.3	0.3	0.3	0.3	0.4	**1.3**	**1%**
Government programs	0.8	1.6	0.0	6.7	11.8	**9.0**	**5%**
Total	**64.3**	**47.9**	**34.7**	**36.8**	**74.8**	**183.7**	**100%**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) Total is for the price period, excludes 2020-21.

[94] Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1), 2006.

While there are areas across the wastewater network that are likely to experience strong growth in the next price period, the impact on the existing performance of the wastewater network in these areas is expected to be manageable. Hunter Water will continue to adopt a risk-based approach to servicing smaller developments whereby it accepts the incremental risk of overflows that occurs with increased connections. This approach defers the need for immediate upgrades until such time as the overflow risk becomes unacceptable.

For some of the larger developments, the preferred (and least-cost) strategy generally involves using spare capacity in the existing system for a period of time and then having developers build assets, at their cost, to transfer wastewater to another part of the network that has capacity or transfer directly to a treatment plant. There are few network upgrades in the portfolio to service prospective large developments.

6.6.5 Stormwater

Hunter Water intends to spend approximately $3.5 million ($2015-16) during the coming price period on the assessment, rehabilitation and replacement of stormwater channels within the Lower Hunter region.[95]

Hunter Water's stormwater assets transfer stormwater flows and minimise flooding impacts on the community. Consistent with appropriate asset management practices, Hunter Water considers these assets to be critical and regularly assesses the stormwater assets to determine overall condition and the likelihood of failure. This assessment process is used to make informed decisions about replacement or rehabilitation of channel structures. A breakdown of the expenditure is provided in Table 6.8.

Table 6.8 Proposed stormwater capital expenditure program ($m 2015-16)

Driver	2016-17	2017-18	2018-19	2019-20	2020-21	Total [(a)]	Total [(a)]
Mandatory standards	0.0	0.0	0.0	0.0	0.0	**0.0**	**-**
Asset and service reliability	0.6	1.1	1.4	0.4	0.4	**3.5**	**100%**
Growth	0.0	0.0	0.0	0.0	0.0	**0.0**	**-**
Business decisions	0.0	0.0	0.0	0.0	0.0	**0.0**	**-**
Discretionary standards	0.0	0.0	0.0	0.0	0.0	**0.0**	**-**
Government programs	0.0	0.0	0.0	0.0	0.0	**0.0**	**-**
Total	**0.6**	**1.1**	**1.4**	**0.4**	**0.4**	**3.5**	**100%**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) Total is for the price period, excludes 2020-21.

6.6.6 Corporate

Approximately $53 million ($2015-16) is projected to be spent on corporate projects that benefit regulated services and therefore will be allocated to regulated capital expenditure over the next price period. Information and Communication Technology (ICT) projects comprise $47 million and a further $4.8 million is projected for metering and meter replacement projects. The breakdown of corporate expenditure by driver for the proposed price period is shown in Table 6.9.

The ICT portfolio covers investment in all ICT-related hardware and software projects across Hunter Water. The portfolio is broken up into the asset and operations side of the business, the customer side of the business and supporting enterprise-wide ICT infrastructure, applications and information. Funding has been allocated for ICT infrastructure to sustain a secure, stable and resilient ICT platform.

The main streams funded within these investment groups include:

- Customer care and billing – The existing suite of customer care and billing applications includes the core, large scale enterprise Customer Information System (Oracle) plus integrated satellite systems that together form the foundation of all customer related functions including billing, meter reading, customer and tradewaste enquiries and customer service centre operations. The core system is highly customised and mechanisms for integration with asset management and operational systems make it challenging to maintain.

[95] Hunter Water manages major stormwater assets only in the local government areas of Cessnock, Lake Macquarie, and Newcastle.

A Customer Services Platform Refresh is required to raise Hunter Water's overall customer and community service capability to meet community expectations, such as paperless billing options and more diverse communication channels (e.g. chat/instant messaging, social media, smartphone apps).

- Asset information systems - spatial data capture, plan services, SCADA enhancements and minor asset systems. These projects address a recommendation arising from IPART's Operational Audit 2013-14 to:

  …complete capture of all asset and related maintenance information in its Ellipse Asset/Maintenance Management System.[96]

- SCADA radio network replacement– Replacement of analogue radio network with digital radio network.
- Information Management– Building a source of enterprise-aligned data and systems for consistent analytical use across the business.
- Enterprise applications – ongoing upgrades to business systems and minor applications
- Enterprise infrastructure – Upgrades to infrastructure (computers, network, storage, servers) and minor infrastructure projects.

Table 6.9 Proposed corporate capital expenditure program ($m 2015-16)

Driver	2016-17	2017-18	2018-19	2019-20	2020-21	Total [(a)]
Growth	0.0	0.0	0.0	0.0	0.0	**0.0**
Mandatory standards	5.6	4.1	4.7	6.1	5.8	**20.5**
Business decisions	0.8	0.7	0.8	0.9	0.5	**3.3**
Asset and service reliability	6.8	6.5	7.4	6.7	8.4	**27.4**
Discretionary standards	0.4	0.3	0.4	0.6	1.2	**1.7**
Government programs	0.0	0.0	0.0	0.0	0.0	**0.0**
Total	**13.6**	**11.6**	**13.4**	**14.2**	**15.9**	**52.9**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) Total is for the price period, excludes 2020-21.

6.7 Proposed capital output measures

Hunter Water supports the use of output measures to help determine the delivery effectiveness and value for money achieved from the capital portfolio. As required by IPART's submission guidelines, Hunter Water has proposed new output measures for the coming price period. These measures are detailed in Appendix F.

The proposed measures are consistent with the approach taken by IPART in setting measures for both Sydney Water and Hunter Water in the most recent price reviews.

[96] IPART, 2014, p.5 (d).

6.8 Capital portfolio efficiency and delivery

Hunter Water has mature and robust frameworks in place to ensure efficient expenditure across the life cycle of assets: planning, creation, operation, maintenance and renewal or disposal. Its focus on customer affordability and financial sustainability without compromising performance was recognised during the last price review, in which IPART observed that Hunter Water:

> *Demonstrated sound management, commercial discipline and customer focus.*[97]
>
> *Is a well-run business that makes considered investment decisions*.[98]

Hunter Water's self-imposed capital efficiency target for the current price period was considered by independent reviewer Atkins/Carndo to be challenging and exceeded that which was required to catch-up to, and continue to remain at, the efficiency frontier.[99] As discussed in section 6.2, Hunter Water has achieved its target efficiencies and is on track to deliver the capital investment allowed in IPART's 2013 determination, once adjusting for unforeseen changes in circumstance.

Hunter Water has continued to implement the investment planning and capital delivery processes that Atkins/Cardno considered to be at, or near, the frontier in the 2013 price review:[100]

- Leading practice in portfolio management.
- An integrated planning framework, including alignment between the short term capital program and longer term strategies.
- A comprehensive asset management framework that broadly aligned with the draft international standard.
- Appropriate challenging of the need for expenditure.
- Well-developed cost estimating, options analysis, gateway reviews, value management and risk management processes.

Hunter Water has also refined processes identified by Atkins/Cardno as having the potential to yield further efficiencies. These are:

- Cost estimating and contingency management.
- Procurement.
- Productivity improvements arising from investment in information systems.
- Continuing to develop an understanding of the relationship between expenditure, compliance risks and performance risks.

An overview of specific process improvements in these areas is provided in Appendix N.

Hunter Water takes the view that asset management, cost estimation and procurement are sources of ongoing efficiency gains. The potential for savings has been factored into the capital portfolio by reducing the cost estimate for each future project by five per cent compared with that proposed at the preliminary business case gate.

Hunter Water welcomes the opportunity to provide further information about its investment planning and delivery processes to IPART and its consultants during the price review.

[97] IPART, 2013(a), p.2.
[98] Ibid, p.64.
[99] WS Atkins, 2012, p.11, 146.
[100] Ibid, p.1, 2.

7 REVENUE REQUIREMENTS

Main points

- *Hunter Water considers that the practice of setting prices for a four-year determination period is reasonable and should continue.*
- *Hunter Water has applied IPART's post-tax building block approach to calculate annual revenue requirements that recover the capital and operating costs of providing water, wastewater and stormwater services. There are no revenue cross subsidies between products.*
- *Hunter Water has used IPART's 2013 weighted average cost of capital (WACC) methodology, IPART's biannual WACC updates and market data to forecast an estimated rate of return for mid-2016.*
- *The WACC forecast is based on a target real post-tax rate of return of 4.6 per cent.*

7.1 Length of the determination period

Hunter Water is of the view that a four-year determination period strikes a reasonable balance for a water utility to manage the various risks, costs and incentives that arise under IPART's framework of revenue and price regulation.

A four-year period provides a strong incentive for the regulated business to constantly strive for operational efficiencies. The regulated utility and its shareholder share the benefit from investing in productivity savings in the short term, while customers enjoy the full benefit of lower operational expenditures from the start of the next price period. Customers also benefit from the price certainty associated with a four-year determination, particularly larger commercial and industrial customers where water prices can represent a significant input cost for a business.

Hunter Water can under or over recover its allowed revenues if actual demand and service connections differ markedly from forecast demand and connections. Hunter Water is subject to a degree of weather-related risk that is outside of its control, potentially having a significant effect on water supply and demand. A four-year determination period allows for some inter-year averaging within that timeframe before IPART resets the forecasts and prices at the next determination. Hunter Water has focused its efforts in this price review on ensuring that its demand and connection forecasts are as accurate as possible.

In mid-2014, IPART agreed to make a new determination for Hunter Water from 1 July 2016, shortening the current four-year price period by one year. Hunter Water had sought the change in timeframe to reinstate the past practice of IPART determining prices for the major NSW water utilities at the same time. A process of concurrent pricing reviews has a number of benefits, including an alignment of the target rates of return on capital that each utility is allowed. This ensures greater consistency in the consequent movement in customer prices for each utility.

IPART's preparedness to consider a change to Hunter Water's determination cycle, based on the circumstances at the time, demonstrated a sign of regulatory flexibility. Hunter Water would anticipate that IPART would give thorough consideration to a possible re-opening of a future determination should there be a major one-off or unanticipated event with serious financial consequences for the business.

The economic regulation of monopoly service providers attempts to mirror the commercial pressures faced by businesses in competitive markets. There are always limits and trade-offs in designing the regulatory framework. Hunter Water considers that a four-year determination provides a reasonable balance in limiting the risks faced by the regulated entity while providing the benefits of price regulation and certainty to customers.

7.2 IPART's building block approach

In framing the prices sought in this submission, Hunter Water followed the building block approach to price setting used by IPART. The building block approach aims to ensure the following costs are covered by prices:

- operating, maintenance and administration costs
- depreciation – sometimes referred to as the return of capital
- a rate of return on the capital invested in the business
- an allowance for working capital, and
- company income tax expense.

Readers seeking more information on IPART's building block approach are referred to IPART's discussion in the 2012 issues paper[101] and IPART's 2013 determination.[102]

7.3 Operating and capital costs

Details of Hunter Water's operating, maintenance and administration costs in the current determination period and that foreshadowed for the next price period are provided in Chapter 5. Information on past and proposed capital expenditure is outlined in Chapter 6.

7.4 Depreciation

Hunter Water proposes the continuation of a straight-line depreciation method where the total value of the regulatory asset base is recovered evenly over the assumed life of the assets. Asset life assumptions are outlined in Table 7.1

Table 7.1 Proposed regulatory asset lives

	New assets	Remaining life of existing assets
Asset lives	100	70

The proposed asset lives of 100 years for new assets and 70 years for existing assets are consistent with those used in previous determinations by IPART. This is the same across all asset categories including water, wastewater and stormwater. Hunter Water does not propose any changes to the method or assumptions underlying the depreciation building block.

7.5 Rate of return

IPART published its final report detailing a new WACC methodology in December 2013.[103] The year-long review involved a number of reporting stages and related research work. Stakeholders were able to comment on the process for calculating the WACC and the derivation of key WACC parameters. Hunter Water did not agree with all aspects of IPART's final decision but recognised that the revised WACC methodology was a significant improvement on past practices. Most importantly, the new IPART methodology sets out a predictable framework for calculating the WACC estimate, improves the robustness and accuracy of key WACC inputs and includes transparent decision rules should IPART exercise any discretion in the WACC calculation.

Hunter Water has applied IPART's revised WACC methodology to derive a WACC estimate for this price submission. Appendix G details the estimate and source of each WACC parameter and explains how Hunter Water's approach aligns with the IPART methodology. The only area where Hunter Water has proposed a transitional approach which differs from the final IPART decision is the weighting of the historic and current market debt costs. This is discussed in further detail in section 7.5.2.

Hunter Water has used historical data and forward market data as at the end of January 2015 to calculate the WACC estimate. Hunter Water finalised its internal processes for approving the proposed revenue and prices in this submission during February 2015. The WACC estimate was a key input to the modelling work that supported this work. In most cases, the Hunter Water assumptions are consistent with the WACC parameter estimates provided by IPART in its February 2015 WACC biannual update.[104]

IPART's revised methodology adopted a transparent, mechanistic approach for calculating the WACC. External input data is published either by IPART or the Reserve Bank of Australia (RBA) and updated periodically.

Hunter Water has assumed that IPART's uncertainty index will sit within the range of financial data where IPART would select the midpoint of the WACC range from the long-term historical data and the current market data. IPART established the uncertainty index as a framework to allow some discretion to vary the WACC estimate within the range of current and long-term average data should economic conditions, as measured by a number of specified financial indices and measures, move outside trend conditions. IPART publishes data for the uncertainty index as part of each WACC biannual update.

Readers seeking more information on IPART's review of the WACC methodology are referred to the 2013 Research paper – Review of WACC methodology.[105]

[101] IPART, 2012(e), chapter 4.
[102] IPART, 2013(a), chapter 4.
[103] IPART, 2013(c)
[104] IPART, 2015(a).
[105] IPART, 2013(c).

7.5.1 Weighted average cost of capital estimate

Hunter Water acknowledges that IPART will update the market-based parameters including the risk-free rate, market risk premium, inflation and debt margin at the time of Hunter Water's final determination. IPART has indicated that it will finalise its modelling work in April 2016 using data for the end of March 2016. Hunter Water's proposed WACC is based on the best available market information as the end of January 2015.

For the purposes of this submission, Hunter Water has adopted a post-tax WACC of 4.6 per cent based on the parameter ranges shown in Table 7.2.

A discussion of Hunter Water's WACC parameter assumptions and the overall WACC estimate is provided in Appendix G.

Table 7.2 Weighted average cost of capital parameters

	Long term	Short term
Nominal risk free rate	4.5%	2.5%
Inflation	2.5%	2.5%
Debt margin	2.9%	2.2%
Debt to total assets	60%	60%
Market risk premium	6.0%	8.2%
Gamma	0.25	0.25
Equity beta	0.7	0.7
Cost of equity	8.7%	8.3%
Cost of debt	7.4%	4.7%
Real post tax WACC	5.3%	3.6%
WACC midpoint	**4.6%**	

Source: Hunter Water and IPART.

7.5.2 The weighting of long term and current market debt costs

IPART's 2013 WACC review considered a number of approaches for estimating the cost of debt. IPART's final decision applied both current market data (based on a 40-day average of the 10-year risk-free rate) and long-term averages (based on the 10-year average of the historic 10-year risk-free rate).

Throughout the course of IPART's WACC methodology review, Hunter Water held the view that IPART should set the cost of debt with reference to a long-term average methodology, not by reference to short-term rates. Hunter Water argued that business decisions involving infrastructure assets should take into account the asset lives of such investments. When undertaking the financial evaluation of capital projects, Hunter Water makes an assessment of the long-term cash flows that could be generated by these assets, discounted using a long-term rate.

Hunter Water also took issue with the presumption in IPART's previous approach that Hunter Water could refinance all of its debt within a short window of IPART publishing each determination.

Over past years, Hunter Water has borrowed with a medium- to long-term outlook, taking advantage of times when prevailing borrowing rates fell below TCorp's long-term benchmark fair values. Hunter Water has a current debt portfolio of $1.07 billion. More than 75 per cent of Hunter Water's borrowings are held in debt products with a maturity profile of greater than three years.

Hunter Water had proposed that IPART should set the cost of debt based on a trailing average of the 10-year term-to-maturity risk-free rate. IPART's final decision accepted this approach in part.

By setting the cost of debt based on the WACC midpoint using a 10-year average approach and current market data, IPART has effectively given a 50 per cent weighting to the trailing average concept. Hunter accepts that IPART's final decision was a substantial improvement on the past approach. Hunter Water also welcomed the inclusion of the uncertainty index and pre-set decision rules which would allow IPART to consider a WACC estimate higher than the midpoint during periods of economic and financial volatility.

Hunter Water has sought independent advice on a long-term debt financing strategy. Hunter Water is likely to increase the share of its debt portfolio that is aligned with the determination cycle.

Hunter Water accepts IPART's final decision outlined in IPART's WACC methodology, but considers that a phasing-in arrangement would be appropriate for the next price period. Hunter Water proposes that that IPART give a 60 per cent weighting to the cost of debt for the WACC using long-term averages, and a 40 per cent weighting for the current market data. This would align more accurately with Hunter Water's actual debt cost profile during the next price period.

The transitional proposal allows for the fact that it would be financially inefficient for Hunter Water to achieve a 50:50 debt portfolio split between short- and long-term debt within 12 months. The 60:40 proposal provides some time to adjust the structure of Hunter Water's debt portfolio to better reflect the approach that IPART set out in its final WACC methodology.

Hunter Water accepts that it would apply the 50:50 short- and long-term debt portfolio split (if the uncertainty index is not triggered) for the determination starting in mid-2020.

7.6 Tax allowance

The separate tax building block and use of a post-tax WACC should reflect the income tax expense paid by the entity. As the income tax expense covers both the regulated and non-regulated components, a number of non-regulatory components have been included in the tax building block calculation to ensure it more closely reflects the tax liability of the entity.

The tax building block calculation is adjusted for the acquisition of actual assets free of charge (which is treated as non-regulated income), an estimated tax depreciation (adjusted to exclude a component relating to non-regulated assets) and an estimated interest expense. The interest expense is based on a notional calculation rather than the entity's actual gearing ratio and actual average interest rate. Details of the forecast cash and asset contributions and tax depreciation components are provided in Table 7.3 and Table 7.4 respectively.

Table 7.3 Cash and asset contributions ($'000 nominal)

Component	2016-17	2017-18	2018-19	2019-20	2020-21
Water	7,685	7,691	7,703	7,718	7,741
Wastewater [a]	18,519	18,779	19,055	19,344	19,655
Stormwater	-	-	-	-	-
Total	**26,204**	**26,470**	**26,758**	**27,063**	**27,397**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) AIR, Capex, Tables 9.3 and 9.4 – Water Rows 285 + 373, Wastewater Rows 291 + 292 + 378.

Table 7.4 Tax depreciation ($'000 nominal)

Component	2016-17	2017-18	2018-19	2019-20	2020-21
Water	15,520	16,483	17,717	18,802	19,119
Wastewater	33,775	35,520	37,016	38,083	40,044
Stormwater	443	484	534	553	571
Total	**49,738**	**52,487**	**55,267**	**57,438**	**59,734**

Source: Hunter Water. Totals may not add precisely due to rounding.

Tax depreciation forecasts are projected from a 2013-14 actual base. The expense increases over the price path period in line with the capital expenditure profile and the expected average life of assets added.

Hunter Water notes that IPART's use of a notional gearing ratio and cost of debt percentage (based on the parameters used in the WACC calculation) overstates the interest expense, reducing the apparent tax liability. This has the effect of reducing the revenue allowance from the tax building lock.

Although this submission has adopted the IPART methodology, Hunter Water considers that an entity's actual gearing ratio and actual average interest rate would better determine the revenue allowance from the tax building block as it is intended to closely reflect the actual tax liability of the business.

Table 7.5 shows the difference in the tax building block if Hunter Water's actual gearing ratio is applied across the price period as opposed to IPART's notional 60 per cent gearing. By lowering the interest expense based on a lower actual debt profile, Hunter Water's tax liability increases in each of year of the price period. The total difference over four years is $18.7 million.

Table 7.5 Tax building block, difference in gearing ratios ($'000 nominal)

	2016-17	2017-18	2018-19	2019-20	2020-21
IPART 60% notional gearing	8,610	8,680	8,740	9,000	9,220
Hunter Water's actual gearing	12,730	13,100	13,560	14,330	16,110
Annual difference	4,120	4,420	4,820	5,330	6,890

Source: Hunter Water.

7.7 Avoided costs and government directions

IPART allows the value of 'avoided' and/or 'deferred' costs associated with recycled water schemes to be recovered from the broader customer base[106] via an adjustment to the regulatory asset base. The rationale for this allowance is that investment in recycled water is a benefit to all customers in that it has potential to save, or defer, further investment in providing water supply or wastewater infrastructure. These potential investment savings can occur in both water source and in water distribution infrastructure and operations. Investment in water recycling can also offset the need for further investment in wastewater treatment, network and disposal facilities and reduce wastewater operating costs.

Adjustments of $9.5 million were made in the 2013 price review to capital costs to include deferred and avoided costs associated with the proposed Kooragang Industrial Water Scheme (KIWS). The supply of recycled water to a large customer on Kooragang Island will defer the need to upgrade potable water treatment and trunk delivery system upgrades.

The cost savings from deferring these upgrades include those associated with the deferment of the stage three upgrade of the Grahamstown water treatment plant, deferment of the need to upgrade the trunk delivery main from Grahamstown water treatment plant and operating cost savings at the Grahamstown water treatment plant.

Hunter Water considers these avoided costs remain relevant in terms of representing benefits water customers will receive from the operations of KIWS. It is proposed that the $9.5 million remain in the regulatory asset base (RAB) for this price submission.

An adjustment to the RAB also occurred in the 2013 price review relating to NSW Government directives issued to Hunter Water in 2006. The Minister for Water subsequently wrote to:

- Hunter Water under section 20P of the *State Owned Corporations Act 1989* and instructed the Board of Directors to provide a subsidy of up to $10 million for the Kooragang Island recycled water project; and,
- IPART under section 16A of the *Independent Pricing and Regulatory Tribunal Act 1992* advising IPART of the 20P instruction to provide a $10 million subsidy and that it would be applied to the Tribunal's consideration of the maximum prices charged by Hunter Water from 1 July 2009.

IPART included the $10 million subsidy in the water component of the roll forward of the regulatory asset base in the 2013 determination.

Hunter Water is currently considering the sale of KIWS during 2015-16. Consequently, Hunter Water has removed $10 million from the RAB in this price submission.

7.8 Building block components

Hunter Water's financial modelling derives the building block components for its water, sewer and drainage operations – as detailed in Table 7.6, Table 7.7 and Table 7.8.[107]

The building block components do not include the costs associated with recycled water operations, which are accounted for separately in setting recycled water prices. As discussed in section 7.7, some adjustments have been made to capital costs to include avoided costs associated with the proposed KIWS using the methodology set out in IPART's 2006 recycled water pricing guidelines.[108]

[106] IPART, 2006, Appendix C.
[107] Tables in this chapter provide data for one year beyond the proposed price period. This is to meet IPART's requirement to provide data for five years regardless of the proposed price period. The column providing the additional data is shaded.
[108] IPART, 2006, Appendix C.

The total revenue requirements shown in the tables have been smoothed using the 'net present value smoothing' technique to minimise pricing effects arising from projected step changes in demand.[109] Revenue smoothing has only been applied for the four years of the proposed price period.

Table 7.6 Building block components – water ($'000 2015-16)

Component	2016-17	2017-18	2018-19	2019-20	2020-21
Operating costs	63,374	63,577	65,127	65,342	64,193
Depreciation	14,979	15,336	15,741	16,211	16,304
Return on RAB [a] (unsmoothed)	48,487	49,442	50,595	52,033	60,629
Working Capital	665	684	651	654	966
Tax liability	4,548	4,491	4,389	4,380	4,510
Target revenue requirement (unsmoothed) [b]	**129,689**	**131,169**	**134,144**	**136,264**	**144,246**
Target revenue requirement (smoothed) [b]	**125,575**	**130,476**	**135,392**	**140,132**	**142,117**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) RAB = regulatory asset base.
b) Includes a reduction for non-tariff regulatory revenue
c) Includes a reduction for non-tariff regulatory revenue and a smoothed return on the RAB building block over the 2016-17 to 2019-20 period.

Table 7.7 Building block components – sewer ($'000 2015-16)

Component	2016-17	2017-18	2018-19	2019-20	2020-21
Operating costs	63,590	67,444	67,732	68,520	69,072
Depreciation	17,851	18,356	18,754	19,095	19,273
Return on RAB [a] (unsmoothed)	57,862	59,364	60,346	61,055	72,134
Working Capital	678	754	838	838	782
Tax liability	3,733	3,657	3,615	3,662	3,525
Target revenue requirement (unsmoothed) [b]	**140,161**	**146,025**	**147,737**	**149,627**	**161,243**
Target revenue requirement (smoothed) [c]	**146,666**	**147,449**	**148,221**	**148,983**	**156,232**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) RAB = regulatory asset base.
b) Excludes trade waste.
c) Includes a reduction for non-tariff regulatory revenue and a smoothed return on the RAB building block over the 2016-17 to 2019-20 period. Includes trade waste.

[109] Because annual revenue requirements must be recovered from projected sales, step changes in sales can affect the arithmetic calculation of the price required to recover revenue. Where this is the case, additional smoothing is required to avoid prices moving in opposite directions within the price period.

Table 7.8 Building block components – drainage ($'000 2015-16)

Component	2016-17	2017-18	2018-19	2019-20	2020-21
Operating costs	1,929	1,954	1,959	1,956	1,926
Depreciation	544	553	567	577	565
Return on RAB [a] (unsmoothed)	1,755	1,773	1,813	1,834	2,100
Working Capital	26	23	22	28	33
Tax liability	120	115	111	114	111
Total revenue requirement (unsmoothed)	**4,373**	**4,419**	**4,472**	**4,509**	**4,735**
Target revenue requirement (smoothed) [b]	**4,342**	**4,410**	**4,478**	**4,548**	**4,625**

Source: Hunter Water. Totals may not add precisely due to rounding.

a) RAB = regulatory asset base.

b) Includes a reduction for non-tariff regulatory revenue and a smoothed return on the RAB building block over the 2016-17 to 2019-20 period.

7.9 Real price changes and 'X' factors

Hunter Water has framed its pricing proposals to deliver the revenue requirements set out in section 7.8 with the return on the regulatory asset base matching the point estimate real post-tax WACC of 4.6 per cent as derived in section 7.5. Hunter Water has set the revenue requirements separately for its water, sewer and stormwater drainage businesses. The separate 'X' factors to deliver this outcome for each of the businesses are set out in Table 7.9. Hunter Water considers that setting prices at the levels proposed is the minimum necessary to ensure the maintenance of an investment-grade credit rating and to provide services to the community that meet or exceed those required by various regulatory authorities. These key financial metrics are discussed further in Chapter 8.

Table 7.9 'X' factors for water, sewer and drainage (per cent)

	2016-17	2017-18	2018-19	2019-20	2020-21
Water	2.8%	2.8%	2.8%	2.8%	2.8%
Sewer	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
Stormwater drainage	1.2%	1.2%	1.2%	1.2%	1.2%

Source: Hunter Water.

8 FINANCIAL IMPACT ON HUNTER WATER

Main points

- *Although Hunter Water's credit rating is forecast to be stable for the coming price period, the business is susceptible to a credit rating downgrade at any time. Three of the four financial metrics measured by Moody's are below investment-grade during the price period.*
- *There is minimal headroom in the metrics to respond to changes in the economic environment such as fluctuations in interest rates or seasonal influences reducing the demand for water.*
- *The only financial metric above investment-grade is the 'net debt to regulatory asset base' ratio, an assessment of the gearing of the business. If Hunter Water's actual gearing equalled IPART's notional level of 60 per cent, Hunter Water's rating would drop to the lowest level of investment-grade and be at risk of further downgrade.*
- *Forecast cash flows, assuming a continuation of a real post-tax WACC of 4.6 per cent for the coming price path, are not sufficient to service the current moderate capital portfolio with an additional $199.1 million expected to be borrowed over the coming price period.*

8.1 Financial sustainability

This chapter covers the impact of the proposed prices on Hunter Water's future financial sustainability.

NSW Government policy requires that State-owned corporations maintain an investment-grade credit rating. The *State Owned Corporations Act 1989* requires that Hunter Water operates as a successful business and to: operate as efficiently as any comparable businesses; maximise the net worth of the State's investment in the business and to exhibit a sense of social responsibility by having regard to the interests of the community in which it operates.

To ensure financial sustainability, Hunter Water needs to generate sufficient cash flows to cover the costs of operating the business, service its debts, and invest in assets for the future growth requirements in the Lower Hunter. An adequate rate of return ensures that Hunter Water is also able to provide a return on the shareholder's funds that is at least equal to the return that could be received from an alternative investment.

In developing its future price proposals, Hunter Water takes into consideration customer affordability, appropriate dividend distributions to the shareholder and the maintenance of an investment-grade credit rating. The prices proposed in this submission aim to meet Hunter Water's obligations in each of these areas. Deterioration in the credit rating below investment-grade would impact the financial viability of Hunter Water in the short to medium term.

8.2 Impact of the WACC on financial sustainability

The weighted average cost of capital (WACC) that IPART calculates each determination is a major contributor to the revenue requirements and as such can have a significant impact on financial sustainability. As an example, Hunter Water proposed a WACC of 5.6 per cent in its 2012 submission (in line with the 2012 Sydney Water Determination). IPART determined a WACC of 4.6 per cent based on its transitional WACC methodology, resulting in a reduction in revenue over the four years of $80 million ($2012-13). This revenue reduction was linked solely to the allowed rate of return and was not due to the elimination of 'inefficient' expenditure or reduced capital or operating expenditure.

Hunter Water's 2012-13 Statement of Corporate Intent assumed a WACC of 5.6 per cent WACC in the following regulatory period. As result, Hunter Water forecast borrowings required over the four year determination period of $197 million. Following IPART's 2013 determination setting the WACC at 4.6 per cent, the 2013-14 Statement of Corporate Intent forecast borrowings for the same period totalling $238 million – a $40m increase in projected borrowings compared with the prior year. Appendix H (commercial in confidence) provides further details of the financial impact of the 2013 determination.

The requirement to obtain additional funds is generally met by borrowing additional debt to fund expenditure. This has a flow-on impact to the credit metrics in assessing the financial sustainability of the business as the credit metrics are based on cash flows and debt levels (refer to section 8.3).

In response to the negative impact of the 4.6 per cent WACC, Hunter Water commenced its non-core asset divestment strategy in order to minimise the increase in debt required to fund the regulated capital expenditure program (see Chapter 2, section 2.4). All of this work was aimed at stabilising Hunter Water's credit rating.

8.3 IPART's financeability test

In its 2013 review of the financeability test methodology, IPART aligned the ratios it applies in the financeability assessment with those published by Moody's Investor Services for global regulated water utilities[110]. IPART decided to exclude one of the Moody's metrics, the 'retained cash flow / capital expenditure' ratio.

The four key rating factors that constitute Moody's overall analytical framework for rating regulated water utilities are:

- regulatory, environment and asset ownership model – 40 per cent
- operational characteristics and asset risk – 10 per cent
- stability of business model and financial structure – 10 per cent, and
- key financial credit metrics – 40 per cent.[111]

In Moody's methodology:

> *…the first three rating factors aim to capture the credit strengths and weaknesses afforded by the water utility's fundamental business and its financial policies. However, a company's ultimate credit profile must also incorporate its financial metrics. Two otherwise identical water utilities may exhibit radically different credit profiles due to different financial metrics.*[112]

The three Moody's financial ratios that are included in the IPART framework are:

- Funds From Operations (FFO) interest cover: calculated as FFO plus interest expense divided by interest expense
- Net debt to regulatory asset base (RAB): calculated as net debt divided by the RAB
- FFO to net debt: calculated as FFO divided by debt.[113]

The leverage ratios (eg. net debt to RAB and FFO to net debt) aim to capture a measure the ability of an issuer can repay its debt. The coverage ratio (FFO interest cover) focuses more on the ability to service the debt prior to repayment.

Financial ratios are compared to benchmark ratios of a Baa2 (BBB) firm as determined by Kanangra Ratings Advisory Services[114]. Readers seeking more information on IPART's 2013 financeability review and ratio calculations are referred to the discussion in the final decision paper.[115]

Hunter Water has calculated the three ratios as prescribed by IPART, as well as the fourth financial ratio that constitutes Moody's analytical framework (retained cash flow to capital expenditure, calculated as FFO less dividends paid divided by capital expenditure). The additional financial metric is presented here as Hunter Water is of the view that all of Moody's financial metrics should be used in assessing financeability.

For information purposes, Table 8.1 provides a comparison of the Moody's rating scale to that of other rating agencies (such as Standard & Poor's).Table 8.2 details the key financial ratios, their weighting and the indicative range of the credit rating score to achieve a minimum of an investment-grade credit rating (Baa or BBB). This analysis aligns with the Moody's assessment framework.

Table 8.3 details the financial ratios utilised by IPART in its financeability review and benchmarks against which performance is measured.

[110] Moody's Global Infrastructure Finance, 2009.
[111] Moody's Global Infrastructure Finance, 2009.
[112] Moody's Global Infrastructure Finance, 2009, p.19.
[113] IPART, 2015(b).
[114] IPART, 2013(d).
[115] IPART, 2013(d).

Table 8.1 Financial rating scales

Moody's	Standard & Poor's	Description
Aaa	AAA	Prime
Aa1	AA+	High grade
Aa2	AA	
Aa3	AA-	
A1	A+	Upper medium grade
A2	A	
A3	A-	
Baa1	BBB+	Lower medium grade
Baa2	BBB	
Baa3	BBB-	
Ba1	BB+	Non-investment grade

Source: Hunter Water.

Table 8.2 Key financial ratios

	Weighting	Range
Funds from operations interest cover	15%	2.5 – 4.5 (times)
Net debt / regulatory asset base	15%	55 - 70%
Funds from operations / net debt	5%	10 - 15%
Retained cash flow / capital expenditure	5%	1.0 – 1.5 (times)
Credit Rating		Baa / BBB

Source: Hunter Water.

Table 8.3 Financial ratio benchmarks

	A3	Baa1	Baa2	Baa3	Ba1
Funds from operations interest cover	>2.9	2.3 -2.9	1.7-2.5	1.4/1.5 -1.7	<1.4/1.5
Debt / regulatory asset base	<60%	80-85%	60-91%	90-100%	>100%
Funds from operations / net debt	>10%	>10%	<6-10%	5-8%	<4%

Source: IPART, 2013 (d), p.10.

8.4 Hunter Water's financial ratios

Hunter Water's financial metrics are forecast to be stable over the next price determination and are within the Baa2 (BBB) benchmarks set by IPART. The key financial ratio results forecast for Hunter Water over the price period covered by this submission are detailed in Table 8.4

Whilst the metrics are forecast to remain stable, Hunter Water has minimal headroom to respond to changes in the economic environment such as fluctuations in interest rates or seasonal influences reducing the demand for water. As such, Hunter Water is susceptible to a credit rating downgrade at any time during the next price period.

Hunter Water is below investment-grade in all but one of the four credit metric ranges published by Moody's, as shown Table 8.4. It is only the 'net debt to regulatory asset base' ratio, an assessment of the actual gearing of the business that ensures Hunter Water maintains an overall investment-grade credit rating, albeit borderline.

If Hunter Water were to be geared at IPART's notional economic level of 60 per cent, Hunter Water's credit rating on an overall basis would be Baa3 (BBB-) with a risk of a further downgrade.

Table 8.4 Financial ratio results for Hunter Water

	2016-17	2017-18	2018-19	2019-20	Credit Rating	IPART Bench-mark
Funds from operations interest cover	2.1	2.1	2.0	2.0	Ba / BB	Baa2
Net debt / regulatory asset base	51%	51%	51%	50%	A / A	A3
Funds from operations / net debt	6.0%	6.1%	6.1%	6.1%	Ba / BB	Baa3-Baa2
Retained cash flow / capital expenditure	0.4	0.4	0.5	0.6	B / B	n/a
Overall credit rating					Baa2 / BBB	

Source: Hunter Water.

The impact of recent pricing outcomes and the large capital expenditure program undertaken in the 2009-2013 price period can be seen in Table 8.5. Each of the ratios, with the exception of retained cash flow / capital expenditure, has declined. The most significant deterioration is the FFO / net debt metric which has dropped from 10.3 per cent in 2009-10 to 6.0 in 2014-15 (at a BB level on Moody's scale).

Table 8.5 Financial ratio history

Financial ratio	Prior determination period				Current determination period			Mvt[1]
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
FFO interest cover	2.5	2.5	2.3	2.1	1.9	2.0	2.1	↑
Net debt to RAB	43%	46%	47%	50%	51%	51%	52%	↓
FFO to net debt	10.3%	10.2%	8.6%	7.1%	6.0%	6.0%	6.1%	↑
RCF to capex	0.3	0.3	0.3	0.3	0.4	0.4	0.4	↑

Source: Hunter Water.
[1] Mvt indicates whether the preferred movement in a ratio is higher or lower. For example, a higher FFO interest cover figure is preferable to a lower figure.

In its recent review of Hunter Water's credit rating[116], Moody's Investor Services awarded Hunter Water a baseline credit assessment of Baa2 (BBB). The BBB assessment was underpinned by the predictability of the regulated regime. A further positive factor was the predictable operating environment and monopoly-like market position. Moody's did note, however, that Hunter Water's rating is constrained by its high leverage when measured on an FFO/net debt basis. This was the minimum tolerance level for a Baa2 baseline credit assessment (that is, 6 per cent).

Moody's noted that the BBB rating could come under pressure if the FFO/interest ratio were to be below 1.7 times or the FFO/net debt ratio was consistently below 6 per cent. The low WACC in the current price determination at 4.6 per cent has constrained prices and hence funds from operations in this period. Hunter Water has minimal headroom at the current rating level should IPART set a WACC of 4.6% in the 2016 determination.

In order to maintain the position of an investment-grade credit rating, Hunter Water has proposed modest operating and capital expenditure levels within the current price submission. This has helped to ensure that debt and interest levels are held at a sustainable level. Funds from operations and cash-flows achieved, however, are ultimately dependent on market conditions at the time of the determination and the prevailing WACC derived for the current price path period.

This price submission proposes a real post-tax WACC of 4.6 per cent, consistent with IPART's WACC methodology and current market conditions. A WACC of 4.6 per cent allows only for the current credit metrics to be maintained. There is no scope for any improvement in the financial position to protect against adverse business conditions such as reduced water sales due to seasonal demands or higher interest rates.

[116] Moody's Investors Service, 2015.

8.5 Revenue sensitivity

This submission outlines the continued constraints that Hunter Water has placed on its operating and capital expenditure for the next four years. As explained in Chapters 3, 5 and 6, these reductions come with risks of running close to the limits of regulated standards and increasing operating expenditure on maintenance activities. Even with these cost constraints in place, real revenue increases of 1.0 per cent per year are necessary to maintain service standards and meet community expectations.

Hunter Water would need to make further significant reductions in expenditure to limit price increases to CPI movements over the next four years. Sensitivity modelling shows that to achieve a CPI-only outcome, Hunter Water would need to make substantial adjustments, such as:

- 90 per cent reduction in proposed capital expenditure, or
- 50 per cent reduction in proposed capital expenditure and a further reduction of $11.3 million in operating expenditure (from $566.9 million to $555.6 million), or
- acceptance of a reduced real post-tax WACC from 4.6 per cent to 4.4 per cent. It is likely that any reduction in the WACC below 4.6 per cent would result in a credit rating downgrade.

9 WATER PRICING

Main points

- *To maintain a strong water conservation signal, Hunter Water's charging structure is based on a pay-for-use philosophy with the majority of water revenue derived from usage charges.*
- *Hunter Water has proposed usage prices to approximate its long-run marginal cost. This is consistent with the approach IPART adopted in the 2013 determination. The usage price proposed at $2.24 per kilolitre ($2015-16) will remain constant in real terms during the proposed price period.*
- *This usage price also maintains the variable proportion of a typical residential water and sewerage bill at around 40 per cent. Hunter Water's 2012 pricing consultation showed that three quarters of customers sought more control over their bill through usage charges.*
- *The proposal maintains the location-based prices applying to usage greater than 50,000 kilolitres per year by individual customers. The prices provide more cost-reflective charging to customers using very large volumes of water without drawing on much of Hunter Water's extensive distribution infrastructure.*
- *A common residential service charge applies to all residential houses, home units and flats as well as to many small non-residential customers. This charge, set at $17.14 per year in 2016-17 rising to $58.72 per year in 2019-20 ($2015-16), covers the balance of the costs of the water supply component of the business.*
- *Consistent with IPART's 2013 determination Hunter Water proposes that the interchange price with the Central Coast is set at the higher of the two entities' short-run marginal cost. This approach sets an initial interchange price of $0.65 per kilolitre in 2016-17 ($2015-16).*

9.1 Current price structure and prices

Over the last three decades, state governments have made fundamental reforms of bulk and retail water pricing. In the Hunter, this reform began in 1982 with the introduction of 'pay-for-use' pricing and was completed in the mid-1990s when Hunter Water ceased to calculate service charges based on property value. Since then, a simple user-pays philosophy has guided continuing refinement of pricing leading to the current charging structure.

Hunter Water has a largely variable pricing structure for its water services, providing a strong demand management signal. For a typical household customer, usage charges make up around 95 per cent of the total annual water bill. For industrial customers, usage charges can comprise more than 99 per cent of the bill.

The IPART's 2000 determination saw the introduction of 'location-based' water usage charges for industrial customers with very high water consumption above 50,000 kilolitres. These location-based charges apply only in areas close to water sources and reflect the lower costs of supplying water in these areas because less distribution infrastructure is used. Hunter Water considers that cost-reflective location-based charges for large industrial customers are in line with the competition reforms that have occurred more generally across Australia over the last two decades.

Hunter Water's current water prices comprise service charges related to meter size for non-residential customers and a single property based service charge for residential and small non-residential customers with an individual 20mm meter. In 2015-16, the service charge for a 20mm meter is $17.89 in Hunter Water's area of operations. The usage charge for consumption under 50,000 kilolitres per year (and hence the only usage charge applicable to most customers) is $2.24 per kilolitre in all areas. The current service and usage charges are shown in more detail in Table 2.1 earlier in this submission.

9.2 Long-run marginal cost

IPART's 2009 determination report outlines its approach to setting water usage prices. IPART's position was that the most efficient approach for setting water usage prices is with reference to the long-run marginal cost (LRMC) of water supply.

A LRMC is a derivation of future marginal capital and operating costs. In its January 2009 submission to IPART, Hunter Water adopted the average incremental cost as the most practical means of calculating the LRMC. In this approach, the present value of the costs associated with supplying water from the next source augmentation in a least-cost expansion plan is divided by the present value of the incremental demand supplied by that option. It was noted that in addition to the construction, operation and maintenance costs, the calculation should also include the incremental costs associated with the treatment to potable quality, as well as the cost of distribution to the water network.

For the 2009 final determination, IPART based the usage charge on its estimate of the LRMC.[117] During the period following the determination the review of Hunter Water's integrated water plan was initiated. This work became known as the Lower Hunter Water Plan (LHWP) and commenced in mid-2012. It was led by Metropolitan Water Directorate of the NSW Department of Finance and Services and was undertaken in collaboration with Hunter Water.

The LHWP was published in January 2014. The focus of the plan is to ensure that the people of the Lower Hunter have enough water to meet their needs for the medium term, including being able to withstand a drought much more severe than previously recorded in the region.[118] As the examination undertaken of the supply demand balance concluded that the Lower Hunter's supply is secure for around twenty years, there was not consequently the imperative to identify the next source augmentation. The impact of this outcome on water usage pricing is that Hunter Water does not have any formal suite of demand management and supply increment measures on which to recalculate the LRMC.

In the absence of information and consistent with the previous IPART determination, Hunter Water proposes that the water usage price for the next determination period be established by rolling forward the 2013 determination value and maintaining it in real terms over the period of the proposed price period. In doing so the usage price maintains the connection to IPART's best estimate of the LRMC and maintains the usage portion in the total water bill.

9.3 Short-run marginal cost

In response to a request from IPART in the Guidelines for Water Agency Pricing Submissions, Hunter Water has provided an estimate of the short-run marginal cost (SRMC) of water in Appendix J.[119] The short-run marginal cost of water is taken to be the change in short-run total cost for an extremely small change in output.[120]

Hunter Water uses an average cost methodology as a proxy for SRMC. This approach has been accepted by IPART as part of the Hunter Water Operating Licence requirements to determine the economic level of leakage. The inputs for the calculation are provided by the activity based costing model and the sales volume for the respective year. Hunter Water considers that the short-run total cost components should be limited to those expenditure elements that are closely correlated to a small change in output (for example, an increase or decrease of one megalitre). To this end Hunter Water bases the water SRMC on the costs associated with chemical and electricity expenditure.

9.4 Proposed water usage prices and service charges

Hunter Water has a long history of emphasising usage charges as a means of providing a water conservation signal.

Hunter Water proposes to roll forward the current determined charge as the best estimate of Hunter Water's LRMC. The usage price proposed at $2.24 per kilolitre ($2015-16) will remain constant in real terms during the proposed price period. This is consistent with IPART's 2013 determination approach. With no real increase over the proposed price period the annual X factors are zeroed. These and the proposed usage charges are shown in Table 9.1.[121]

The selected water usage charge maintains the variable portion of the water bill at a high level (on average 92 per cent over the four year period), as well as maintains the variable proportion of the residential combined water and sewer bill at around its current level of 40 per cent.

Table 9.1 Proposed X factors and usage prices

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
X factors (%)	NA	-	-	-	-	-
Usage price ($2015-16)	2.24	2.24	2.24	2.24	2.24	2.24

Source: Hunter Water.
The prices are expressed in $2016-16 terms and are the basis of the nominal price projections in the 2015 AIR – Price Data – P.1.3 – Row 37.

[117] IPART, 2009 (a).
[118] Lower Hunter Water Plan (2014), NSW Department of Finance and Services, Sydney, p.7.
[119] Appendix I Short-run marginal cost estimates.
[120] Economic Regulation Authority (2008), Short Run Marginal Cost – Discussion Paper, Perth Western Australia.
[121] Tables in this chapter provide data for one year beyond the proposed price period. This is to meet IPART's requirement to provide data for five years regardless of the proposed price period. The column providing the additional data is shaded.

Water service charges are a fixed annual charge for water service. These service charges serve, in part, to pass on to customers the cost of providing ongoing access to the system.

In keeping with IPART's approach to setting service charges in previous determinations, the service charges are calculated as a 'balancing item' to ensure that water revenue covers the expected building block costs of providing the water service. The size of this balancing item is therefore dependent on the level of usage charges proposed.

As from the 2013 determination, service charges are set in relation to the number of occupied properties. Under this arrangement, the same water service charge applies to each house and strata title home unit and to each flat in a multiple occupancy building under single ownership.

Small non-residential stand-alone properties are charged the same service charge as residential properties. Larger non-residential properties and multi-premise non-residential properties pay service charges according to meter size.

Proposed service charges for residential properties, small stand-alone non-residential properties and service charges for other non-residential properties are shown in Table 9.2.

Table 9.2 Proposed water service prices ($2015-16/year)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential						
Houses	17.89	17.14	30.92	44.82	58.72	63.05
Units and flats	17.89	17.14	30.92	44.82	58.72	63.05
Non residential						
20mm stand alone	17.89	17.14	30.92	44.82	58.72	63.05
20mm	18.69	19.85	35.75	51.74	67.68	72.56
25mm	29.20	31.01	55.86	80.84	105.75	113.38
32mm	47.83	50.81	91.52	132.44	173.26	185.76
40mm	74.74	79.39	143.01	206.94	270.72	290.25
50mm	116.78	124.04	223.45	323.35	423.00	453.52
65mm	197.37	209.64	377.63	546.46	714.87	766.45
80mm	298.95	317.55	572.03	827.77	1,082.88	1,161.01
100mm	467.11	496.18	893.80	1,293.40	1,692.00	1,814.07
150mm	1,050.99	1,116.40	2,011.04	2,910.14	3,807.01	4,081.67
200mm	1,868.43	1,984.72	3,575.18	5,173.59	6,768.02	7,256.30
250mm	2,919.68	3,101.12	5,586.22	8,083.74	10,575.02	11,337.96
300mm	4,204.34	4,465.61	8,044.16	11,640.58	15,228.03	16,326.67
350mm	5,722.57	6,078.20	10,948.99	15,844.12	20,727.05	22,222.41

Source: Hunter Water.
The figures above are expressed in $2015-16 terms and are the basis of the nominal price projections in the 2015 AIR – Price Data – P 1.2 - Rows 17 to 33.

9.5 Location-based usage prices

9.5.1 Background

In the second half of the 1990s, Hunter Water observed the new competition regimes developing in other utility sectors, such as electricity and telecommunications, and the potential for similar competition in the water industry.

Competition in these other sectors led to significant price restructuring, especially for large-volume users, with prices under competition more closely reflecting the actual cost of supply to a specific location or business. In many cases, these prices came about as a result of access arrangements or by utilities responding to the threat of access or competition and offering more cost-reflective pricing under contract. In the other sectors, these new price regimes were increasingly replacing the conventional uniform, or postage-stamp, prices. Hunter Water could see that various competition mechanisms, such as access regimes, could easily be applied to water supply in the Lower Hunter region with similar results.

Hunter Water's usage price is based on LRMC, and that price more than recovers the annual operating costs of the water supply business. In 2013-14, around 68 per cent of the water usage price contributed to the recovery of the capital-related building block costs of depreciation and return on capital. However, a small number of Hunter Water's industrial customers are located close to the water source infrastructure and hence little of the water distribution infrastructure is needed to supply these customers. In this context, it is questionable whether customers that use large volumes of water without extensive use of the distribution system should pay a water usage price, based on the full LRMC, which recovers the capital-related costs for infrastructure that the customers do not use.

The lineal nature of Hunter Water's distribution system, and the fact that its sources are grouped at the northern extreme of this network, mean that the application of location-based prices is both logical and practical. With such a lineal system, the amount of infrastructure used to supply water increases with the distance from the sources. It is, therefore, relatively easy to link distribution infrastructure costs to distance from the source and to structure prices to reflect these infrastructure costs.

Because competitive pricing instruments, like access pricing, are likely to be used only by large-volume users, Hunter Water has designed the location-based water usage charge to apply only to industrial and commercial customers with high water consumption. The location-based prices are applied on a water operational zone basis by calculating a charge for each of Hunter Water's water operational zones. The prices for each zone are derived by adjusting the capital-related costs covered by the usage price (depreciation and return on capital) to reflect the value of the distribution system servicing particular locations. Locations close to the water sources use less of the distribution system and hence should contribute less to the capital-related costs covered by usage prices.

The location tariff, introduced in 2001, only applies to an individual customer's usage in excess of 50,000 kilolitres per year. The intent of this threshold was to maintain equity in charging with smaller industrial customers and residential customers in the same locations. Customers eligible for a location specific usage charge still pay the full postage stamp price for the first 50,000 kilolitres of consumption each year. This is equivalent to the consumption of around 270 households.

9.5.2 The asset basis for the location tariff

The asset basis for the current location tariffs was comprehensively reviewed in 2008 in preparation for the 2009 price submission to IPART.[122] This was the first review of the asset basis since 2000. Given that there is little change in the overall structure of the water distribution network in the short term, it is not considered that a further review is needed at this time and the 2008 asset basis is used for this price submission.

On the basis of the 2008 asset review, the area of operations is divided into 16 water distribution zones. For seven of these zones, the gross margin calculated using postage stamp prices more than recovers the depreciation and return on capital for the distribution assets servicing these zones. The gross margin is the water usage price less the operating costs and thus is the proportion of the usage price that goes to covering the capital-related costs of depreciation and return on capital.

This method ensures that location-based prices are cost-reflective. Each location price reflects the full operation, maintenance and administration costs of supplying a unit of water. However, the unit price at each location only covers depreciation and return on capital of the distribution assets used to service that location, not the average deprecation and return for the entire distribution network.

Using the methodology established in 2000, the water usage gross margin is adjusted to reflect the value of the assets involved in servicing each individual water zone. Where only headworks and minimal distribution assets service the zone, this adjustment means that only a small gross margin is added to operating costs to derive the location tariff.

In keeping with the 2000 price determination, where the location tariff modelling shows that the assets servicing the zone would warrant a higher price than the postage stamp price (such as for the zones at the southern extreme of the lineal network), the usage price for these zones is capped at the postage stamp price.

[122] See Hunter Water Corporation, 2009, section 9.4 for details of this review.

9.5.3 The relevance of location-based prices in 2015

The economic efficiency arguments for the location tariff outlined above are still relevant today, particularly with growing national concern about the apparent slowdown in productivity growth over the last decade.[123]

The National Water Initiative pricing principles recognise that there is a place for location-based prices where the benefits can be achieved without significant costs for determining and implementing more cost-reflective prices. Principle 7 in the national pricing principles states:

> *Water charges should be differentiated by the cost of servicing different customers (for example, on the basis of location and service standards) where there are benefits in doing so and where it can be shown that these benefits outweigh the costs of identifying the differences and equity advantages of alternatives.*[124]

This principle is reinforced by findings of the Productivity Commission's 2011 final report on Australian's urban water sector. The Commission expressed the view that volumetric charges should be set efficiently where there are benefits from doing so. Specifically, its Finding 6.2 stated:

> *Charging a uniform price for water over a large geographic region ('postage stamp' pricing), irrespective of the variation in costs of servicing individual locations within the region, leads to inefficiencies and inequities. There is scope for efficiency gains in moving to location-specific pricing, particularly where cost differences within the 'postage stamp' region are large and easy to quantify.*[125]

As outlined above, the lineal nature of Hunter Water's distribution system and the congregation of a number of major industries close to water sources makes it relatively easy to devise and operate a location-specific tariff system for these customers that does enable differences in infrastructure costs to be taken into account in the usage price.

On the other hand, some stakeholders have argued in successive price reviews that offering the lower location-based usage price to eligible large-volume users erodes the demand management price signal.

Hunter Water is of the view that offering these lower prices to the large-user customer base does not erode the demand management signal. The location-based usage prices are volumetric charges and the customers that can take advantage of them are very large users, so efficient water use is already an important consideration for these businesses in managing their costs. In a number of cases, the water used is a direct input to the final product and so a material reduction in water use by these businesses can only be effected by reducing the output of the businesses' end products.

These views were supported by IPART's analysis in 2013 where it was observed that:

> *…customers will pay the same water usage charge as all other customers for the first 50,000 kL/pa that they use. That is, they get the same price signal as everyone else for what is the equivalent of the consumption of over 250 average houses.*
>
> *For many of these large customers, it is feasible to obtain water from alternative sources such as artesian bores. If Hunter Water were near a capacity constraint, it could be a good thing that large customers pursue these sources and free up water for other customers. This would delay the next augmentation and would be a justification for not having a locational based volume discount.*
>
> *The cost of supplying water services is approximately 84% fixed and only 16% variable. However, over 95% of water revenue is recovered from variable (usage charges). Any decrease in consumption by these large customers when Hunter Water is not facing a capacity constraint would see only a small decline in Hunter Water's costs, but a large fall in its revenue. This gap would need to be recovered from all other customers in the form of higher prices.* [126]

IPART concluded that the retention of the location-based usage charges:

> *…makes sense when a capacity constraint is some way off to keep large customers within the customer base and contributing towards the fixed cost of the network. This minimises the costs to be recovered from residential and the other non-residential customers.*[127]

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[123] There is a range of available information outlining the slow down in labour and multi-factor productivity growth. See for example Parkinson M, 2011 and Productivity Commission, 2014.
[124] National Water Initiative Steering Group on Water Charges, 2010.
[125] Productivity Commission, 2011, Section 6.4, p.166.
[126] IPART, 2013(a), section 10.3.4, p.110-111.
[127] Ibid, p.111.

9.5.4 Proposed location-based usage prices

There are 20 major industrial and commercial customers that use, or are expected to use, more than 50,000 kilolitres per year over the price period in the location price zones out of a total of 28 customers that use, or are expected to use, above the 50,000 kilolitre threshold in the area of operations as a whole.

Thus around seventy per cent the major customer set, defined as those using over 50,000 kilolitres per year, are eligible for a location tariff. From 2015-16 to 2019-20, major customers eligible for location prices are expected to account for around 77 per cent of major customer water use. The reduction in some major customers' usage due to recycling and other efficiency related initiatives is offset by growth in usage over the same period. The proposed location prices for the price period are shown in Table 9.3.

Table 9.3 Proposed location-based usage prices ($2015-16/kL)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Base usage price	2.24	2.24	2.24	2.24	2.24	2.24
Location-based prices						
Dungog	1.68	1.80	1.80	1.81	1.81	1.80
Kurri Kurri	2.22	2.21	2.21	2.21	2.21	2.21
Lookout	2.05	2.08	2.08	2.08	2.08	2.08
Newcastle	2.00	2.04	2.04	2.04	2.04	2.04
Seaham-Hexham	1.73	1.85	1.85	1.86	1.85	1.85
South Wallsend	2.09	2.12	2.12	2.12	2.12	2.12
Tomago-Kooragang	1.68	1.80	1.80	1.81	1.81	1.80
All other areas	2.24	2.24	2.24	2.24	2.24	2.24

Source: Hunter Water.
The figures are expressed in $2015-16 terms. The base usage price is the basis of the nominal price projections for the maximum price in the 2015 AIR – Price Data – P1.3 Row 57.

9.6 Water prices for unmetered properties

Hunter Water has a small number of unmetered properties. Most of these are in long-established city locations where access to customers' connections for metering is restricted because of the structural configurations of older buildings.

In 2012 Hunter Water proposed that the water charge for unmetered properties should comprise a service charge plus a deemed water usage component. For consistency with the Sydney Water price, Hunter Water proposed that the deemed annual usage component be 180 kilolitres. This approach was accepted by IPART in the 2013 determination and is the basis of the proposed charges shown in Table 9.4.

Table 9.4 Proposed unmetered property water charge ($2015-16/year)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Proposed charge	421.22	420.34	434.12	448.02	461.92	466.25

Source: Hunter Water.
The figures above are expressed in $2015-16 terms and are the basis of the nominal price projections in the 2015 AIR – Price Data – Row 81.

9.7 Prices for unfiltered water – Upper Chichester Dam pipeline

In 2000, IPART introduced a discounted price for the supply of (untreated) raw water for customers serviced by the upper Chichester Dam pipeline who do not receive filtered water from the Dungog treatment plant.

Approximately 60 customers are served by the pipeline upstream of the Dungog water treatment plant. The water supplied to these customers is disinfected but not filtered. This water can vary in quality (particularly turbidity levels) after heavy rain and runoff into Chichester Dam.

The customers connected to the upper Chichester pipeline are effectively buying a different product from that supplied to Hunter Water's other water supply customers. These customers are outside the standard operating licence and customer contract provisions and generally have non-standard water service agreements that contain qualifying clauses regarding water quality.

IPART's decision in 2013 was to set the unfiltered water charge equal to the standard water usage charge less the avoided costs of filtration.

Hunter Water has estimated the cost of filtration from the latest cost information available and adjusted the standard water usage charge accordingly. The proposed unfiltered water prices for each year of the price period are shown in Table 9.5.

Table 9.5 Unfiltered water price ($2015-16/kL)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Price per kL	1.87	1.91	2.05	2.05	2.05	2.05

Source: Hunter Water.
The figures above are expressed in $2015-16 terms and are the basis of the nominal price projections in the 2015 AIR – Price Data Row 68.

9.8 Prices for supply to the Central Coast region

9.8.1 Inter-regional sales on request

In 2013, IPART decided to:

> *…set the interchange price at around the short-run marginal cost of* [the] *transfers.*[128]

This was a departure from the average cost pricing approach of the 2009 determination. The 2013 determination set a single usage price at the higher of the two utilities' short-run marginal cost of water supply, thus ensuring that the interchange price covers both Hunter Water's and the Central Coast Council's marginal costs. The interchange price was based on the Councils' short-run marginal cost being the higher of the two entities. The rate was set at $0.62 per kilolitre ($2013-14) and held constant in real terms for the duration of the determination period.

IPART noted in the 2013 report accompanying its determination that:

> *An advantage of setting the price at the short run marginal cost is that it encourages a regional approach to water resource management and encourages the use of existing infrastructure.*[129]

Hunter Water's proposal for the interchange price of $0.65 per kilolitre for Gosford City Council and Wyong Shire Council is shown in Table 9.6. These prices reflect a rolling forward of the 2013 determination value indexed to $2015-16 terms. This is justified as the charge is based on the Central Coast Councils' short-run marginal cost, which will be reviewed in 2016.

Table 9.6 Proposed Central Coast interchange price ($2015-16)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Proposed price per kL	0.65	0.65	0.65	0.65	0.65	0.65

Source: Hunter Water.

9.8.2 Inter-regional transfers for banking

Hunter Water's 2012 submission noted the potential for water from Hunter Water's system to be held in reserve stored in the Central Coast storages. This capability has been enhanced by completion of the Mardi Dam to Mangrove Creek Dam transfer pipeline. The Lower Hunter Water Plan published in January 2014 reconfirmed the benefits of regional water sharing as one option to manage water shortages. The banking arrangements would enable Hunter Water to transfer additional flows to the Central Coast for a storage credit during normal operations and then draw on this credit during drought conditions.

The 2012 submission also noted:

- that any water banking arrangement would require a separate agreement to the current supply arrangement covering the 'on request' inter-regional transfers for which IPART sets a price.
- the cost basis for the interchange price to be inappropriate for water banking because different operating costs would be incurred for deposits and withdrawals compared with outright sales and there would be different usage patterns (regular planned deposits, irregular withdrawals).

[128] IPART, 2013(a), p.43.
[129] Ibid, p.125.

In its 2013 determination IPART decided not to determine a maximum price for any future water banking arrangement that might arise from the implementation of the Lower Hunter Water Plan, noting that this would allow Hunter Water and the Central Coast Councils to set a commercially negotiated price for these transfers instead.

As a high-level principle, IPART also noted that water banking should not impose any additional costs on Central Coast customers. Therefore, the price for water banking should have regard to the costs of advancing any future supply augmentation measures in the Central Coast as a result of water banked by Hunter Water.

Further, IPART's involvement in the setting of prices, should the parties be unable to agree upon a commercially negotiated price for water banking arrangements, was also noted. Hunter Water endorses this approach.

9.9 Recycled water

Hunter Water provides recycled water services under a wide range of conditions and circumstances. At this time, supply of recycled water is a small but growing component of Hunter Water's core services.

In 2006, IPART initiated a review of the charging mechanisms for recycled water by Sydney Water, Hunter Water, Wyong Shire Council and Gosford City Council. Until that time, IPART had chosen not to regulate recycled water pricing and pricing arrangements had been left to the individual agencies.

IPART's framework for the recovery of costs associated with recycled water projects is provided in its 2006 Report on Pricing Arrangements for Recycled Water and Sewer Mining.[130]

The 2006 IPART report divides recycled water projects into two categories, distinguishing between mandatory and voluntary schemes on the basis of customer choice and relative market power. This division has implications for allowable pricing structures and the form and extent of regulatory oversight.

- 'Mandatory' schemes are those where customers are compelled to connect to recycled water sources. The pricing framework for mandated schemes consists of guidelines for establishing total recoverable costs and the different price structures available for recovering the costs. For Hunter Water, IPART made a formal price determination only for the calculation of developer charges for these schemes. However, it issued guidelines for calculating periodic prices.[131]
- 'Voluntary' schemes are those where customers choose to connect to recycled water at their own discretion when they have alternative sources – e.g. industrial users with access to drinking water or rural irrigators who have access to groundwater or other surface supplies – or where the customers have significant bargaining power. The pricing framework for voluntary schemes consists of a set of high-level principles for cost recovery to guide negotiations between water agencies and customers. IPART noted it would not have a regulatory role in pricing arrangements for these customers.[132]

Hunter Water considers that it complies with IPART's methodology for calculating recycled water developer charges for its residential recycling schemes, such as Thornton North (also known as Chisholm) and Gillieston Heights. Hunter Water is also applying IPART's guidelines for recovering the costs of recycled water in setting periodic (service and usage) charges for residential recycling schemes.

9.9.1 Mandatory schemes

IPART's guidelines require the costs of mandated schemes be recovered through a combination of developer charges and periodic charges.[133] This section deals with the periodic charges. IPART's guidelines[134] require water agencies to set periodic prices such that:

- There must be a usage charge and may be a service charge.
- Usage prices are set at a level that helps to balance supply and demand and discourages inefficient resource use.
- The recycled water usage price does not exceed the drinking water usage price. Hunter Water's current (2015-16) drinking water usage charge is $2.24 per kilolitre.
- The usage prices of recycled water and drinking water must be linked if the amount of drinking water top-up needed to balance supply and demand is more than 10 per cent. Recycled water infrastructure design needs to balance the usage expected from customers with the funds required to size assets to meet the demands.

[130] IPART, 2006.
[131] IPART, 2006, p.3.
[132] IPART, 2006, p.4.
[133] IPART, 2006.
[134] IPART 2006, p.58.

It is typical practice for water utilities to meet maximum demands on hot summer days by providing drinking water 'top-up' into the recycled water system rather than spending on additional recycled water capacity that is rarely used. Hunter Water's schemes are designed to need less than 10 per cent top-up, so this price setting rule will not apply.

In addition to complying with IPART's guidelines, Hunter Water has also decided to apply the following principles:

- Each dual reticulation scheme will have its own service and usage prices in order to minimise cross-subsidies (i.e. Hunter Water will not necessarily aim to apply postage stamp pricing to all recycled water schemes).
- Service charges will be set at a level that recovers operational and administrative costs that are relatively constant per dwelling such as customer service (e.g. meter reading), call centre contacts, customer information and ongoing controls to minimise cross-connections.
- Usage prices will be set by using a fairness test such that customers are not disadvantaged by living in a dual reticulation area. The fairness test will set the usage charge such that an average customer in a dual reticulation area using both recycled and drinking water has the same total water bill as customers with the same total usage of drinking water only. This test is based on 40 per cent of the total use being recycled water and 60 per cent being drinking water, which is consistent with the intended uses of recycled water (e.g. outdoors and toilet flushing).
- During any interim period between construction of properties with dual reticulation and commissioning of the recycled water plant, recycled water usage charges will apply even though drinking water will be supplied through the recycled water system. This is intended to encourage appropriate behaviour and safeguard against inappropriate use from taps that will eventually provide recycled water.

Proposed recycled water usage and service charges for Gillieston Heights and Chisholm are shown in Table 9.7. These prices are calculated to maintain the relativity between the cost to customers of filtered water and recycled water, subject to the fairness test outlined above.

Table 9.7 Proposed recycled service and usage water charges ($2015-16)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Service charge 20mm base $/year	21.81	22.20	22.20	22.20	22.20	22.20
Usage charge $/kL	1.94	1.94	1.94	1.94	1.94	1.94

Source: Hunter Water.
The figures above are expressed in $2015-16 terms and are the basis of the nominal price projections in the 2015 AIR.

9.9.2 Voluntary schemes

Under IPART's recycled water pricing framework industrial, agricultural and municipal irrigation schemes would be considered 'voluntary' because alternative water sources are generally available giving discretionary customers sufficient negotiating power.

Hunter Water has negotiated price arrangements for a number of voluntary schemes. The price modelling follows the Tribunal's high-level principles provided in the report accompanying IPART's 2006 recycled water determination. Pricing structures may vary with access conditions and quality and quantity of recycled water, resulting in negotiated individual agreements on mutually acceptable terms.

10 SEWER PRICING

Main points

- *Residential customers currently pay a fixed service charge only for sewerage services. Non-residential customers pay a fixed service charge and a small usage charge.*
- *Hunter Water proposes a decrease in the sewer service charge for a house from $598.13 in 2016-17 to $549.07 in 2019-20, a decrease of $12 per year ($2015-16).*
- *Home units and flats will pay a service charge equal to 75 per cent of the service charge applying to a house in 2016-17 transitioning to 100 per cent by 2019-20.*
- *The sewer service charge for a strata unit will increase in real terms from $433.64 in 2016-17 to $549.07 in 2019-20 an increase of $29 per year.*
- *The phasing in of a standardised residential sewer service charge provides better cost reflectivity, manages bill impacts and brings Hunter Water into alignment with the other metropolitan water utilities.*
- *Small non-residential customers will continue to pay a service charge equal to that of a house.*
- *Other non-residential properties will continue to pay service charges according to water meter size.*
- *All non-residential customers will continue to pay sewer usage charges. The current usage charge will remain unchanged in nominal terms.*
- *No change is proposed to the existing levy paid by Clarence Town residents. It will be held constant in real terms at $78.86 per year ($2015-16) until the sunset date of 30 June 2019.*
- *Hunter Water proposes to continue funding backlog sewer facilities under the Priority Sewerage Program via the environmental improvement charge.*

10.1 Current price structure and prices

For most of the period since the introduction of pay-for-use pricing in 1982, Hunter Water structured sewer charges as a two-part periodic price (in a similar way to water) comprising a usage charge and a service charge for all customer types. As for water tariffs, service charges for sewerage services are currently set in relation to water meter size.

IPART's 2009 price determination removed the residential sewer usage charge so that from then on residential customers paid a fixed sewer service charge only.

In March 2012, IPART completed a review of the price structures for water and sewerage services for the four metropolitan water utilities and developed a set of common pricing principles applicable.[135] The main elements of IPART's reform of the sewer tariff structures were:

- the residential sewer service charge became a standard annual charge for all residential dwellings unless there is evidence that there are material differences in the costs of servicing different residential types
- the total sewer revenue collected from non-residential customers is to reflect the costs incurred in servicing those customers, and
- the non-residential sewer usage charge is to be a standard variable charge for all non-residential customers set with reference to, but not necessarily equal to, the utility's short-run marginal cost of transporting, treating and disposing of domestic–strength effluent.

[135] IPART, 2012 (c), Box 1.1.

Hunter Water's 2012 submission proposed sewer prices according to IPART's principles and broadly following the revenue hypothecation approach.[136] However, Hunter Water's proposals also maintained some additional pricing arrangements that were well accepted by the Hunter community. These included:

- A lower service charge for residential home units and flats, to take account of inflexibility in fixed service charges to reflect demand and occupancy levels. As required by IPART, the submission provided evidence that there was a material difference in the cost of servicing these customers.
- Specific levies to fund the provision of backlog sewer services under the NSW Government's Priority Sewerage Program and Country Towns Water Supply and Sewer Program.

For non-residential customers, sewer discharge factors are applied to both sewer service and sewer usage charges, so that users with a higher discharge, and therefore a larger relative impost on the sewerage system, pay a higher contribution towards costs.

The current service and usage charges are shown in more detail in Table 2.1 earlier in this submission. In 2015-16, the fixed residential sewer service charge and environmental levy together are estimated to make up 60 per cent the combined water and sewer bill of a typical residential customer.[137]

10.2 Proposed sewer usage prices and service charges

10.2.1 Sewer usage price for non-residential customers

IPART's current pricing principles retain sewer usage charges for all non-residential customers but only at levels set with reference to the short-run marginal cost of transporting, treating and disposing of domestic-strength effluent.

As part of its 2012 review of price structures, IPART estimated the short-run marginal cost (SRMC) to be in the range $0.20 to $0.30 per kilolitre.[138] IPART also reported that sewer usage prices across the four regulated utilities ranged from a high of $1.49 per kilolitre to a low of $0.65 per kilolitre in 2011-12 – the lowest, and closest to the SRMC, being Hunter Water's current usage charge of $0.67 (see Table 10.1).

Hunter Water's current estimate of the sewer SRMC is presented in Appendix J.

Hunter Water proposes to retain the sewer usage charge for all non-residential customers only for the 2016-17 to 2019-20 price period at the current charge of $0.67 per kilolitre in nominal terms. Over the proposed four-year price period, this approach will see the usage charge fall in real terms. This ensures the price in real terms does not move counter to IPART's intent of moving towards SRMC and provides a degree of sewer price stability to the non-residential customer base.

While this price is higher than IPART's target SRMC of around $0.30, it is significantly lower than the usage prices determined for Sydney Water in 2012. IPART has determined that Sydney Water's usage price will reduce progressively through time but will still be $1.10 per kilolitre in nominal terms in 2015-16.

Hunter Water proposes that the sewer usage price be held in nominal terms and reviewed again prior to the following price period, taking account of the relativity of usage charges across the four regulated utilities.[139] The sewer usage charge will be applied to all non-residential customers including those with 20mm stand-alone meters.

In 2013, IPART decided to phase-in a free sewerage discharge allowance. This was set at zero in 2013-14, 25 kilolitres per year for 2014-15, 50 kilolitres per year for 2015-16 and 75 kilolitres per year for 2016-17. A sewerage discharge allowance is a 'free' level of sewerage discharge that is allowed before a volumetric charge is levied. The customer pays a volumetric charge where the sewerage discharge exceeds the allowance. The rationale for this is that the average discharge volume from residential properties is about 150 kilolitres per year and this is embodied in their service charge. Therefore, the service charge for non-residential properties should embody a similar amount.

Hunter Water proposes that the free sewerage discharge allowance should continue to transition over the price path to 150 kilolitres per year. This will maintain the staged approach set in IPART's 2013 determination and align Hunter Water with the other metropolitan water utilities (see Table 10.1).

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[136] IPART, 2012 (c) Report on price structures, Figure 7.2.
[137] The environmental levy is paid by all sewer customers other than by pensioners eligible for government rebates on water and sewer charges.
[138] IPART 2012 (b), section 6
[139] Tables in this chapter provide data for one year beyond the proposed price period. This is to meet IPART's requirement to provide data for five years regardless of the proposed price period. The column providing the additional data is shaded.

Table 10.1 Proposed sewer usage prices and free allowance threshold

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Non-residential ($/kL, nominal) [a]	0.67	0.67	0.67	0.67	0.67	0.67
$2015-16/kL [b]	0.67	0.65	0.64	0.62	0.61	0.59
Free discharge allowance (kL/yr)	50	75	100	125	150	150

Source: Hunter Water.

a) These figures reconcile with the nominal projections provided in the 2015 AIR – Price Data – row 123.

b) The volume to which the sewer usage charge is applied is calculated as the product of metered water consumption X a discharge factor. Different discharge factors apply to individual customers, depending on the nature of their business.

10.2.2 Sewer service prices

As part of the 2013 determination, IPART changed the way service charges were set. Prior to 2013 service charges were set in relation to meter size. IPART's 2012 report on price structures supported changing the basis for residential service charges to a per-occupied-property basis. Under this arrangement, the same sewer service charge would apply to each house and strata-title home unit and to each flat in a multiple-occupancy building under single ownership.

At that time, Hunter Water considered that it was not appropriate to have the same residential service charges for houses, home units and flats and had argued this position on both equity and cost-reflective grounds consistently throughout IPART's review of price structures.[140]

Hunter Water proposed that the sewer service charge for home units and flats should be set at 75 per cent of that applying to stand-alone houses. This argument was supported by historic evidence about the cost differences for servicing different types of residential premises.

In the 2013 determination, IPART accepted that there was sufficient evidence to support the argument that the cost of servicing units and houses varied significantly, and that the level should be increased from 65 to 75 per cent by 2016-17.

In preparing this submission, Hunter Water has reviewed the basis for calculating the cost differential between property types. This review revealed less of a case for the cost difference and hence Hunter Water is proposing that sewer service charge for units and houses should be equalised by the end of the proposed price path period (2019-20). It is worth noting that two thirds of the customers responding to the 2012 customer engagement survey agreed that houses, flats and units should pay a similar sewer service charge.

In line with IPART's current methodology, small non-residential stand-alone properties will be charged the same service charge as residential properties. Larger non-residential properties and multi-premise non-residential properties will continue to pay service charges according to meter size. A discharge factor will continue to be applied to service charges determined according to meter size.

Proposed sewer service charges for residential properties, small stand-alone non-residential properties and other non-residential properties are shown in Table 10.2.

Discharge factors apply to all non-residential properties charged according to meter size. During 2014, IPART conducted a review of discharge factors for non-residential customers. [141] IPART decided to maintain the current practice whereby discharge factors are set by the regulated water utilities. IPART considered it good practice for utilities to provide information on the steps involved in reviewing discharge factors for individual customers. Further information on discharge factors for non-residential customers is available on Hunter Water's web site. [142]

[140] Hunter Water Corporation, 2011, section 2.4.
[141] IPART, 2014 (e).
[142] More information about discharge factors can be found on Hunter Water's website. http://www.hunterwater.com.au/Your-Account/Managing-Your-Account/Non-residential-Pricing--Charges/Sewer-Charges.aspx.

Table 10.2 Proposed sewer service charges ($2015-16)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential						
Houses	598.13	589.22	575.51	562.08	549.07	569.22
Units and flats (apartments)	433.64	441.91	479.59	515.24	549.07	569.22
Non residential						
20mm stand alone	598.13	589.22	575.51	562.08	549.07	569.22
20mm [a]	1,188.62	1,226.64	1,221.55	1,220.11	1,213.63	1,272.07
25mm	1,857.22	1,916.63	1,908.67	1,906.42	1,896.30	1,987.61
32mm	3,042.88	3,140.20	3,127.16	3,123.49	3,106.90	3,256.49
40mm	4,754.49	4,906.57	4,886.19	4,880.45	4,854.52	5,088.27
50mm	7,428.89	7,666.52	7,634.68	7,625.70	7,585.19	7,950.43
65mm	12,554.82	12,956.41	12,902.60	12,887.43	12,818.98	13,436.22
80mm	19,017.95	19,626.28	19,544.77	19,521.79	19,418.10	20,353.09
100mm	29,715.55	30,666.06	30,538.71	30,502.79	30,340.77	31,801.70
150mm	66,860.00	68,998.64	68,712.09	68,631.28	68,266.74	71,553.83
200mm	118,862.21	122,664.24	122,154.84	122,011.17	121,363.10	127,206.81
250mm	185,722.21	191,662.88	190,866.93	190,642.45	189,629.84	198,760.64
300mm	267,439.98	275,994.55	274,848.38	274,525.13	273,066.97	286,215.32
350mm	364,015.53	375,659.25	374,099.18	373,659.20	371,674.49	389,570.85

Source: Hunter Water.

a) Discharge factors apply to all non-residential properties other than 20mm stand-alone properties. 20mm stand-alone properties pay the residential service charge.

b) The figures above are expressed in $2015-16 terms and are the basis of the nominal price projections in the 2015 AIR – Price Data – P 4.1 - Rows 101 to 115.

10.3 Cost of service considerations

In November 2014, IPART published an issues paper that focused on the allocation of efficient costs of a utility between its customers.[143] Specifically, IPART assessed the most appropriate and cost reflective way in which to allocate residual fixed costs between groups of customers for the purpose of determining water and sewer service charges. The reader is directed to this paper for further background and discussion. Currently, Hunter Water uses the hypothecation method proposed by IPART in its 2012 review of price structures whereby the residual revenue is split between customer groups based on historical revenue splits.[144]

In addition to the current method, IPART identified three other options, including an approach that allocated costs based on the number of 'deemed' 20mm connections for all residential customers. IPART considered that this approach, known as 'Option 2', offered a number of advantages:

- Provides a reasonable proxy for the customer's share of the maximum network capacity and potential peak load on the system.
- Simple to understand.
- Based on readily available information.
- Consistent with IPART price structure principles.

[143] IPART, 2014 (f).
[144] Historical residential services charges in the case of water and historical residential charges in the case of sewerage services.

Hunter Water recognises the merits of the 'Option 2' approach and has undertaken preliminary modelling of the likely customer impacts. Hunter Water's findings are similar to the impacts identified by IPART in that the change to 20mm deemed connections as a basis of the residual revenue split would lead to an increase in residential charges.[145] IPART found that the residential customer's share of the residual revenue would increase from 84 per cent to 88 per cent.

In light of the service charge impacts on flats and units from the proposed transition to a common residential service charge, Hunter Water has decided not to depart from the current method of splitting the residual revenue requirement. The adoption of 'Option 2' would add an additional impost on the flats and units beyond that which Hunter Water considers reasonable. The transition to the common residential service charge will see flats and units sewer service charge increase in real terms from $433.64 per year to $549.07 in 2019-20. This is an increase of 6.7 per cent per year in real terms, or 27 per cent over the four-year period.

Hunter Water proposes to consider the merits of this reform further when the transition to a common residential sewer service charge is complete.

10.4 Backlog sewerage levies

Hunter Water has provided sewer services to backlog areas under two NSW Government funding programs – the Priority Sewerage Program (PSP) and the Country Towns Water Supply and Sewerage Program (CTWSSP). The PSP provides sewer services to currently un-sewered townships in the operation areas of Sydney Water, Hunter Water, Gosford City Council and Wyong Shire Council. Townships eligible for the backlog sewer program are prioritised according to potential environmental and health issues and selected for funding following a comprehensive assessment by health and environmental protection agencies in consultation with water utilities.

In the Hunter, the PSP has been funded through a combination of NSW Government funds (via community service obligation payments to the utilities) and a levy paid by the broader customer base. This funding structure sends an important message that local communities must bear at least some financial responsibility for service improvement and environmental initiatives.

Backlog sewer programs, partly funded by a specific levy on all sewer customers, have been in place in the Hunter since 1989. The initial levy was part of an earlier backlog program, the Hunter Sewerage Project (HSP), which provided sewerage to more than 20,000 properties between 1989 and 2002. The levy, known as the environmental improvement charge (EIC), was part of the funding package for these works and was to remain in place for 20 years until 30 June 2009. This commitment was honoured by Hunter Water, which recommended to IPART that the EIC should not include any HSP contribution from 1 July 2009. The current charge and the proposed extension of the charge is presented in section 10.4.1.

The CTWSSP is also a NSW Government scheme that provides funding assistance for backlog services provided by local government water utilities. Backlog programs in Hunter Water's area of operations would not normally be eligible for funding under this scheme. However, Dungog Shire Council had approved funding under the CTWSSP to provide sewer services to Clarence Town at the time that the council's water and sewer services were transferred to Hunter Water in 2008. As part of that transfer, the Government agreed to also transfer the backlog funding under the CTWSSP.

10.4.1 Environmental improvement charge

In 2003, the NSW Government announced that it would extend the PSP project to provide sewer services to the townships of Kitchener, Millfield, Ellalong and Lochinvar. This followed an earlier decision to provide funding for sewer services to Fern Bay. Because Fern Bay was announced early in the PSP program, additional levy funding for Fern Bay was provided through the HSP EIC levy and included in IPART's determination of the levy in 2003.

In agreeing to the extension of the PSP to cover the additional areas, the NSW Government decided that the program should be funded, in part, by an extension of the EIC for a further 10 years from 1 July 2009 to 30 June 2019 at a rate equivalent to $24 per property per year in July 2003 terms.

In May 2008, Hunter Water sought Government approval for its proposed pricing and funding arrangements for water and sewer services in Dungog Shire following the transfer of Dungog Shire Council's water and sewer business to Hunter Water. The package of funding arrangements agreed by the Government included the Clarence Town sewerage charge discussed above and a further addition of $4 per property per annum ($2007-08) to the PSP levy to assist in funding the Clarence Town sewerage scheme.

[145] IPART (ibid) Table 4.3 p.20.

IPART agreed to these proposals in its 2009 price determination. As outlined above, the component of the EIC directed to recovering the costs of the Hunter Sewerage Project was discontinued from 1 July 2009 and the EIC was restructured to recover only the costs of the PSP plus a small contribution to the cost of the Clarence Town sewerage scheme. As a result, the EIC was reduced from $54.84 per property per year in 2008-09 to $33.23 per year in 2009-10.

Hunter Water's 2012 submission argued that as there had been no changes to the PSP program since the 2009 price determination there was no need to alter the current PSP levy. Hunter Water therefore proposed that the 2012-13 EIC of $35.89 be maintained in real terms over the coming price period with a sunset at June 2019. This proposal was accepted by IPART.[146]

Despite the success of the previous programs to provide reticulated sewer services to properties in outlying areas over the years, a number of settlements in Hunter Water's area of operations remain unsewered. In 2014, Hunter Water reviewed the costs of providing reticulated sewer services to backlog areas. This was supported with advice from the Environment Protection Authority, NSW Health and local councils. The township of Wyee was ranked the highest priority area.

Wyee is a village of approximately 1,500 residents living in 400, mainly detached, dwellings located south west of Lake Macquarie. Lake Macquarie City Council has advised that the absence of reticulated sewer is a major constraint to growth for Wyee. The area has been earmarked by local, state and federal governments as suitable for a substantial increase in housing including affordable housing. Existing properties are serviced by a mix of pump-out and on-site sewer systems that are expensive to maintain and have related social and health issues. These have a potential impact on the environment from odour and discharges. Wyee also has a small commercial centre providing day-to-day goods and services. The lack of local sewer infrastructure in Wyee has been a significant issue for Lake Macquarie City Council and the Wyee community for many years.

The estimated costs for the Wyee scheme are $23.75 million ($2014-15). The funding arrangements announced included a Government contribution of $2.4 million and an extension of the existing EIC. Hunter Water therefore proposes a three year continuation of the EIC at the current rate. This would see the sunset of the charge on 30 June 2022 instead of the current end date of 30 June 2019. The charge during this period would be held constant at $38.67 charge ($2015-16) in real terms. Copies of the NSW Government announcements are provided in Appendix K.

Maintaining the EIC as a separate charge for the PSP separates the costs of providing backlog sewerage services from the costs of the general operation, upgrade and extension of the sewerage infrastructure. It provides the community with a transparent separation of the costs associated with the existing sewerage system and the costs of providing sewerage services to backlog areas. The separation of the charges also forms part of the assistance arrangements for pensioner concession card holders, for whom the payment of the EIC is waived. This arrangement is outlined further in Chapter 12.

10.4.2 Clarence Town sewer charge

The water and sewer business of Dungog Shire Council was transferred to Hunter Water on 1 July 2008. Hunter Water's 2009 pricing submission to IPART provided detailed background information about reasons for this transfer and the community consultation and due diligence processes undertaken.[147] IPART subsequently approved the proposed pricing model.

In its 2012 submission, Hunter Water provided details of the cost of the scheme and funding sources following the completion of the scheme. The assessment indicated that the contributions to the cost of the scheme via the EIC and the Clarence Town levy were on track to recover the outstanding capital by 30 June 2019, as originally planned but with a small surplus. Given that almost all costs were paid and all the subsidy funding was received at the time of 2012 submission to IPART, Hunter Water proposed to reduce the Clarence Town levy for the period remaining to June 2019 so as to acquit this projected surplus.

Accordingly, Hunter Water proposed that the annual levy be reduced from $116.02 in 2012-13 to $73.20 ($2012-13) for the remaining period to June 2019. This proposal was accepted in the IPART 2013 determination.

In line with this approach, and given there have been no further material capital investments in the scheme, Hunter Water proposes that the levy be maintained in real terms and be set at $78.86 ($2015-16) until June 2019.

[146] IPART, 2013(a), Decision 28, p.121.
[147] Hunter Water Corporation, 2009. See sections 4.2, 9.7, 10.6 and 10.7.

10.5 Major service connection charge

New service connections arise due to either a new development connecting for the first time or existing developed properties seeking connection of services. Hunter Water assesses applications for the provision of water and/or wastewater services in accordance with the *Hunter Water Act 1991*[148] and its 2012-2017 operating licence[149]. The operating licence states:[150]

> *Subject to Hunter Water continuing to comply with any applicable law, Hunter Water must ensure that the Services are available on request for connection to any Property situated in the Area of Operations.*
>
> *Connection to the Services is subject to any conditions Hunter Water may lawfully impose to ensure the safe, reliable and financially viable supply of the Services to Properties in the Area of Operations in accordance with this Licence.*

The financial viability requirement is enacted in various ways depending on the type of service requested and, in some cases, the type of customer. For example, specific cost recovery arrangements exist for backlog sewerage schemes and different types of recycled water schemes.[151] This section of Hunter Water's price submission exclusively relates to funding arrangements for new connections of existing developed properties to wastewater services (except backlog sewerage schemes).

From 1996 to 2008 customers were required to make an upfront contribution to the costs of service provision in the form of developer charges regardless of the driver for connection.[152] IPART determinations prescribed a methodology that water agencies were obliged to apply when calculating the level of developer charges payable.

In December 2008 the NSW Government directed Hunter Water to cease levying water, wastewater and stormwater developer charges under Section 18(2) of the *IPART Act 1992* in order to stimulate the housing industry and improve housing affordability.[153] The direction applied to connection of new developments servicing a growing population.

In Hunter Water's area of operations there are a small number of existing properties located in areas with wastewater services that are not connected to Hunter Water's wastewater system. The properties may already be connected to water services. These already-developed properties are typically non-residential and have their own onsite wastewater treatment facilities along with environment protection licences for the discharge of treated effluent. Requests from existing developed properties to connect to Hunter Water's wastewater services are infrequent, averaging around six requests per year, but may involve relatively high sewer loads depending on the property type. Hunter Water considers that the 2008 Government directive to cease levying developer charges does not apply in such circumstances.

Hunter Water considers it appropriate for existing non-residential properties seeking a new connection to the wastewater system to contribute to the financial viability of service provision. It notes that IPART has previously expressed a view that:[154]

> *…water and sewerage customers* [should not] *be forced to subsidise a service they do not benefit from….without government direction….*

The IPART statement infers that a separate upfront charge should apply to major service connections rather than existing Hunter Water customers cross-subsiding the costs through periodic prices.

Pricing principles for a major service connection charge would align with those followed by IPART in the setting of other prices, namely economic efficiency, revenue adequacy (cost recovery), transparency, equitable sharing of costs and administrative simplicity.

Hunter Water proposes setting of a methodology to calculate prices rather than direct price-setting due to the infrequency of this type of connection request and therefore the difficulty in predicting the number and location of applications.[155]

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[148] Division 7 New developments.
[149] Section 1.6 Connection of services.
[150] NSW Government, 2012, sections 1.6.1 and 1.6.2. Capitalised terms have specific definitions.
[151] See section 9.9 for a discussion of funding arrangements for recycled water services and section 10.4 for backlog sewerage services.
[152] IPART's first determination on this matter for Hunter Water was in 1996, which was subsequently replaced in 2000. See IPART, 1996 and IPART, 2000 for further information.
[153] NSW Department of Planning, 2008.
[154] IPART, 2012 (f), p. 152.
[155] An estimate of the revenue derived is provided in Annual Information Return, Financials – Regulated, Table 6.1 Regulated Business Profit and Loss Account, Contributions for capital works (cash) – from developers (excl free assets) (row 46).

Hunter Water proposes a methodology based on IPART's 2000 developer charges determination with amendments for current circumstances, so that the charges achieve:

- Clarity for customers in the practical implementation of the methodology - IPART's 2008 draft developer charges determination and report represented significant progress in updating the 2000 developer charges methodology to reflect changes in the water industry and to be simpler and clearer for customers to understand.[156] It sought to resolve definitional and operational questions for utilities, which would increase customer confidence in the robustness of calculations. It would be appropriate to revisit IPART's draft decisions and harvest these improvements as applicable to existing development.
- Administrative efficiency – Calculations of developer charges must be provided in development servicing plans (DSPs). There could be up to 40 wastewater DSPs (depending on the manner in which boundaries are established), each of which is subject to 5-yearly review and exhibition. An alternative approach would be to only update charges for areas where there have been recent major service connection enquires. Most recent enquiries have been from two DSP areas.
- Flexibility to deal with different circumstances – There are several circumstances in which flexibility may be warranted. The practice of levying preliminary charges would enable customers to connect without delay in circumstances where a DSP does not exist or is under review.[157] Flexibility to address different customer types may also be appropriate. For example, there are similarities between major service connections and voluntary recycled water schemes. In both cases customers choose to connect to Hunter Water's services at their own discretion, customers have a substitute available to them (onsite self-managed wastewater treatment) and customers are generally large and non-residential with significant negotiating power. IPART took these characteristics into account in its pricing framework for voluntary recycled water schemes, deciding to set of high-level principles to guide negotiations between water agencies and customers.[158] Hunter Water is amenable to a similar approach for major service connection charges.

Hunter Water welcomes further discussion with IPART and other stakeholders on the merits of a methodology similar to developer charges for the setting of major service connection charges. Customer impact analysis is not possible at this stage because it is difficult to define a typical customer and charge levels may vary based on a broad range of factors, such as technical details related to the implementation of a methodology.

[156] The review was suspended in 2008.
[157] IPART's draft decision was to allow this practice, subject to certain safeguards for customers. See IPART, 2008, p. 69 and 70 for further information.
[158] See discussion on mandated and voluntary recycled water schemes in IPART, 2006, p. 1-4.

11 STORMWATER PRICING

Main points

- *Stormwater management in Hunter Water's area of operations is primarily the responsibility of local councils. Hunter Water, however, owns and operates major trunk channels in the Newcastle, Lake Macquarie and Cessnock local government areas.*
- *Hunter Water's role is to maintain the current capacity of the major concrete channels and culverts in these areas.*
- *Hunter Water only applies stormwater drainage charges to customers whose properties are in areas serviced by its stormwater channels.*
- *Hunter Water proposes to retain the current charging structure.*
- *Hunter Water's proposals will see stormwater prices for houses rise in real terms by 6 per cent by 2019-20, while units will increase by 4 per cent in real terms over the same period.*
- *Bills for non-residential customers will increase by 6 per cent in real terms by 2019-20.*

11.1 Current price structure

Stormwater is rainwater that runs off buildings and land. In the natural environment, a large proportion of this water soaks into the ground or flows into waterways. In the cities, the proportion of stormwater run-off is higher 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.

There is no single agency responsible for stormwater management within Hunter Water's area of operations. While stormwater drainage is primarily managed by local councils, Hunter Water owns and maintains some of the larger trunk stormwater drains in the Newcastle, Lake Macquarie and Cessnock local government areas.

Hunter Water has responsibility only for the major concrete channels and culverts through many of these catchments and its role is to maintain the current capacity of these stormwater drains. Councils are responsible for the management of street drainage and any 'natural' creeks upstream and downstream of the concrete channels. NSW Roads and Maritime Services is involved in drainage from major roads and highways.

Hunter Water only collects stormwater drainage charges from customers whose properties are in the areas where it owns major stormwater channels and related structures such as detention basins. These charges enable Hunter Water to maintain and refurbish these drains and structures as required.

Around one quarter of Hunter Water's customers are within the catchments of Hunter Water's stormwater channels and therefore pay stormwater charges.

11.1.1 Price structure reform since 2000

Hunter Water embarked on progressive reform of drainage charges in 2000 with a view to restructuring drainage charges over successive price periods.

In line with the water pricing principles agreed to by the Council of Australian Governments, IPART adopted Hunter Water's stormwater pricing reform proposals by phasing out the valuation-based charges applying to non-residential properties. From the 2005 price determination, Hunter Water began to progressively replace the property-value charges with land-area based service charges for non-residential customers. This transition was completed in 2008-09.

11.1.2 Current charging structure

Hunter Water's current stormwater pricing structure comprises two residential service charges – one for houses and another for multi premises (e.g. townhouses, flats and units) and land-area based prices for non-residential connections.

The non-residential land-area charges are applied to four land-area bands:

- Small or low impact – land area less than 1,000 square metres or larger areas that are assessed to have low impact on runoff.
- Medium – land area between 1,001 and 10,000 square metres.
- Large –land area between 10,001 and 45,000 square metres.
- Very large – land area greater than 45,000 square metres.

Some large undeveloped properties, such as parks, sports fields and golf courses, have greater ability to absorb stormwater flows than developed properties with hard surfaces such as roofs and hard-paved areas. Where appropriate, these properties are classified as low impact properties.

11.2 Proposed stormwater charges

As shown in the revenue requirements tables in Chapter 7, there is a real increase in the revenue requirements for stormwater services over the next price period of 1.2 per cent per year. This results in minor increases in stormwater charges.

Hunter Water proposes to retain the current stormwater tariff structure for the 2016-17 to 2019-20 price review period. The service charges required to recover the target stormwater drainage revenue from the proposed service charge structure and projected customer numbers are shown in Table 11.1.

The stormwater charge for a residential house will increase in real terms from $72.41 in 2015-16 to $76.43 in 2019-20. An increase in real terms over the period of $4.02 ($2015-16). Bills for multi premises (e.g. townhouses, flats and units) will increase from $26.79 in 2015-16 to $27.97 in 2019-20.

Non-residential charges will increase by 6 per cent in real terms over the price period or 1.4 per cent per annum.

Further information on customer incidence is provided in Chapter 12.

Table 11.1 Proposed stormwater drainage charges ($2015-16)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Residential - houses	72.41	73.38	74.35	75.34	76.43	77.55
Residential – multi premises	26.79	27.15	27.51	27.88	27.97	28.38
Non-residential:						
Small (<1,000m^2) / low impact	72.41	73.38	74.35	75.34	76.43	77.55
Medium (1,001 - 10,000m^2)	130.89	132.62	134.39	136.17	138.14	140.16
Large (10,001 – 45,000m^2)	832.55	843.56	854.80	866.18	878.68	891.56
Very Large (>45,000m^2)	2,645.21	2,680.19	2,715.90	2,752.07	2,791.78	2,832.99

Source: Hunter Water.
Note: The figures above are expressed in $2015-16 terms and are the basis of the nominal price projections in the 2015 AIR – Price Data – Rows 139 – 146.

12 IMPACT OF PROPOSED PRICES

Main points

- *Hunter Water tested perceptions of affordability as part of its pricing consultation. In 2012 and 2014 sixty per cent of customers agreed that bills are reasonable and fair in relation to other home utility bills (e.g. electricity, gas).*
- *The annual bill for a typical residential water and sewer customer using 185 kilolitres per year will decrease in real terms by $8 over the 2016-17 to 2019-20 period.*
- *The annual bill for a typical strata water and sewer customer using 150 kilolitres per year will increase in real terms by $156 over the 2016-17 to 2019-20 period.*
- *The annual bill for a typical water and sewer pensioner customer using 100 kilolitres per year will decrease in real terms by $6 over the 2016-17 to 2019-20 period.*
- *Hunter Water recognises that some customers may not be able to afford to pay their bills and, for these customers, Hunter Water has a range of assistance measures available.*

This chapter provides an assessment of the bill impacts of Hunter Water proposed prices on residential and non-residential customers.

The chapter also outlines Hunter Water's credit and hardship policy and the specific measures that Hunter Water is providing for customers facing financial hardship. Hunter Water has a range of measures in place to assist specific groups of customers and to meet the requirements in Hunter Water's operating licence, which sets out requirements for practices and procedures relating to hardship, debt, and water flow restriction or disconnection.[159]

12.1 Price structure proposals

Hunter Water's proposals for the structure of water, wastewater and stormwater prices are based on IPART's 2012 final report on price structures for metropolitan water utilities.[160] While this submission presents pricing proposals for the five years from 1 July 2016, as requested by IPART, Hunter Water's preference is for a determination period of four years.[161] Bill impacts shown in this chapter cover the price period sought by Hunter Water.

The main features of Hunter Water's water, sewer and stormwater drainage prices for the period from 2016-17 to 2019-20 are summarised below.

12.1.1 Water

Hunter Water applies a standard residential water service charge for all residential customers, regardless of dwelling type. Residential houses, home units and flats all pay the same service charge.

Water service charges for small non-residential customers in freestanding properties are the same as those for residential customers.

Hunter Water proposes to maintain the water usage price in real terms during the price period, thereby providing a strong water conservation price signal and giving customers a degree of control over the size of their bills.[162]

Hunter Water proposes to continue the location-based water usage prices for industrial customers using large volumes of water. As in previous determinations, the location-specific prices apply to each customer's consumption in excess of 50,000 kilolitres per year in eligible locations. Usage up to and including 50,000 kilolitres by the eligible customers is charged at the prices paid by all other customers.

[159] NSW Government, 2012 (a), Clause 5.4.
[160] IPART, 2012 (c).
[161] IPART's price submission guidelines require Hunter Water to provide price information for five years. Hunter Water has proposed a four-year price period, as discussed in Chapter 7.
[162] Customer control over the size of their bills is further discussed in Chapter 13.

12.1.2 Sewer

Residential sewer bills are made up of a fixed sewer service charge and the environmental improvement charge (EIC). The EIC does not apply to eligible pensioners. Separate standard residential sewer service charges are proposed for houses and for home units and flats. The difference between the service charge for houses and the service charge for units and flats is proposed to be phased out by the end of the price period, in accordance with IPART's 2012 pricing principles.

Sewer service charges for small non-residential customers in freestanding properties will continue to be the same as those for residential houses.

The sewer usage charge for non-residential customers will be continued. This charge will be fixed for the coming price period at the 2015-16 price in nominal terms. A transition of the discharge free allowance to 150 kilolitres per year by 2019-20 is also factored in.

An EIC at the 2015-16 rate, adjusted annually for inflation is included. This is in line with the funding arrangements in place for the NSW Government's Priority Sewerage Program. These arrangements will see the current EIC sunset in 2019.

12.1.3 Stormwater drainage

There will be no change to current structures involving separate drainage charges for houses and for home units. This reflects the fact that units have smaller impact on the drainage system than houses.

The existing area-based stormwater drainage charges for non-residential properties will be continued

12.2 Impact on residential customers

The impact on a typical customer consuming 185 kilolitres per year and occupying a freestanding house is summarised in Table 12.1[163]. Over the period to 2019-20, there will be a decrease of $8 in real terms or 0.8 per cent saving. The decrease is equivalent to $2.06 per year in real terms. While the water service charge increases annually in real terms by $10.21, this is more than offset by the decrease in the sewer service charge. As the sewer service charge for flats and units increases gradually over the four-years, the amount recovered from freestanding houses falls, resulting in a $12 per annum decrease in real terms.

Including projected inflation, the typical nominal annual residential bill will rise from $1,069 in 2015-16 to $1,171 in 2019-20. This is equivalent to a rise of $25 per year over the proposed price period.

Table 12.1 Annual bill for freestanding house using 185 kL per year ($nominal)

	2015-16	2016-17	2017-18	2018-19	2019-20	Av Annual bill change
Water service	17.89	17.57	32.49	48.27	64.82	11.73
Water usage	414.40	425.50	434.75	445.85	456.95	10.64
Sewer service	598.13	603.95	604.65	605.30	606.07	1.99
EIC	38.67	39.63	40.62	41.64	42.68	1.00
Total [a]	**1,069.09**	**1,086.65**	**1,112.51**	**1,141.06**	**1,170.52**	**25.36**

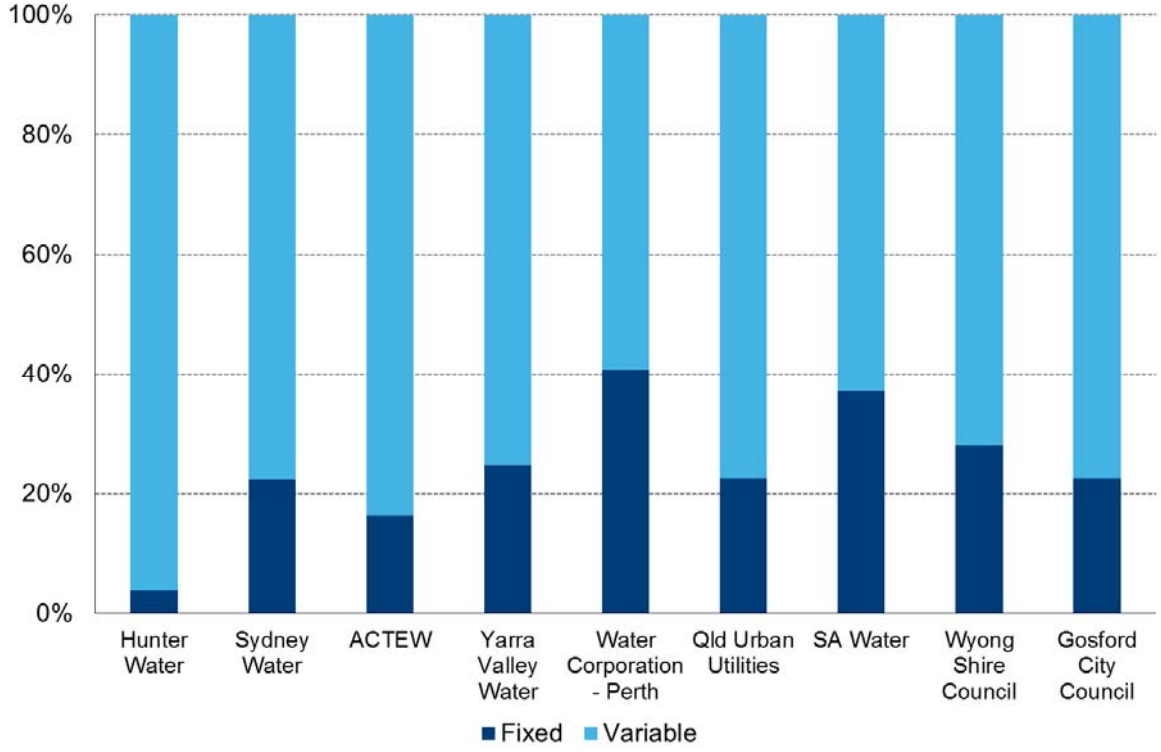
Source: Hunter Water.

a) This total is for a customer with water and sewerage services only. It does not include a stormwater drainage component.

The water usage component of the 2015-16 bill shown above is 96 per cent and 39 per cent of the water only and total bill, respectively. By 2019-20, the water usage proportion of the water bill is expected to decrease to 88 per cent. This decrease is due to the increase in the water service charge over the period. Despite this decline Hunter Water's usage or variable portion of the water bill remains one of the highest of the major metropolitan water utilities in Australia (refer to Figure 12.1).

[163] 185 kilolitres was used as the typical household water consumption based on IPART, 2008, Figure 5.1 rounded up to the nearest 5 kilolitres.

Figure 12.1 Ratio of variable to fixed water charges



Source: Hunter Water analysis based on Bureau of Meteorology, 2015(b), Indictors P1.2, P1.12 and P2.

The change to the proportion that owners of strata title units and the owners of blocks of flats pay for sewer service is shown in Table 12.2. The transition of the sewer service charge to the same as a residential house means that the sewer service charge will increase by $115 in real terms over the price period. After four years, the average strata unit bill, excluding drainage charges, will have increased by $156 in real terms or 19 per cent. The annual average increase is $39 or 4.7 per cent.

In nominal terms the annual bill for a typical single strata unit will rise from $826 in 2015-16 to $1,084 in 2019-20. This is equivalent to a rise of $64 per year over the proposed price period.

Table 12.2 Annual bill single strata unit using 150 kL per year ($nominal)

	2015-16	2016-17	2017-18	2018-19	2019-20	Av Annual bill change
Water service [a]	17.89	17.57	32.49	48.27	64.82	11.73
Water usage	336.00	345.00	352.50	361.50	370.50	8.63
Sewer service	433.64	452.96	503.87	554.86	606.07	43.11
EIC	38.67	39.63	40.62	41.64	42.68	1.00
Total	**826.20**	**855.16**	**929.48**	**1,006.27**	**1,084.07**	**64.47**

Source: Hunter Water.

a) Assumes block of 12 units sharing a 40mm meter and each using 150 kilolitres of water per year. Typical water consumption for residential customers in flats and units is based on IPART, 2013(a), p.152.

Residential customers who hold a pensioner concession card or certain types of Department of Veterans' Affairs Gold Card are entitled to a pensioner rebate on their total water and sewer bill. Since 2009, the pensioner rebate has been linked to changes in the average household bill so that the rebate increases if the average total bill increases. Further details about the pensioner rebate are provided later in the chapter.

In 2015-16 terms, the bill for a typical pensioner household is estimated at $563 in 2015-16 or $10.83 per week decreasing to $557 or $10.72 per week in 2019-20. After four years, the average pensioner bill will have decreased by $6 in real terms or a 1.1 per cent saving.

As with the owners of residential houses, pensioners benefit from the equalisation of the strata and house sewer service charge by 2019-20. The equalisation will see house sewer service charges decline in real terms over the 2016-17 to 2019-20 period.

In nominal terms the pensioner customer annual bill will rise from $563 in 2015-16 to $615 in 2019-20. This is equivalent to a rise of $13 per year over the proposed price period (see Table 12.3).

Table 12.3 Annual bill pensioner customer using 100 kL per year ($nominal)

	2015-16	2016-17	2017-18	2018-19	2019-20	Avg annual bill change
Water service	17.89	17.57	32.49	48.27	64.82	11.73
Water usage [a]	224.00	230.00	235.00	241.00	247.00	5.75
Sewer service	598.13	603.95	604.65	605.30	606.07	1.99
Rebate	(276.65)	(281.20)	(287.86)	(295.25)	(302.87)	(6.56)
Total	**563.37**	**570.32**	**584.28**	**599.32**	**615.02**	**12.91**

Source: Hunter Water.

a) Bill for pensioner owner of freestanding residential house. This table is based on usage of 100 kilolitres per year. This figure is indicative of average use by pensioner households. See figure 6.6 of IPART, 2008.

Around 25 per cent of customers live in areas serviced by Hunter Water's stormwater assets, and hence they also pay for stormwater services.

The total bill for owners of stand-alone houses with stormwater drainage charges will fall by $4.21 in real terms or 0.4 per cent saving over the 2015-16 to 2019-20. The annual average decrease is $1 or 0.1 per cent saving.

Appendix K provides a detailed breakdown of the composition of typical bills across the price period for the owners of houses and strata units as well as a typical pensioner household. In addition, the appendix provides charts showing the proposed water usage component of the typical for each of customer type. Stormwater charges for those customers in Hunter Water's catchment areas are also included.

12.2.1 Components of the bill movements

This section explains the components of the projected decreases in typical residential bill (based on 185 kilolitres per year water use).

The estimated typical residential bill in 2015-16 is $1,069 per year. This bill will decrease by $8 in real terms to $1,061 per year by 2019-20, a decrease of $2.06 per year. This decrease is due to two effects: the increase in the water service charge and the decrease in the sewer service charge (see Table 12.4).

Table 12.4 Components of the typical residential bill movement ($2015-16)

	2015-16	2019-20	Difference	Overall %
Water bill	432.29	473.12	40.83	9.4%
Sewer bill	598.13	549.07	(49.06)	(8.2%)
EIC	38.67	38.67	-	-
Total	**1,069.09**	**1,060.86**	**(8.23)**	**(0.8%)**

Source: Hunter Water.

The real increase in the water service charge of 2.8 per cent per year is a consequence of the additional water revenue requirement and the proposal to roll forward the water usage charge with no real increase. The combined water bill increases by 9.4 per cent in real terms over the 2015-16 to 2019-20, or 2.4 per cent per year.

The decrease in the sewer service charge is primarily due to the equalisation of the sewer service charge for all residential property types (both houses and strata units) by 2019-20. The sewer bill decreases by 8.2 per cent in real terms over the 2015-16 to 2019-20, of 2.1 per cent per year.

The combined effect of these changes to these two bill components is a modest real reduction over the 2015-16 to 2019-20 period.

A discussion of the components of the water and sewer revenue building blocks and the real changes over the proposed price period is presented in Chapter 7.

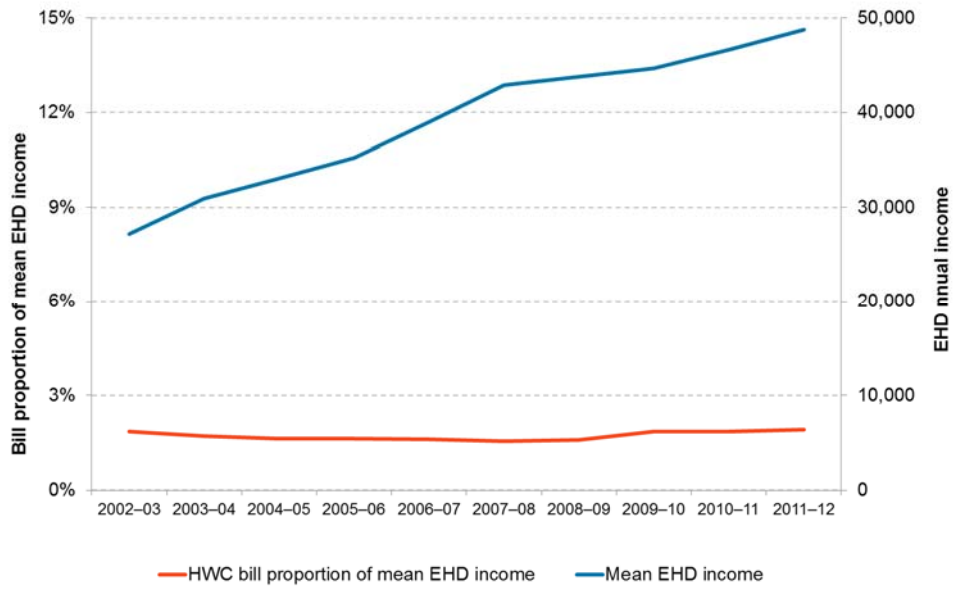
12.3 Household affordability indicators

There are a number of ways of benchmarking affordability that are used by regulators, utilities and welfare agencies throughout Australia. These include assessing bill impacts against measures of earnings, income and expenditure. Of these measures, the most common measure of affordability is household disposable income because this reflects the funds available to households to pay for consumption products, including utility services.

For this submission, affordability of water bills is measured by comparing bills with the Australian Bureau of Statistics (ABS) data on equivalised household disposable (EHD) income for New South Wales from 1994-95 to 2011-12.[164] This analysis does not purport to present a definitive picture of affordability but rather to indicate the trends in bill changes relative to trends in disposable household income over time and the approximate proportion of disposable income required to pay a typical Hunter Water bill.

The latest available ABS data for EHD income is for 2011-12. Analysis of residential water and sewer bills against these data shows that water bills, as a proportion of mean EHD income, has remained relatively stable over the last 10 years at around 2 per cent.[165] This trend is shown in Figure 12.2.

Figure 12.2 Typical Hunter Water bill as a proportion of mean household income



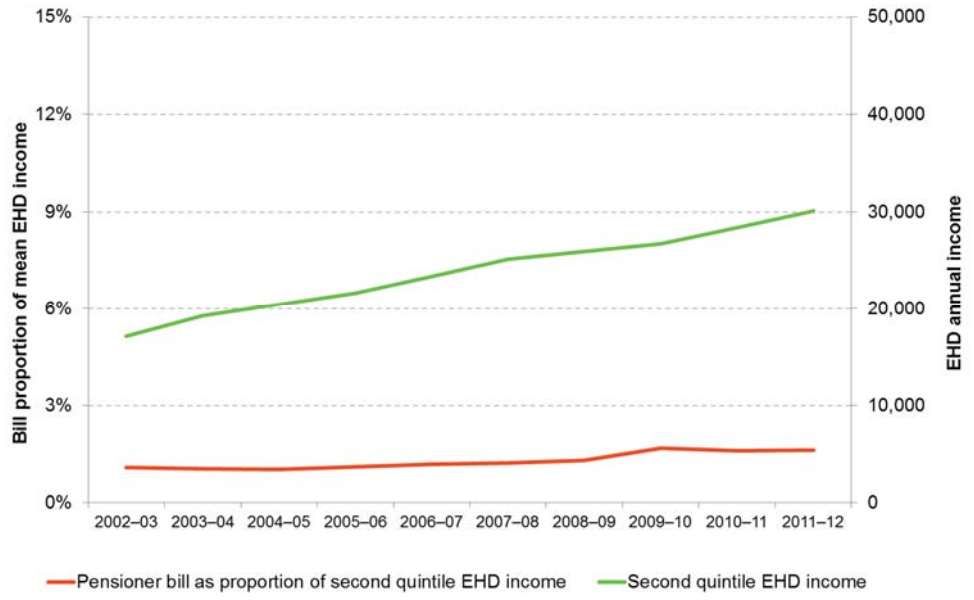
Sources: Hunter Water and Australian Bureau of Statistics, 2013.

A lower mean income level and lower levels of water consumption were used to estimate typical pensioner water bills.[166] Pensioner bills were assessed against the ABS mean EHD income for the second quintile of the ABS sample population.[167] On this measure, pensioner bills remained relatively steady at around 1.0 to 1.3 per cent of the mean income level from 2002-03 to 2008-09, before increasing to 1.7 per cent in 2009-10 and stabilising at that level (see Figure 12.3).

The current ABS EHD income series ends with the 2011-12 data, so it is not possible to make ongoing comparisons for the price period beginning in 2016. To provide an indication of the future relativity of bills and disposable income, Hunter Water estimated likely results to 2015-16 using the available ABS data. Hunter Water expects the typical household bills and pensioner bills will remain as a constant proportion of mean and second quintile disposable income respectively. The current relativity between bills and disposable income is unlikely to materially change given that the typical household bill and average pensioner bill will reduce in real terms in the next price period.

[164] 2011-12 is the latest year of ABS data available at the time of preparing this submission. The next ABS data set release is scheduled for August 2015.
[165] Based on water usage of 185 kilolitres per year, annual bills range from 1.5 per cent to 1.9 per cent of EHD income.
[166] 100 kilolitres was used as average pensioner household water use based on IPART, 2013(a), p.12.
[167] The second quintile is the 20 per cent of the ABS sample population who, when ranked in ascending order of disposable income, fall between 20 per cent and 40 per cent of the sample. The first quintile is the 20 per cent of the sample population with the lowest disposable income. See Australian Bureau of Statistics, 2012.

Figure 12.3 Pensioner bill as a proportion of second quintile household income



Sources: Hunter Water and Australian Bureau of Statistics, 2013.

Hunter Water also tested customer's perceptions about the affordability of its services as part of its 2014 pricing consultation. The results are presented in Chapter 13.

Hunter Water recognises that some customers in financial hardship simply may not have the money to pay their bills or bear any increase in bills. Hunter Water has a range of assistance measures available for these customers, as outlined in section 12.5.

12.4 Impact on non-residential customers

It is difficult to generalise about the impacts of price changes on non-residential customers. Meter configurations for non-residential customers vary from business to business making it difficult to define a 'typical' non-residential service charge. For most non-residential customers with consumption in excess of 1,000 kilolitres, usage charges are the main determinant of their total bill.

In addition, not all non-residential customers are connected to the sewer system and there can be a wide range of the volumes of water used, sewer discharge factors and trade waste composition – all of which are key parameters in determining the final bills of non-residential customers.

To provide an incidence comparison, this submission includes an analysis of non-residential water bills for a sample of small, medium and large non-residential businesses. The sample businesses pay different mixes of water, sewer, stormwater drainage and trade wastewater charges. Bills for these customers are tracked from the current year, 2015-16, to the end of the proposed determination period in 2019-20.

Table 12.5 shows that, the proposed structures and charges influence the non-residential customers differently with those businesses configured with a single 20mm meter benefiting most in percentage terms from the decrease in the residential sewer service charge with which they are aligned. Businesses in this category include small shops and service stations where the real decreases over the 2015-16 to 2019-20 period of 6 and 4 per cent are realised.

Overall the price proposals result in annual real increases of less than 1 per cent. The annual average change shown in Table 12.5 is principally due to inflation.

Table 12.5 Non-residential bills for sample businesses ($nominal)

Business type	Charges[a]	2015-16	2016-17	2017-18	2018-19	2019-20	Av annual change
Small industrial	w,s,d,t	947	962	987	1,013	1,041	23
Small shop - Newcastle	w,s	1,163	1,167	1,178	1,193	1,209	11
Shop - Cessnock	w,s,d	1,870	1,964	2,032	2,109	2,181	78
Service Station	w,s,d	1,918	1,939	1,967	2,000	2,034	29
Small retail nursery	w,s	2,050	2,087	2,129	2,177	2,226	44
Regional office - Maitland	w,s,	6,331	6,553	6,737	6,949	7,153	205
Medium licenced hotel	w,s,d,t	6,228	6,448	6,603	6,783	6,954	181
Large office - Newcastle	w,s	16,928	17,327	17,793	18,328	18,867	485
Large licenced club	w,s,d,t	65,355	67,361	68,934	70,729	72,483	1,782
Regional shopping centre	w,s,d,t	358,421	366,272	373,488	381,939	390,440	8,005
Medium industrial	w,s,t	284,101	294,735	300,965	308,346	315,681	7,895
Large industrial no sewer	w,d,t	351,626	366,799	375,912	386,739	397,604	11,495
Large industrial with sewer	w,s,d,t	495,731	512,665	523,309	535,769	548,239	13,127

Source: Hunter Water.

a) This column indicates the charges applicable to each customer. w = water, s = sewerage, d = stormwater drainage and t = trade wastewater.

A detailed summary of impacts on non-residential customers is provided in Appendix K.

12.5 Managing customer impacts

Hunter Water has programs in place for customers who require assistance for particular financial or other reasons. Some of this assistance is available to specific groups of customers who meet eligibility criteria, including:

- assistance to concession card holders, mainly as a rebate of their bill
- the option for concession card holders to pay their bill by regular Centrepay payments
- water usage bill concessions for customers with health and special needs, and
- assistance to nursing homes, religious, charitable and public benevolent bodies.

Other assistance is provided to individual customers on application:

- account assistance for customers in financial hardship, and
- water efficiency initiatives that assist customers reduce water consumption and usage charges.

12.5.1 Assistance to concession card holders

Customers who hold a Pensioner Concession Card or certain types of Department of Veterans' Affairs Gold Card are entitled to a pensioner rebate. This rebate is designed to provide relief for the pensioners' personal water and sewer charges and applies to properties owned and occupied by them.

For many years the pensioner rebate was a fixed amount linked to the rebate provided by local government water agencies. In early 2009, the NSW Government announced that, from 2009-10 onwards, future rebates would be linked to movements in water and sewer bills. In keeping with this policy, the combined water and sewer rebate was increased from $175 in 2008-09 to $207 in 2009-10. The rebate has increased in each subsequent year to $221 in 2010-11, $239 in 2011-12, $258 in 2012-13, $263 in 2013-14 and $271 in 2014-15.

Pensioners who are water and sewer customers, and are entitled to 100 per cent of the rebate, will receive an estimated reduction in charges of $277 in 2015-16. The rebate is applied equally every four months at $92 per bill. Water only or sewer only customers receive 50 per cent of the standard rebate.

The environmental improvement charge (EIC) is also waived for pensioners eligible for the rebate, providing further bill relief to these customers. The combined benefit of the pensioner rebate and waiving the EIC is estimated at $315 per pensioner customer in 2015-16.

Hunter Water introduced the payment option known as Centrepay in June 2013. This option allows customers receiving Centrelink benefits to nominate amounts that are automatically directly deducted from their benefits on a fortnightly basis and paid towards their Hunter Water bill. In this way, the Centrepay payment option assists customers on low income and receiving benefits to smooth out the payment of water bills.

A free tap re-washering service is available to customers who receive a pension rebate on their account.[168]

12.5.2 Health and special needs customers

Hunter Water recognises that certain customers require additional water to maintain their health because they are dialysis patients and are able to dialyse from their own homes. These customers are offered financial support in the form of the dialysis rebate. The Renal Unit of Hunter New England Area Health provides Hunter Water with the details of customers who are able to dialyse at their own home.

The rebate provides a 'free' water allowance of 250 kilolitres per year. The rebate is split and applied to each four-monthly bill.

12.5.3 Nursing homes

For eligible nursing homes, relief in charges is granted in the following ways:

- reduction of water and sewer service charges
- waiving of EIC, and
- waiving of drainage charges.

12.5.4 Properties owned by religious, charitable and public benevolent organisations

For properties owned and occupied by religious, charitable and public benevolent bodies, Hunter Water may grant service charge relief to customers if they are eligible in accordance with NSW Treasury guidelines. Relief from charges may be granted in the following ways:

- reduction of water and sewer service charges
- waiving of the environmental improvement charge
- waiving of drainage charges, and
- a reduction in water usage charges in certain circumstances.

12.5.5 Bill management options 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.

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[168] In some circumstances, the free tap re-washering service is also available to customers who are not pensioners but who are in receipt of assistance through the Account Assistance Scheme.

Hunter Water's telephone contact centre and customer service employees offer assistance to customers by discussing support options that will assist them manage their ongoing payment commitments during these difficult times. Hunter Water always prefers to help customers by reaching an agreement with them and has developed a credit management process that provides options for customers.

Customers initially have 21 days to pay their account. However if they are concerned about meeting a payment on time, they are encouraged to contact Hunter Water to discuss their situation. Hunter Water aims to help customers identify solutions to sort out their current account as well as discuss ongoing options to help keep their account at a manageable level.

The options offered to customers are:

- an extension of time to pay their account
- a payment plan (pay plan) of regular instalments over an agreed timeframe
- for customers receiving Centrelink benefits the option to pay fortnightly instalments directly from their benefits via the Centrepay payment option
- a budget plan where regular manageable amounts are debited from their bank account, and
- access to the Payment Assistance Scheme (PAS) that operates through local community and welfare agencies – see Box 12.1 for details about the scheme.

Since the 2008 price review, Hunter Water has been developing ways to improve its account assistance for customers experiencing financial hardship. These improvements are outlined in the following section.

12.5.6 Improving account assistance for customers in financial hardship

Hunter Water implemented its Account Assistance (hardship) policy in 2012. This policy outlines the process for identifying and assisting customers in financial hardship as well as the training requirements for all customer service employees. This policy has been discussed with the Energy and Water Ombudsman (EWON), the Public Interest Advocacy Centre (PIAC) and Lifeline. The policy has been benchmarked with other water and energy utilities in Australia and the United Kingdom as well as with the hardship policies of local councils and the banking industry.

Hunter Water faces challenges in identifying customers in hardship. Customers often avoid contact with Hunter Water due to a lack of understanding or knowledge of the options available to them.

Communicating personally with customers who miss bill payments can be difficult, particularly with the recent rapid growth in the number of people relying solely on mobile phones in place of fixed-line home phones. Contact in these instances must be initially made by mail or the customer contacting Hunter Water.

The Account Assistance program seeks to improve communication with customers through increased promotion of the program in a variety of ways. Currently the program is advertised in *Making Waves*, Hunter Water's newsletter bill insert. The program has also been promoted through PAS agencies and financial counsellors in the region. Future promotion is planned using print media, community networks, EWON, PIAC, Centrelink, schools, aged-care networks such as the Australian Government's Home and Community Care (HACC), and councils.

Hunter Water is also developing monitoring systems that will help identify customers who may be in hardship. These systems look at changes in payment behaviour and will provide the opportunity to contact customers and provide payment options before unmanageable debts accrue. Hunter Water monitors concession holder accounts for changes in payment behaviour and identifies and proactively contacts customers with an unexpected high usage bill.

The Centrepay payment option was introduced specifically to provide an additional channel for low-income customers to pay their accounts by instalments. Since Centrepay was introduced in June 2013, 136 customers have scheduled regular instalments using this method. Along with other support arrangements available to customers in hardship, Hunter Water encourages the use of Centrepay as a preferred channel for making payments by instalments for eligible customers so they are able to self-manage their ongoing water bill costs.

This bill monitoring is also identifying customers with high water usage or atypical increases in water usage. These customers then can be contacted to provide water efficiency advice or referrals as well as an assessment of hardship, if relevant to the customer's circumstances. Hunter Water engaged consultants in July 2012 to improve its aged debtor data with a view to proactive hardship identification and reduce aged debt held by customers. Employees in the contact centre, and at the front counters, have been trained to identify customers in hardship. This training is ongoing and will be supported with Lifeline training for relevant internal customer service employees. Once identified, customers are referred to the account assistance team, who follow a process of assessment, planning, referral and follow up.

Assessment is discrete and establishes the basic cause of hardship including, but not limited to family breakdown, low income, poor health and unemployment. The account assistance team also reviews water usage and the number of people in the household to ensure that usage is not excessive. Where water usage appears high, employees will suggest that customers check for leaks or review water use. Where a leak is the cause of a high bill, if the customer is experiencing hardship Hunter Water can provide assistance via its Essential Plumbing program to reduce the costs of repair to the customer. Often customers cannot afford the repairs yet their bills will continue to grow due to leakage which is counterproductive. The program provides the customer the option to have the repair undertaken at a 50 per cent reduced cost with the remaining amount payable by interest free instalments.

Employees also assess a customer's capacity to pay and discuss with the customer the amount required per week or fortnight to cover ongoing bills. Where the customer is able to afford this, a payment plan will be set accordingly. Customers adhering to the agreed pay plan will not be liable for interest on overdue amounts. Customers are requested to call back at any time if they are not able to make a payment or if the agreed pay plan is no longer affordable.

When a customer is not able to meet minimum payments to cover ongoing bills, a revised pay plan will be based on their own assessment of their capacity to pay. Customers will be informed that the debt on their account will continue to accrue, however no interest will be applied. Once a pay plan has been set, employees will discuss PAS and other referral options with the customer. Where the capacity to pay is below the minimum amount required to meet current bills, the customer may be referred for financial counselling to determine their capacity to pay based on their entire financial circumstances.

If the customer agrees, a 'warm referral' is made to the PAS agency (see Box 12.1). A warm referral is valuable because it introduces a customer to the agency and ensures immediate contact. Hunter Water has found that this method ensures that more customers access PAS. Hunter Water has also changed the way in which it discusses PAS with customers and ensures customers are aware that the money is provided by Hunter Water, not the PAS agency. This explanation reduces customer concerns about receiving charity, which has often inhibited referrals in the past.

Referrals are also made to Lifeline, financial counsellors, the Credit and Debt Hotline[169] and other community agencies to ensure that the social and emotional needs of customers can also be met. Hunter Water understands that it is not in the position to assist customers beyond their water bill but recognises the importance of providing customers with options for assistance with their other concerns.

The process for PAS has been reviewed and communication with PAS agencies has increased. A PAS Forum was first held in March 2012 and is held at the same time each year to invite feedback on the PAS program from the participating agencies and how it can be improved. This process has led to a number of improvements to the program over the past three years and ensures regular engagement with the agencies who are an important link to the community for Hunter Water. The forum held in 2015 included guests including the Ombudsman from EWON and representatives from PIAC and local welfare organisations. Hunter Water launched a promotional campaign in the local media in partnership with the affiliated agencies to increase public awareness of the Payment Assistance Scheme.

Hunter Water has implemented a system of contact by the PAS agency while the customer is attending the agency. This ensures that customers receive the maximum amount allowed when they first receive payment assistance. This system also provides an opportunity to set a pay plan in the presence of the PAS staff member or volunteer who can advise on capacity to pay. Most PAS agencies have financial counsellors on site that can assist in establishing the customer's capacity to pay.

It is recognised that the traditional contact methods of phone and letter notifications for some customers are not successful to get the customer to engage in a discussion about their account. In February 2015, Hunter Water commenced a trial of providing community outreach services in partnership with local community agencies to customer experiencing problems paying their bills. Advertising at the local centre and via the agency's social media to promote the day and inviting customers to make an appointment to discuss their bill in person. The location and timing of outreach is linked to known low socio-demographic locations and undertaken at the time their bills fall due. It is intended to conduct outreach in various localities throughout the year to target customers having difficulty with their bill and accessing Hunter Water.

Hunter Water will also provide training to all PAS agency staff and volunteers in water efficiency to build their knowledge of water-efficient products and programs. Hunter Water regularly attends the local community interagency meetings to promote the PAS program.

[169] This hotline is operated by the Consumer Credit Legal Centre NSW and provides financial counselling information, advice and referral service available to individual consumers in NSW on credit, debt and banking issues. See **www.cclcnsw.org.au.**

Box 12.1 Payment Assistance Scheme

Residential customers experiencing financial difficulties may be eligible for support through Hunter Water's Payment Assistance Scheme (PAS). The scheme operates through registered community welfare agencies with staff and volunteers trained to assist customers experiencing hardship. The agency will assess the customer's individual needs and circumstances and make contact with Hunter Water to discuss and approve PAS credits and establish ongoing payment plans to help the customer manage and pay their Hunter Water account. The agencies currently participating in the scheme are:

- St Vincent de Paul
- Salvation Army
- Northern Settlement Services
- The Samaritans
- Maitland Neighbourhood Centre
- Dungog Shire Community Centre
- Lifeline
- Wesley Mission

Customers are encouraged to contact the community agencies directly. However Hunter Water's telephone contact centre and customer centre employees can provide information and referral where required. Hunter Water provides information to customers about PAS on its website and also publishes information in brochures and newsletters. Information is also provided to Local Members of Parliament (NSW) and via Centrelink through their social workers on the program.

As further discussed in Chapter 13, Hunter Water is committed to involving the community in its decision making process and, as part of the 2012 pricing consultation, sought the views of the community about the Hunter Water PAS. Specifically, the details of the PAS program were explained as was the cost, which equated to 14 cents per bill. The results of the consultation showed that 70 per cent of customers are happy with this program and the cost and would like to maintain the PAS. Interestingly, 19 per cent thought that the program should be either doubled or tripled.

Financial counsellors play an important role in Hunter Water's account assistance program. Where a customer has defaulted on pay plans three times, a financial counselling appointment is required to ensure that a viable payment plan is in place. Financial counsellors also play an important role in contacting Hunter Water to negotiate on a customer's behalf, where they are unable to do so themselves.

Hunter Water understands that tenants can be affected by the costs of water and by the payment behaviour of landlords. To provide better information and assistance to tenants, Hunter Water has established a relationship with the Hunter Tenants Advice and Advocacy Service. Where tenants are concerned about their rights, they are advised to seek advice from the service to ensure the advice they receive is independent.

12.5.7 Water efficiency initiatives

Water efficiency initiatives assist customers contain their water bill by reducing water usage. In 2015-16, water usage charges make up around 95 per cent of the water component of typical residential bills, so water-efficiency measures offer potential to reduce bills.

Hunter Water has conducted a number of water efficiency programs during the current price period. These initiatives have included business water audits targeting large and medium water users, development of a school water education program and until recently a residential shower head exchange program. Of these initiatives, the most important has been the major customer water audit program. This program provides a subsidy for a specialist audit and development of a business case for water efficiency and source substitution improvements. To date, 13 audits have commenced or have been completed. Identified cost effective savings have exceeded 300 megalitres per year and this is expected to double as current audits are completed.

12.6 Price trends beyond 2020

Hunter Water is of the view that prices in the following price period (from 1 July 2020) will follow a similar trend to that displayed for the coming price period. As outlined in Chapter 6 and Appendix D, annual capital expenditure is forecast to remain stable at around $100 million across a ten-year period, similar to that delivered in the current price period. On this basis, and barring major unforeseen influences on the operating context, operating expenditures and capital investment, prices should remain relatively stable in real terms across the next two price periods.

The chapters discussing water, wastewater and drainage prices also have provided indicative prices for 2020-21, as requested by IPART. Hunter Water cautions that there is a loss in rigour in the quality of the base assumptions when projecting prices six years in advance, particularly future movements in input costs.

13 CUSTOMER ENGAGEMENT

Main points

- *The expenditure and pricing proposals contained in this submission have been informed by ongoing engagement activities, a review of customer complaints related to IPART-determined prices and a specific customer survey in late 2014 that sought views on affordability, price structures and assistance for customers experiencing financial hardship.*
- *The 2014 pricing survey involved a statistically valid sample size of 400 randomly selected respondents from within the area of operations.*
- *While most customers continue to consider water bills to be value for money and more affordable than other utilities, around one third of respondents consider something to be unfair about Hunter Water's prices. The most common customer concerns about prices were bill levels overall, high fixed sewer service charges and control over bills.*
- *Hunter Water has taken customer feedback into account to the extent possible whilst also adhering to IPART's pricing principles.*

13.1 Introduction

Hunter Water values the input of the community to its decision making processes across a wide range of activities. At any time, there are a number of consultation processes underway including community reference groups on major construction projects, customer surveys, customer panel activities and consultation at a variety of community events. Hunter Water also consults with the community through its standing Community Consultative Forum.[170] Hunter Water receives continuous feedback from its customers through Hunter Water's telephone contact centre, website contact page, correspondence from customers and reports from external parties such as the water industry ombudsman, EWON. All these mechanisms serve to inform Hunter Water about customers' concerns and expectations.

IPART's price submission guidelines require Hunter Water to consult with customers on proposed price increases, affordability and willingness to pay around discretionary spending.[171]

This submission has been informed by community views elicited from a telephone survey conducted in 2014 on specific pricing issues. The telephone survey results supplement information from Hunter Water's extensive engagement for the 2012 price submission, 2013-14 reputation study and targeted consultation for major projects. The telephone survey did not include any questions related to discretionary expenditure as Hunter Water's operating and capital expenditure proposals are limited to those essential to manage compliance risks and deliver its core services.

13.2 Engagement on planning and operations that drive expenditure

Hunter Water offers opportunities for customers and the community to provide input into decisions about planning, operations and investment via the Community Consultative Forum and consultation on specific projects.

Hunter Water's Community Consultative Forum is an advisory body, whose role is to provide advice and feedback on customer and consumer issues relating to planning and operations. Members represent local government, businesses, residential customers, older people, people living in rural or fringe areas and environmental advocacy groups. The forum provides two-way open communication to discuss Hunter Water's activities with these important stakeholders and community representatives.

The forum considers self-generated topics of interest to members in addition to issues raised by Hunter Water. IPART recognises the forum to be a valuable component of Hunter Water's community engagement.[172]

For the delivery of the capital works program, Hunter Water undertakes community consultation during the planning and delivery phase of projects. Community consultation activities undertaken include information sessions for the community, door knocking of directly affected residents, the distribution of letters and factsheets to surrounding areas and newspaper advertising at the commencement of work.

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[170] Information about the forum is available on Hunter Water's website, www.hunterwater.com.au and by referring to clause 5.5 of the operating licence (see Hunter Water Corporation, 2012 (a)).
[171] IPART, 2014(a).
[172] IPART, 2012(d), p.16.

The community can access further information, photographs and video about capital projects via the Major Projects page of the Hunter Water website. The website also features an interactive map for the community to identify projects happening in their local government area.

Some examples that demonstrate Hunter Water's ongoing approach to customer engagement are provided in Box 13.1.

Box 13.1 Examples of ongoing customer engagement activities

Paxton Effluent Management Strategy

In October 2013 Hunter Water sought community input into development of the strategy for managing effluent from Paxton wastewater treatment plant. The community was asked to comment on the three options – 'business as usual' in discharging treated wastewater to Congewai Creek; reducing the nutrient load to Congewai Creek; or discharging only when the creek is flowing.

Hunter Water placed advertisements in local papers, displayed flyers in local shops and sent unaddressed letters to all 1,215 local residents. Written submissions were also invited from seven local environmental groups, yielding two written responses. A random sample telephone survey was completed with 201 local residents from Millfield, Paxton and Ellalong. The Congewai community supported a reduction in nutrient load to Congewai Creek. Hunter Water is now planning a wastewater catchment improvement project as the most cost effective way to achieve this outcome.

A Plan for Burwood Beach Wastewater Treatment Plant

Hunter Water sought public involvement to ensure community values were considered in deciding how to manage treated effluent and biosolids at the region's largest wastewater treatment plant.

Hunter Water held an open day at Burwood in March 2014 that attracted 66 visitors. The majority of participants reported a better understanding of how the plant works, the need to plan for the future of the facility and the options being considered. Community members were invited to provide comments on the upgrade options and nominate their preferred approach.

A survey on Hunter Water's website that was open to the whole community resulted in 91 responses. A random sample telephone survey of 410 residents was conducted in February and March 2014, which can be considered statistically representative of Hunter Water's customer base. The surveys asked questions about community values and preferences between options.

There were 10 submissions in response to the public exhibition of an options summary report. Responses were received from Lake Macquarie City Council, Total Environment Centre, Hunter Local Land Services, Surfrider Foundation and six individuals.

A Community Reference Group, chaired by an independent facilitator and comprising eight community members, provided valuable community insight into project development from July 2010 until August 2014. The group helped identify key community values and provided input for the assessment criteria.

Dungog Open Day

In November 2014, Dungog Wastewater Treatment Plant Community Open Day was attended by approximately 50 locals who took the opportunity to learn about the treatment process and discuss Hunter Water's expression of interest for the use of recycled water from the plant. Hunter Water also outlined its work with local dairy farmers and plans to rehabilitate riparian zones on Hunter Water's landholdings in the Tillegra region.

Tillegra Riparian Improvement Project

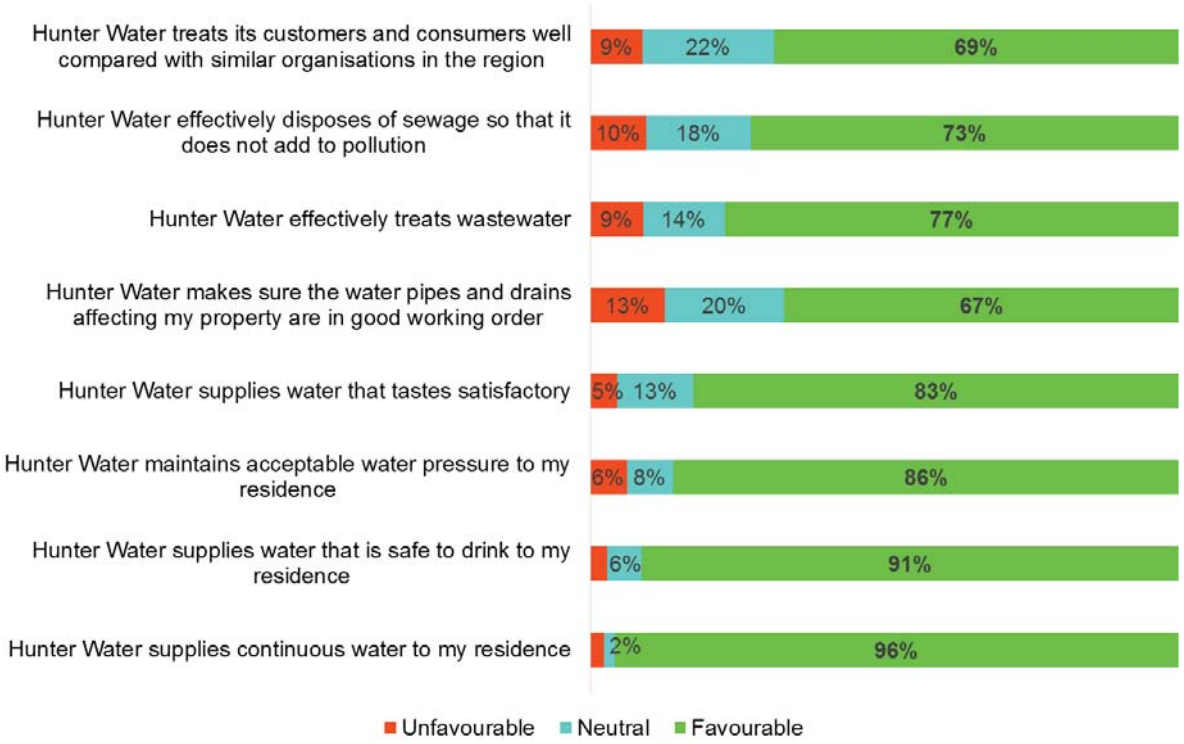
A community information meeting, held in Dungog on 2 December 2014, was attended by more than 30 farmers, residents and interested participants. Members provided feedback and advice, much of which Hunter Water incorporated into its project to rehabilitate 22kms of the Williams River bank to improve drinking water quality.

13.3 Customer and community views on services regulated by IPART

Hunter Water has undertaken regular customer perception and satisfaction surveys for around 30 years. The 2013-14 reputation study provides insights into customer perceptions on quality of service and reliability during the current price period. Participants were selected via an opt-in process based on advertisements in the Newcastle Herald, on Hunter Water's website and in the customer newsletter. Invitations were also sent to Hunter Water's customer panel. There were 692 respondents in total.[173]

Hunter Water received a large proportion of favourable responses to questions related to its core business services, as shown in Figure 13.1.

Figure 13.1 Customer perceptions of regulated services



Source: Insync Surveys, 2014(a).

13.4 Customer and community views on prices determined by IPART

13.4.1 2014 pricing consultation findings

Hunter Water engaged an independent expert consultant to undertake a study of customer views on prices that could be used to inform this submission. The 2014 pricing study involved a telephone survey of residential customers throughout Hunter Water's area of operations.

A random sample telephone survey was considered the best way of addressing the risk of sampling bias that may occur with opt-in online surveys or an opt-in customer panel. The study highlighted an emerging challenge of cost-effectively achieving a representative survey sample, given the trend away from fixed home telephone line. The survey time (within or outside business hours) was not specified, which resulted in a daytime survey and a slight majority of concession card holders. The survey results were analysed in aggregate and by concession card holder status to determine whether this biased responses about pricing.

The profile of the 400 survey respondents from all local government areas serviced by Hunter Water is provided in Table 13.1.

[173] Insync Surveys, 2014(a), p.6. Some customers did not respond to all survey questions. The sample size is statistically representative of the customer base at a 95 per cent confidence level and 4 per cent confidence interval.

Table 13.1 Profile of respondents

	Frequency (No.)	Proportion of respondents (unweighted) (per cent)
All respondents	400	100
Property type:		
House	384	96
Flat/unit	16	4
Property status:		
Own	366	91.5
Rent	34	8.5
Do you have a concession card?		
Yes	213	53
No	187	47

Source: Insync Surveys, 2014.

Topics included in the survey were affordability, price structures and hardship programs. The survey questions are included in Appendix M.

The survey findings are provided in Table 13.2, followed by a brief summary of how Hunter Water has incorporated the survey results into this submission.

Table 13.2 Customer engagement survey results

Survey question	Result (per cent)
Do you think there is anything unfair about Hunter Water's pricing?	
Yes	31
No	55
Don't know	14
Concession card holders were slightly more likely to find Hunter Water's pricing unfair (34 per cent) as compared with non-card holders (28 per cent).	
Are you aware that Hunter Water offers a range of programs to support customers if they are experiencing financial difficulty?	
Yes	41
No	59
Don't know	-
If yes, which programs are you aware of?[a]	
Financial counselling	3
Multiple prepayments	2
Payment assistance scheme	5
Holding interest	1
Centrepay	3
Payment plans	29
Other (or unable to name specific programs)	62

Survey question	Result (per cent)
Hunter Water is considering offering additional water bill assistance to customers experiencing financial difficulty. If you were experiencing financial hardship, would any of the following assistance programs interest you? Please say yes or no for each program.[a]	
Bill smoothing – making a regular weekly or monthly payments rather than having different bill amounts every four monthly cycle.	66
Payment incentive program – involving rewards for regular repayment of long standing overdue bills.	63
Outreach by appointment – Hunter Water visit your home to discuss options	60
Outreach at a community venue (e.g. library, neighbourhood centre)	34
Appointment or drop-in on designated days	57
Hunter Water visiting your home to check for water leaks and help you save water (where water use is high and contributing to difficulty in paying bills)	79
Other	9
How do you rate Hunter Water's performance as a water utility in the Lower Hunter region?	
Poor	2
Fair	4
Good	22
Very good	46
Excellent	26

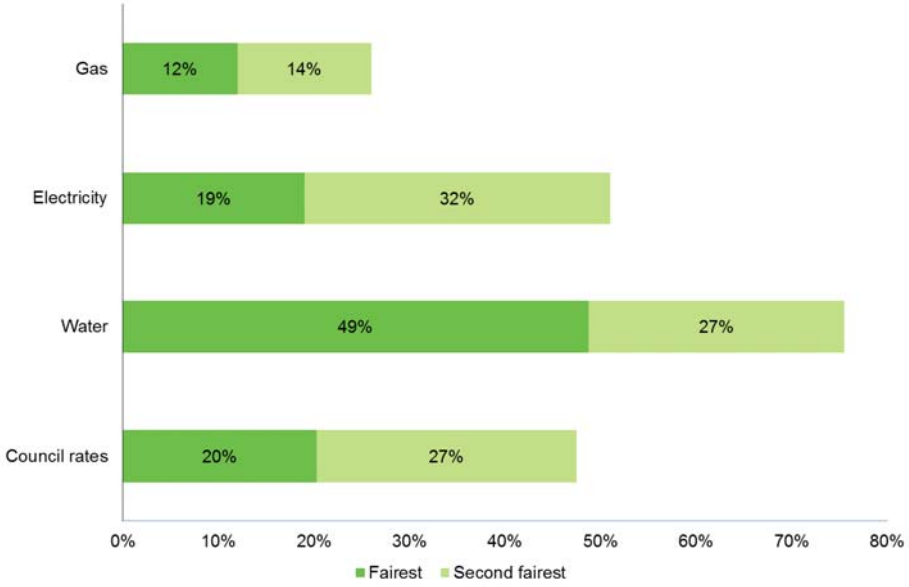
Source: Insync Surveys, 2014(b).

a) Multiple responses were possible, therefore percentages do not add to 100 per cent.

13.4.2 Affordability

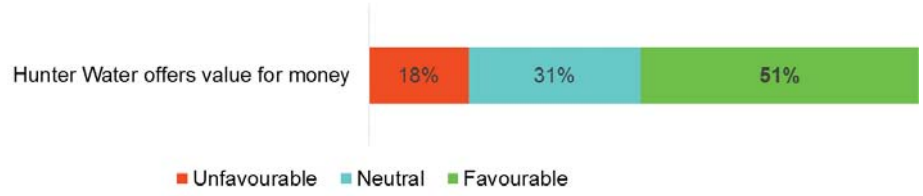
Customers continue to consider water bills to be more affordable than other utilities, ranking water bills first relative to council rates, electricity and gas. In 2014, water was regarded the fairest utility bill, as shown in Figure 13.2. This result compares with the 2012 survey in which around six in ten respondents found their bill to be reasonable in comparison to other utility bills. In the separate 2013-14 reputation study, over 80 per cent of participants responded favourably or neutrally when asked if Hunter Water offers value for money.

Figure 13.2 Survey responses: *"Rank your bills in order of fairness"*



Source: Data from Insync Surveys, 2014(b). Hunter Water analysis. Note that renters did not rank council rates.

Figure 13.3 Customer perceptions of value for money



Source: Insync Surveys, 2014(a), p.37.

Although most people find bills affordable, Hunter Water is striving to keep it that way by offsetting cost pressures and offering programs to assist customers experiencing financial hardship.

Targeted account assistance programs are an effective way to manage the social impacts of pricing decisions on customers experiencing, or at risk of, financial hardship. Hunter Water continually seeks to improve its account assistance for customers in financial hardship (see Chapter 12). The 2014 pricing study was used to gauge customer interest in additional bill assistance programs under consideration. Most suggestions were supported by survey respondents, as shown in Table 13.2. In March 2015, Hunter Water announced that it will implement the most popular improvement: providing access to emergency plumbing where high usage levels suggest leaks may be adding to the bills of customers in genuine financial hardship.[174]

[174] Hunter Water Media Release, *Hunter Water and welfare groups in historic community partnership,* 12 March 2015.

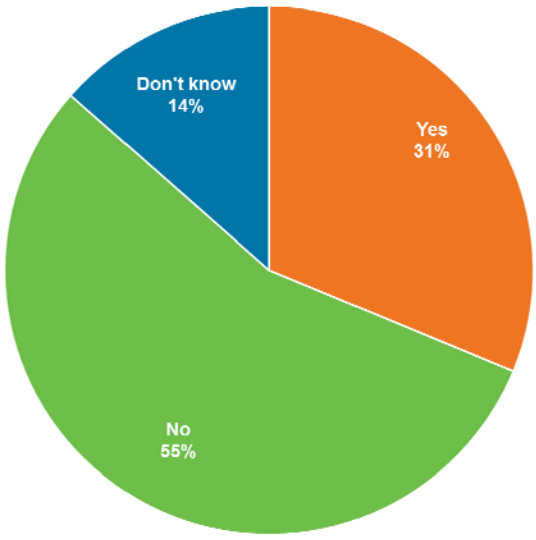
13.4.3 Community views of current prices and pricing structures

The survey sought to understand community views about Hunter Water's current prices and pricing structure, along with the reason for those views.

While more than half of those surveyed consider that current prices are fair, almost one in three customers consider there to be something unfair (see Figure 13.4). Concession card holders were slightly more likely to find Hunter Water's pricing unfair (34 per cent) as compared with non-card holders (28 per cent).The most commonly cited concerns were: bills being too high overall, control over bills and high fixed sewer charges. Box 13.1 provides a description of how these issues have been taken into account in this submission.

Figure 13.4 Response to survey question

"Do you think there is anything unfair about Hunter Water's pricing?"



Source: Insync Surveys, 2014(b).

Table 13.3 Survey responses: *"What is unfair about prices?"*

Theme	Number of mentions	Respondents who thought prices are unfair and mentioned this theme (per cent)
Overall bills are too high	46	37
The sewer charges are too high	26	21
I don't have enough control over my bill or fixed charges too high/unfair	13	10
The water charges are too high	11	9
Prices relative to Sydney/Gosford/Wyong	6	5
Water usage charge - too high or should be zero	4	3
Stormwater charges - should be zero	1	1
Inter-regional water sales to Central Coast (price relative to retail price)	2	2
Rebates - self-funded retirees, rainwater tanks	2	2
Billing issues	2	2
Miscellaneous charges	5	4
Interest charged on late payments		
Inspection fee		
Inaccessible meter		
Water usage charge applied to concealed leak		
Misunderstandings	9	7
Sewer usage charge (should not have to pay) [a]		
Tillegra (still paying for, costs with/without) [b]		
Sewer extent or backlog areas	3	2
Water wise rules	3	2
Government policy (unrelated to prices)	9	7
Total mentions [c]	**147**	
Number of respondents answering "yes" something is unfair about Hunter Water's pricing	**125**	

Source: Insync Surveys, 2014, Appendix B, Verbatim responses recategorised by Hunter Water.

a) Sewer usage charges have not applied to residential customers since 16 July 2009.

b) Following the NSW Government's decision not to approve the proposed Tillegra Dam in November 2010, the Government asked IPART to calculate a refund amounts paid by customers towards the cost of Tillegra Dam and set new water service charges to apply for the remainder of the 2009-2013 price period. Hunter Water provided rebates and refunds during the March 2011 to June 2011 billing cycle and applied the reduced water service charge from 1 March 2011, as required. In its 2013 determination IPART excluded the costs of maintaining landholdings at Tillegra from the operating costs allowed to be recovered through periodic prices.

c) Some responses have been allocated to multiple categories.

Box 13.2 Hunter Water response to customer perceptions of unfair prices

How much control do customers have over their bills?

Control over bills continues to be a contentious issue amongst customers with the majority of customers feeling that they should have more control over their bill.

Two prominent concerns are that the fixed sewer charge is too high and that there is no financial incentive for being water efficient and reducing water consumption.

Part of a bill is fixed and part is variable. Customers can control their bills by changing the amount of water used, which reduces the amount of variable charges payable.

Setting the right level of fixed and variable water charges is challenging. Most customers would like more of the bill to be variable and less to be fixed, because it helps encourage water conservation and manage affordability.

Water usage charges make up 96 per cent of the 2015-16 typical household water bill in the Lower Hunter. The proposed prices would see the variable (controllable) portion of the typical water bill decrease to 88 per cent by 2019-20.

Hunter Water compared this with other Australian water utilities and found that customers have more control over their water bills than any other major urban area in Australia (refer to Figure 12.1). In Sydney, Gosford and Wyong less than 80 per cent of the typical household water bill is variable.

Hunter Water's proposed price structures and price levels (charges) will enable a typical household annual water and sewer bill to be made up of a variable (water usage) component of around 40 per cent.

Why is the sewer bill a fixed price?

Hunter Water charged all customers a fixed sewer service charge and a variable sewer usage charge until 2009.

Some of the reasons for not charging residential customers a sewer usage charge are:

- Most residential customers discharge about the same amount of sewerage. There is less variability in volume than for residential water usage.
- It is too expensive to meter residential sewer discharges.
- Customers complained about a range of issues to do with the usage charges.

In addition, the costs of providing sewerage services are almost entirely fixed with only a small proportion of costs related to the volume of discharges. Hunter Water considers that sewer usage charges are more suited to non-residential customers because their discharges vary more, the volume discharged is controllable without compromising health and metering may be cost effective.

13.4.4 Pricing complaints this determination period

Hunter Water received around 300 complaints in relation to pricing during the period 1 July 2013 to 26 March 2015, the composition of which is shown in Figure 13.5. Pricing complaints represent less than 10 per cent of total complaints over the period and relate to less than one per cent of the connected customer base. All of the pricing complaints have been resolved.[175]

The largest proportion of complaints related to price structure changes for residential multi premises, non-residential multi premises and mixed multi premises. A multi premise is a premise where there are two or more properties. Flats and units are an example of a residential multi premises. A mixed multi premise is a premise that contains both residential and non-residential properties.

IPART's 2013 determination implemented changes from its 2012 review of price structures for metropolitan water agencies.[176] The price structures contained in the final determination differed from those contained in the draft determination. The new service charge structures for multi premises were complex and the release of the final determination in mid-June 2013 provided little time to seek clarification or communicate the changes to customers before new prices came into effect on 1 July 2013. Hunter Water received a relatively high volume of customer complaints during the first billing period of the new determination, due to a combination of customer confusion and an interpretational issue in the determination. Hunter Water clarified the issue with IPART and provided refunds to affected customers.

Around one third of the pricing complaints during the current price period related to properties that had applied for water and/or sewerage service connection but construction had not been sufficiently completed to enable occupancy within the standard 22 weeks Hunter Water allows between the connection application and levying of charges.

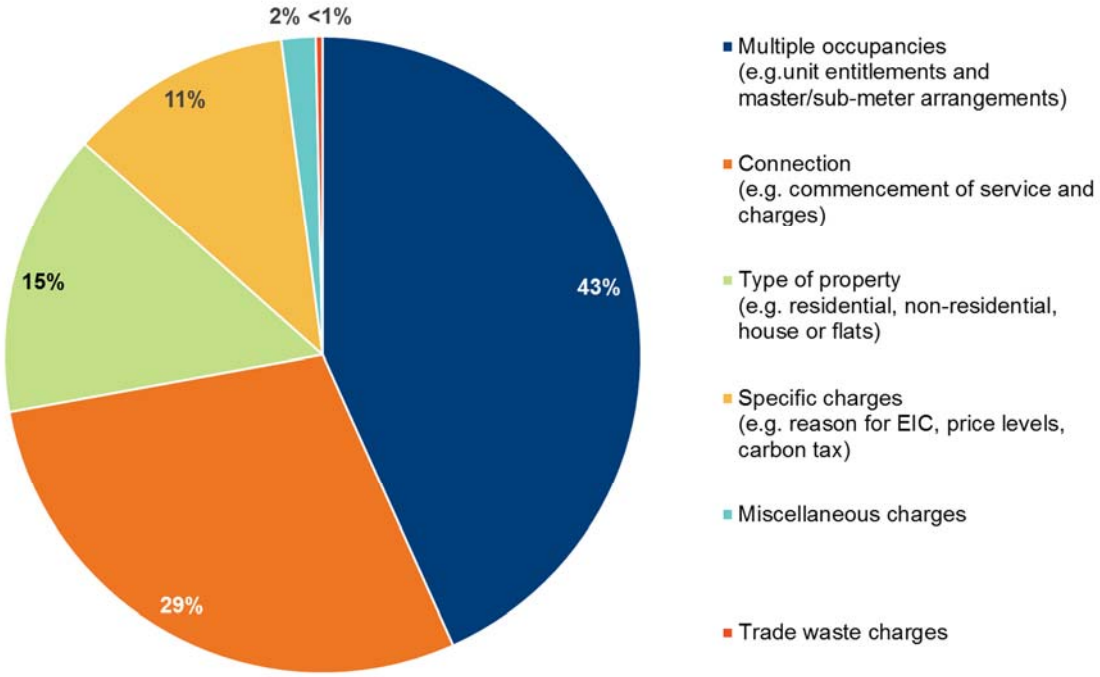
A small portion of complaints related to customer requests to review the property type on which their bills were based. The requests generally arose due to a change in use, such as division of a single residential property into two townhouses with a delay in construction of the second townhouse. The majority of cases are resolved in consultation with the customer and an inspection of the property by Hunter Water, if required.

An equally small portion of complaints related to price structures or levels. These complaints were of a general nature and covered topics such as high sewer service charges, objection to the environmental improvement charge, carbon tax implications and likelihood of a refund due to its repeal.

Complaints related to ancillary and miscellaneous charges displayed no trend or common objection to specific charges. These related to less than 0.01 per cent of the instances of miscellaneous charges being levied. The single complaint regarding trade waste charges related to a customer request for cessation of a trade waste agreement on the basis that it was no longer required.

[175] With the exception of the few complaints received within five business days of the data extraction date.
[176] IPART, 2013(a), p.93.

Figure 13.5 Pricing complaints June 2013 to March 2015



14 TRADE WASTEWATER CHARGES

Main points

- *Hunter Water's overall approach to trade wastewater charging underwent a major review for the 2009 price determination. This included a detailed external review by IPART's consultants (Halcrow).*
- *Hunter Water proposes to retain the current pricing structure and prices in real terms for the next price period.*
- *Hunter Water proposes one new trade wastewater charge: a fee to vary tankering agreements for waste generated outside of Hunter Water's area of operations.*

14.1 Background

Hunter Water has forecast total revenue from trade wastewater charges at $8.3 million over the next four-year price period. This is less than 1 per cent of all regulated revenues.

Hunter Water provides trade wastewater and tankering services to commercial and industrial customers where capacity and capability are available at wastewater treatment works. Trade wastewater and tankering discharges are higher strength than domestic discharges and represent a proportionally greater imposition on wastewater treatment facilities. Hunter Water's acceptance of higher strength discharges increases the costs of treatment. There are also administrative costs to manage customers and monitor their discharges to ensure Hunter Water complies with regulatory obligations in the wastewater collection system and treatment plants.

14.2 Pricing of trade wastewater and tankering services

IPART's 2013 determination concluded that:

> *…Hunter Water's proposal for trade waste charges reflect our trade waste pricing principles… The proposed charges are largely reflective of the extra costs incurred by Hunter Water in providing trade waste services.*[177]

Hunter Water's trade wastewater charges are based on a number of factors, which can vary over time and by wastewater treatment works, including:

- treatment plant operating costs
- capital costs of the wastewater treatment plants
- load-based licensing (LBL) fees that are imposed by the Environment Protection Authority (EPA), and
- administration costs.

The additional costs associated with managing higher than domestic strength discharges from trade wastewater and tankering customers are recovered via fixed and variable fee components, as shown in Figure 14.1. Broadly, the fixed charges (dollars per year) have been used to recover fixed costs, like labour that is directly employed to assist in the monitoring and management of these customers. The variable charges (dollars per kilogram) for high strength wastewater and specific constituents (e.g. heavy metals, phosphorus, sulphate) recover costs that vary on the basis of the discharge quality, such as the energy and chemical costs associated with treating the additional load.

At each price review, Hunter Water reviews and updates its trade wastewater charges to reflect movements in the operating costs of treatment plants and changes to its regulatory operating environment. In particular, the upgrade of wastewater treatment plants to comply with EPA licence conditions and pollution reduction programs can have significant impacts on the costs of accepting and treating trade wastewater.

Hunter Water's review of trade wastewater charges has not revealed a need to vary, in real terms, any individual charge or charges as a whole. Some increases in costs for particular services have been offset by savings in the same area.

[177] IPART, 2013(a), p.137.

14.3 Overview of proposed charges

The current pricing structure for trade wastewater customers is shown in Figure 14.1. This structure will remain unchanged for the coming price period.

14.3.1 Agreements

Trade wastewater customers are currently issued five-year agreements. These agreements are categorised as minor, moderate or major depending on the individual customer's risk profile (assessed in terms of quality and volume of discharge) when the initial agreement is created (see Figure 14.1).

There are presently 2,212 trade wastewater customers comprising 1,953 minor, 130 moderate and 129 major agreement customers.

Customers on a major agreement are charged additional discharge fees based on the volume and quality of wastewater being discharged to sewer. These fees are shown in Table 14.1. For customers on minor and moderate agreements, the fixed fee also covers treatment costs.

In order to keep agreements up to date, Hunter Water issues a new Trade Wastewater Agreement whenever a customer updates the details that are stated in their agreement.

Hunter Water has reviewed the administration and inspection costs associated with each trade wastewater fee, and is proposing to retain the current pricing structure.

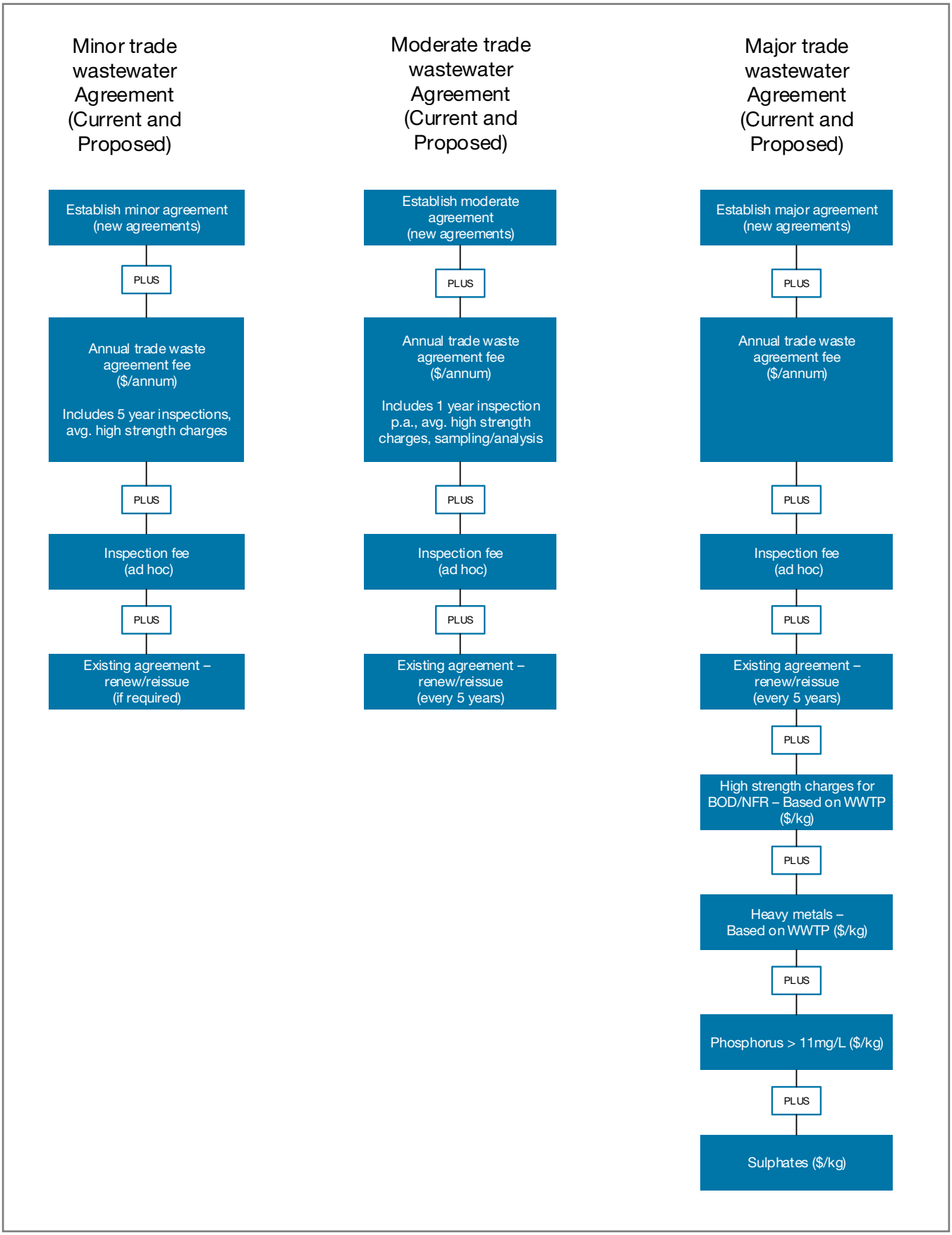
Hunter Water's trade wastewater agreement charges proposed for the price period commencing 1 July 2016 are detailed in Table 14.1. The derivation of the charges makes no allowance for the effect of inflation and the charges should be increased annually in line with CPI.

Table 14.1 Trade wastewater agreement and inspection fees ($2015-16)

	2015-16	2016-17 to 2019-20
Minor agreements		
Establish minor agreement (new agreements)	137.48	137.48
Existing minor agreement holders:		
Annual trade waste agreement fee	112.41	112.41
Inspection fee	119.48	119.48
Existing renew/reissue	101.54	101.54
Variation to minor agreement fee	108.18	108.18
Moderate agreements		
Establish moderate agreement (new agreements)	488.39	488.39
Existing moderate agreement holders:		
Annual trade waste agreement fee	821.79	821.79
Inspection fee	119.48	119.48
Existing renew/reissue	275.14	275.14
Variation to moderate agreement fee	108.18	108.18
Major agreements		
Establish major agreement (new agreements)	553.02	553.02
Existing major agreement holders:		
Annual trade waste agreement fee	457.67	457.67
Inspection fee	119.48	119.48
Existing renew/reissue	391.14	391.14
Variation to major agreement fee	108.18	108.18

Source: Hunter Water.

Figure 14.1 Trade wastewater pricing structure



14.3.2 High strength charges

Biochemical oxygen demand (BOD)/non-filterable residue (NFR) high strength charges are designed to recover the additional costs associated with treating the component of load that exceeds the equivalent domestic load strength in trade wastewater customers' discharges. BOD/NFR load (in kilograms) provides a suitable surrogate for a range of pollutants in wastewater that result in a treatment impost on Hunter Water.

The BOD/NFR charge is applied to whichever of either the BOD or NFR makes up the higher load in the waste from an individual customer. Separate BOD/NFR charges apply for each of Hunter Water's wastewater treatment works catchments, reflecting treatment cost differences at each works (see Table 14.2). This pricing structure creates incentives for new industrial and commercial trade wastewater customers to undertake new business in areas where the existing infrastructure will support their activities.

Trade wastewater customers tend to produce wastewater that is highly variable in nature. They also tend to be transient in that businesses can move between wastewater catchments. Hunter Water's treatment facilities are primarily designed to treat domestic quality wastewater. Designing wastewater treatment works for trade wastewater loads is not an efficient balance between the investment required to treat high strength wastewater and risk of customers ceasing operations or initiating on-site treatment. The transient nature of trade wastewater customers also means that the high strength charge revenue is not a very secure source of recovery of the capital costs of long-life assets.

Load limits are applied to trade wastewater agreements as required. This is usually only when an industry has sufficiently high volume and trade wastewater strength to have potentially serious impacts on the receiving treatment facility if the agreement load limits are exceeded. Exceeding the specific load limit in the agreement could have serious consequences, including failure of the treatment process, environmental regulatory breaches, environmental damage and subsequent litigation and could compromise safety of the community and Hunter Water's workers. It therefore could potentially impose significant costs on Hunter Water.

Hunter Water has an 'incentive charge' as a way of encouraging customers to maintain compliance with limits specified in trade waste agreements. The incentive charge only applies when new load limits have been set or existing load limits have been agreed with the customer in full knowledge of the incentive charge.

The incentive charge is applied for loads exceeding an agreed load limit for each pollutant specified on a major trade wastewater agreement. The incentive fees apply to the proportion of load above the load limit for each billing cycle.

To make the incentive reasonable and effective, the 'incentive' load rate is set at triple the base load rate for loads beyond the load limit for each applicable pollutant set in the agreement. As the incentive charge is set at an appropriate rate to motivate compliance with agreement limits, no material level of additional revenue is expected.

Hunter Water is proposing to retain the current pricing structure which reflects the changing capacities and operating costs of the respective treatment plants (see Table 14.2). The derivation of the charges makes no allowance for the effect of inflation and the charges should be increased annually in line with the change in the CPI.

14.3.3 Heavy metals

The current heavy metal charge has been calculated using the original methodology adopted by IPART in all determinations since 1994. The charge is based on the costs associated with environmental monitoring, sludge and effluent/influent heavy metal monitoring, a portion of the EPA's LBL fees and the administration costs of treating and accepting heavy metals.

The charge is based on the total mass of heavy metals discharged into Hunter Water's sewerage system from local industries. Due to the low level of metals discharged to sewer from local industries, and the high level of treatment at Hunter Water's wastewater treatment plants, the LBL metal fees imposed by the EPA are generally low.

Hunter Water proposes to retain the current price structure of two heavy metal charges: one for the Burwood Beach catchment and a common charge for all other wastewater catchment areas. Burwood Beach wastewater treatment works uses a different treatment process, which results in a difference in LBL fees imposed by the EPA.

The proposed charges are shown in Table 14.3 below. The derivation of the heavy metal charges makes no allowance for the effect of inflation and the charges should be increased annually in line with the CPI.

Table 14.2 Trade wastewater high strength charges for BOD/ NFR ($2015-16)

Wastewater treatment works	2015-2016 Base charge	2015-2016 Incentive charge[b]	2016-17 to 2019-20 Base charge	2016-17 to 2019-20 Incentive charge[b]
	$/kg ($ 2015-16) [a]			
Belmont WWTP	1.35	4.03	1.35	4.03
Boulder Bay WWTP	1.82	5.45	1.82	5.45
Branxton WWTP	5.02	15.06	5.02	15.06
Burwood Beach WWTP	0.76	2.26	0.76	2.26
Cessnock WWTP	1.69	5.09	1.69	5.09
Clarence Town WWTP	14.36	43.07	14.36	43.07
Dora Creek WWTP	2.00	5.99	2.00	5.99
Dungog WWTP	3.15	9.48	3.15	9.48
Edgeworth WWTP	1.32	3.98	1.32	3.98
Farley WWTP	1.29	3.89	1.29	3.89
Karuah WWTP	14.39	43.16	14.39	43.16
Kearsley WWTP	2.71	8.15	2.71	8.15
Kurri Kurri WWTP	2.90	8.68	2.90	8.68
Morpeth WWTP	1.00	3.00	1.00	3.00
Paxton WWTP	7.96	23.87	7.96	23.87
Raymond Terrace WWTP	1.98	5.92	1.98	5.92
Shortland WWTP	1.52	4.56	1.52	4.56
Tanilba Bay WWTP	3.09	9.28	3.09	9.28
Toronto WWTP	1.63	4.89	1.63	4.89

Source: Hunter Water.

a) These charges apply where the concentration strength is greater than 350mg/L for BOD or NFR, whichever is the higher.

b) These charges apply for loads beyond the load limit set the trade waste agreement.

14.3.4 Phosphorous

The costs associated with phosphorus discharges from industries are made up of the following components:

- the use of chemicals and administrative costs associated with accepting the discharge of phosphorus into the sewerage system
- costs associated with EPA LBL fees (where applicable), and
- the costs of managing additional biosolids from the precipitation of solid compounds as a result of chemical processing to remove phosphorus.

The proposed charge to apply from 1 July 2016 is shown in Table 14.3.

This table also compares the proposed charge with that applying in 2015-16. The derivation of the phosphorus charge makes no allowance for the effect of inflation and the charges should be increased annually in line with CPI.

14.3.5 Sulphate

The discharge of sulphate contributes to the production of sewage gases and odours within the wastewater transport system. Most sewer odour problems are due to the presence of hydrogen sulphide. The concentration of the gaseous hydrogen sulphide is related to the sewer conditions and the level of dissolved sulphides present in the sewage. Sulphates are converted to sulphides under the anaerobic conditions that occur within the pipe network.

The presence of odours causes customer complaints and generally indicates that assets are being subjected to corrosion from the acids produced. Sulphides have led to corrosion of metal fittings in pump stations and treatment works and attack concrete structures within the sewerage system overall. Sulphides not only cause considerable damage and lead to significant maintenance costs but also pose occupational health and safety hazards.

Since the production of these gases is generated under a range of conditions, which vary with pH, flows and temperatures, it is difficult to develop an accurate cost-reflective charging methodology. It is more appropriate to use an incentive-based charge to encourage dischargers to minimise sulphate levels in their wastewater. The proposed charge is as follows ($2015-16): ${0.154 x ($SO_4$/2000)}/kg

This sulphate charge applies for trade wastewater customers who discharge higher sulphate concentrations than domestic customers. The cost methodology incorporates the nominal minimum price with the sulphate (SO_4) concentration linked to the national acceptance standard of 2,000 milligrams per litre and increases as the concentration increases. The converse is the result when the concentration is lower than the national standard.

The proposed sulphate charge is shown in Table 14.3 below. The derivation of the below charges make no allowance for the effect of inflation and the charges should be increased annually in line with the CPI.

Table 14.3 Trade wastewater services variable quality charges ($/kg $2015-16)

	2015-16	2016-17 to 2019-20
Heavy metals:		
Burwood Beach WWTP catchment	23.58	23.58
All other catchments	38.89	38.89
Phosphorus >11mg/L ($/kg)	2.70	2.70
Sulphate formula ($/kg)	0.16 x (SO_4/2000)	0.16 x (SO_4/2000)

Source: Hunter Water.

14.4 Tanker received wastewater

Different types of wastewater are trucked to Hunter Water's wastewater treatment plants for treatment, including septic tank effluent and sludge, portable toilet waste and industrial waste. Fees for waste received by road tanker are made up of the following components:

- the capital costs of dedicated equipment installed to accept tanker waste
- administration costs associated with managing tanker waste, and
- treatment plant operating costs.

Hunter Water recovers a component of administrative costs through fixed charges and the rest through volume-based charges (see Figure 14.2).

Hunter Water had previously relied on an honour system to collect tanker wastewater charges whereby tanker drivers recorded the discharge type and volume on paper dockets. The new contract to manage Hunter Water's wastewater treatment works includes complete supervision of all tanker discharges at the receiving treatment works. The treatment works contractor samples the content of the tanker prior to discharging. This minimises the risk of harmful substances entering the treatment process and enables accurate charging of high strength loads.

Hunter Water is proposing to introduce a variations to agreement fee for tankering customers, to recover costs on assessing the quality and quantity of waste discharged at the WWTP that is not part of the original Agreement. Tankering customers will be required to lodge a variations to agreement application for all waste that is generated from areas that are not within Hunter Waters' area of operation. The application is to be accompanied with a sample report outlining the contaminants that are contained within the wastewater.[178]

[178] Each application must be accompanied by a sampling report from the National Association of Testing Authorities Australia.

The proposed pricing structure for tanker waste is shown in Table 14.4. The derivation of the tankering services charges makes no allowance for the effect of inflation and the charges should be increased annually in line with the CPI.

Table 14.4 Tankering services charges ($2015-16)

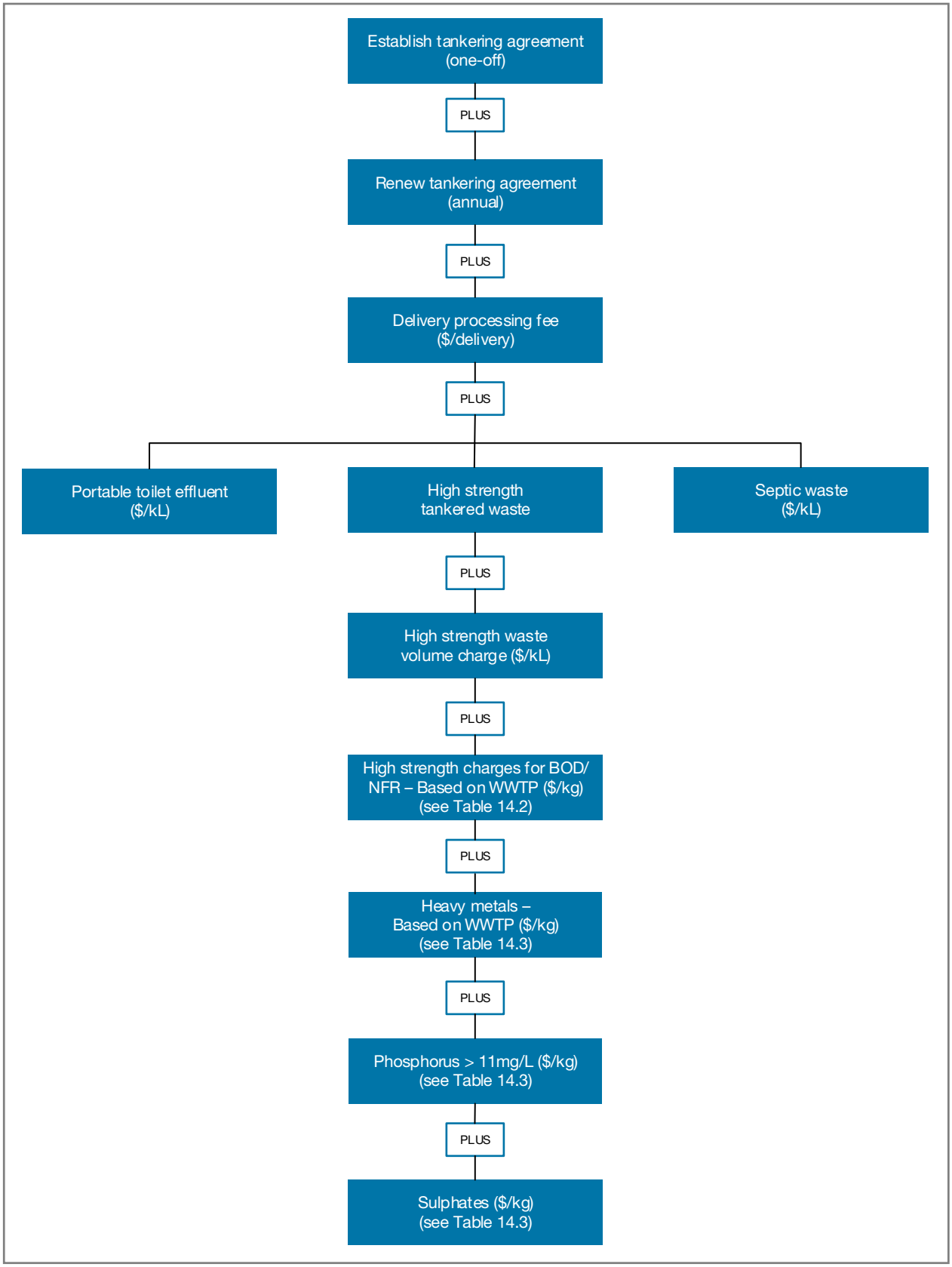
	2015-16	2016-17 to 2019-20
Establish tankering agreement	211.05	211.05
Renew agreement	134.70	134.70
Delivery processing fee	4.16	4.16
Portable toilet effluent ($/kL)	13.79	13.79
Septic waste ($/kL)	5.43	5.43
High strength waste ($/kL):		
Volume charge ($/kL)	3.51	3.51
High strength charges for BOD/NFR ($/kg)	see Table 14.2	see Table 14.2
Heavy metals ($/kg)	see Table 14.3	see Table 14.3
Phosphorus >11mg/L ($/kg)	see Table 14.3	see Table 14.3
Sulphate formula ($/kg)	see Table 14.3	see Table 14.3

Source: Hunter Water.

14.5 Customer incidence

There was one customer complaint regarding trade wastewater charges during the past two years, related to a customer request for cessation of a trade waste agreement on the basis that it was no longer required. Other customer contacts were enquiries regarding the bill and the method used to calculate charges.

Figure 14.2 Tanker services pricing structure



15 MISCELLANEOUS SERVICES

Main points

- *Hunter Water offers a range of non-contestable, one-off services to customers on a direct cost recovery basis.*
- *Charges for miscellaneous services are only incurred by a small number of customers, usually for one service at a time.*
- *In preparing the fee structure for the next four years, Hunter Water has taken the opportunity to review its business processes to ensure costs are aligned with service delivery.*
- *Price increases are proposed for 19 services and reductions are proposed for six services.*
- *Hunter Water is proposing to discontinue four existing customer charges and seven development-related charges.*
- *Hunter Water is proposing to implement a third-party certification model for developer network assets from 1 July 2016. This approach better allocates risks and liabilities to developers. Hunter Water is proposing to retain a role in conducting compliance audits based a on project by project assessment of risks.*

15.1 Background

Hunter Water forecasts annual revenues of $2.6 million from the two categories of miscellaneous service charges: customer service charges ($1.7 million) and development-related charges ($0.9 million).

- Customer service charges – These are charges for largely administrative services with individual properties such as special meter readings and the provision of sewer location diagrams
- Development-related charges – These charges cover the administrative and application processing costs associated with managing potential new developments, such as advice on servicing requirements and statements of available pressure.

The cost base for individual miscellaneous charges is summarised in Appendix M.

Hunter Water's miscellaneous service charges are based on IPART's cost-recovery methodology, reflecting the following components:

- direct labour costs, including on-costs
- other direct costs (i.e. materials, contract costs)
- indirect overheads.

IPART's 2013 determination[179] accepted all of Hunter Water's proposed miscellaneous service charges. IPART found that the proposed changes in customer service charges were reasonable given movements in contract rates at that time.

The following sections summarise the proposed changes in charges and fees, including the termination or restructure of a number of charges at the end of the current price period. Appendix N provides a detailed description and breakdown of costs for each of Hunter Water's proposed miscellaneous service charges, including a detailed cost composition for each individual charge.

The proposed miscellaneous service charges in this submission are quoted in 2015-16 terms and should be increased annually in line with the CPI.

Over recent determinations, Hunter Water and IPART have adopted a protocol for submitting miscellaneous charges and rounding for the indexed charges in subsequent years. The protocol that Hunter Water applies is as follows:

- If charges are submitted by the water agency and set by IPART rounded to the nearest whole dollar, charges are indexed each year to the nearest whole dollar.
- In this submission Hunter Water has rounded all charges greater than or equal to $100 to the nearest whole dollar (see Appendices M and N).

[179] IPART 2013(a), p.140.

- If charges are submitted by the water agency and set by IPART rounded to the nearest five cents, charges are indexed each year to the nearest five cents.
- In this submission, Hunter Water has rounded all charges less than $100 to the nearest five cents (see Appendices M and N).

15.2 Efficiencies and cost movements

In preparing the fee structure for miscellaneous charges for the next four years, Hunter Water has taken the opportunity to review its business processes to ensure costs are aligned with service delivery. The prices reflect not only the labour costs associated with the efficient delivery of the service, but other costs directly related to the delivery of the service The key cost movements impacting on miscellaneous charges are varying labour and contract rates as well as, in some instances, an increase in the complexity of the process for a particular service.

15.3 Customer services charges

There are 54 proposed customer service ancillary and miscellaneous charges with the common numbering system established by IPART utilised.

The proposed customer service charges relate to the services provided in:

- water supply
- recycled water supply
- wastewater services
- plans and statements
- ancillary services, and
- irregular and dishonoured payments.

Hunter Water has reviewed the work processes involved in each of the proposed customer services miscellaneous charges. When compared to the current list of charges, the changes proposed for the coming price period are as follows:

- four charges have been discontinued
- six charges have decreased
- eighteen charges have increased
- one charge has components which have increased and decreased
- two charges have been restructured/amended, and
- thirteen charges remain the same.

The proposed changes and improvements are detailed in Table 15.11, 15.2, 15.3, 15.4 and 15.5. Details of the activity levels and expected revenue from each charge are provided in Appendix N.

Table 15.1 Customer services charges that have reduced by more than five per cent

Service No	Function	Decrease (per cent)	Reason For Variation
7	Water reconnection after restriction	7 to 9	Decrease in contractor rates
21	Application to connect/disconnect sewer	27	Inspection fees no longer applicable
22	Application to connect/disconnect water and sewer services (combined application)	25	Inspection fees no longer applicable
29	Meter affixtures/ handling fee	11 to 44	Decrease in contractor rates
30	Inspection of non-compliant meters	8 to 32	Decrease in contractor rates, which varies by meter size
63	Affix a separate meter to a unit	8	Decrease in contractor rates

Source: Hunter Water.

Table 15.2 Discontinued customer services charges

Service No	Function	Description
15(a)	Standpipe hire monthly fees	No longer charging monthly service charges. Moved to a tri-annual billing cycle
17	Backflow device test	This charge has been incorporated into Charge 18
31	Service requirement audit	Incorporated into Charge 52
60	Inaccessible meter-reading agreement	Incorporated into Charge 61

Source: Hunter Water.

Table 15.3 Customer service charges that have increased by more than five per cent

Service No	Function	Increase (per cent)	Reason for variation
1a	Conveyancing certificate – Over the counter	13	More accurate costing of staff time
1b	Conveyancing certificate - Electronic	38	Increase in contractor rates
2	Property sewerage diagram (up to A4)	19	More accurate costing of staff time
8a	Workshop flow rate test of a mechanical water meter	2 to 19	Increase in contractor rates
8b	Workshop flow rate and strip test of a mechanical water meter	8 to 32	Increase in contractor rates
9a	Application for water disconnection	59	Increase in contractor rates
9b	Application for recycled water disconnection	12	More accurate costing of staff time
10	Application for water service connection	62	Increase in contractor rates
15	Standpipe hire – triannual	41 to 56	Increase in contractor rates
25	Unauthorised connections	41	More accurate costing of staff time
26	Building plan stamping	43	More accurate costing of staff time
27	Determining requirements for building over/ adjacent to Hunter Water sewer or easement	15	More accurate costing of staff time
32	Connecting to or building over/ adjacent to a stormwater channel for a single residence	13	More accurate costing of staff time
59	Water cart tanker fees (Inspection and Reinspection after rectification of noncompliance)	8	Now utilising the Technical Services charge for inspections. Note this inspection is not carried out by NSW Fair Trading inspectors
61	Inaccessible meter – imputed charge for breach of meter reading agreement	27	More accurate costing of staff time
64	Recycled water meter affix fee	26	Increase in contractor costs
66	Application for recycled water service connection	6	Now utilising the Technical Services charge for inspections

Source: Hunter Water.

Table 15.4 Charge with components that have increased and decreased

Service No	Function	Net change in charge	Reason For Variation
62	Damaged meter replacements	11% net decrease	Increases and decreases to meter costs and contractor fees, which vary by meter size

Source: Hunter Water.

Table 15.5 Restructured or amended customer services charges

Service No	Function	Description
7	Water restriction and reconnection (during and after business hours)	Restructured to include the cost to restrict water services due to non-payment of accounts
18	Backflow device fees	Restructured to reflect the non-compliance portion only due to the implementation of an automated system.

Source: Hunter Water.

15.4 Development-related charges

Hunter Water is making substantial changes to the delivery of developer funded network infrastructure.

At present, Hunter Water is involved in checking compliance with design and construction standards of developer-funded network infrastructure. Hunter Water has a number of development-related charges to cover the cost of this inspection and audit work.

Hunter Water's direct involvement in private developer works may result in risks and liabilities associated with the performance of the design and construction contractors engaged directly by the developer. These risk and liabilities arise in a number of areas: environmental, work health and safety, and quality assurance performance. Under current work practices, the developer (or the accredited design consultant engaged by the developer) are not accountable for the delivery of compliant, fit-for-purpose network infrastructure, warranting that asset quality, safety and environmental outcomes are being achieved during the asset creation process.

Hunter Water is proposing to change the delivery process for developer assets to better apportion risk and responsibility to the developer delivering the works.

The move to third-party certification of developer works for design and construction activities will require Hunter Water to provide sufficient policing (auditing) to ensure that overall asset performance is not compromised and risks are appropriately managed. Taking a risk-based approach to identify which developments, developers, designers or contractors require auditing will help focus attention on key areas rather than spread effort across all active development fronts.

Hunter Water has amended the miscellaneous charges for developer works for the next price period, as outlined in Table 15.6, to remove reference to services involving design review and construction inspection of linear assets (i.e. water and sewer reticulation pipes). More complex infrastructure like trunk mains, sewer pump stations, and water boosters will continue to require a high level of input and oversight from Hunter Water. These asset types remain in the fee schedule for the next price period.

The third-party certification model will allow developers more control and flexibility in delivering assets that are handed over to Hunter Water to own and operate after final commissioning. The audit activities that will replace the direct design review and construction inspections will be funded from general water and wastewater charges. Hunter Water considers that such an arrangement is reasonable as the ongoing audits required to ensure that asset standards and operational performance continue to be achieved are also of value to connected customers. Direct oversight by Hunter Water helps limit potential exposure to the actions of developers and as such is viewed as a legitimate asset protection strategy.

Hunter Water is proposing to introduce the new delivery model from 1 July 2016, in line with the start of the next determination.

Activity levels, incidence and revenue projections for all development application fees are provided in Appendix P.

Table 15.6 Changes to developer charges

Service no	Function	Reason for variation
19	Major works inspection	Linear asset components removed with the exception of sewer rising mains as this asset class is inspected concurrently with inspection of wastewater pump stations
37	Indicative developer charge	Service no longer required
43	Assessment of minor works	Replaced by third party certification
44a	Major works design review and contract preparation	Replaced by third party certification
44b	Major works design re-assessment	Replaced by third party certification
49	Minor works inspection	Replaced by third party certification
57	Recycled water inspection and work as executed (WAE)	Replaced by third party certification

Source: Hunter Water.

15.5 Customer impacts

Hunter Water is proposing 67 charges for ancillary and miscellaneous services. This represents a reduction of 11 charges from the existing seventy eight charges in the current price determination.

Hunter Water has a number of contracts that have been market tested and awarded over the previous two years. The new contracts have had a direct impact on the costs to recover with four charges reduced and seven charges increased to cost recover. Eight other charges have been increased by between five to 18 per cent to accurately reflect the cost to deliver these services. Hunter Water is discontinuing five developer service charges due to a change in process with the introduction of third party certification.

Hunter Water received few customer complaints regarding miscellaneous charges in the current price period (as mentioned in section 13.4.4). These displayed no trend and were related to less than 0.01 per cent of all miscellaneous charge transactions.

16 PRICING ARRANGEMENTS FOR WIC ACT LICENSEES

Main points

- *IPART has indicated that it will address the pricing of services provided by Hunter Water to Water Industry Competition (WIC) Act 2006 licensees as part of Hunter Water's price review.*
- *IPART has asked Hunter Water to comment on whether IPART should determine the prices that Hunter Water can charge private network operators and the basis for setting for such prices.*
- *Hunter Water can see advantages in IPART determining prices for a separate category of customer that on-sells water and wastewater services to end use customers.*
- *Hunter Water is always mindful that any pricing arrangement needs to be fair and reasonable for any new entrant without adversely impacting on existing customers.*

16.1 Background

The *Water Industry Competition Act 2006 (WIC Act)* and associated regulations establish the state-based legal framework for private sector involvement in urban water and wastewater infrastructure.

Private operators require a network operator's licence to construct, maintain or operate water industry infrastructure. Similarly, a retail supplier's licence is required for the commercial supply of drinking water, recycled water or the provision of wastewater services by means of any water infrastructure. Generally a network operator's licence and a retail supplier's licence are required for each development, although these can be held by separate entities.[180]

Since August 2013, the Minister for Water has approved four WIC Act licence applications in Hunter Water's area of operations:

- Huntlee Water (network operation by Flow Systems Pty Ltd)
- Wyee Water (network operation and retail supply by Flow Systems Pty Ltd)
- North Cooranbong (retail supply by Flow Systems Pty Ltd)

IPART is currently processing four licence applications in Hunter Water's area of operations:

- Catherine Hill Bay (network operation by Catherine Hill Bay Water Utility Pty Ltd and retail supply by Solo Water Pty Ltd)
- Huntlee Water (retail supply by Flow Systems Pty Ltd)
- North Cooranbong (network operation by Flow Systems Pty Ltd).

Where a WIC Act licensee provides network and retail services within a development area, the private network operator becomes the local monopoly water utility for all end-use customers. Hunter Water does not own infrastructure within these developments and does not provide an alternative service for these customers.

16.2 Utility services agreements

To date, the majority of Hunter Water's interactions with private network operators have involved the provision of a bulk water supply to the boundary of a new development area (predominately residential developments). Under this model, the private network operator would on-sell drinking water to each customer in the development as well as provide self-contained sewerage and recycled water services.[181]

[180] On 14 October 2014, the NSW Parliament passed the *Water Industry Competition Amendment (Review) Bill 2014* which provides for entity-wide licensing and a separate scheme approval process. A private network operator could hold a state-wide licence and a separate approval for each geographic area (suburb/development) serviced.
[181] Hunter Water has also received requests and enquiries for the connection of sewerage services on an interim basis; the period prior to the full commissioning of private, site-specific treatment facilities.

The provision of services to another independent utility has a number of potential consequences for Hunter Water:

- Infrastructure planning – demand forecasting and planning infrastructure upgrades to cater for growth needs to consider the likelihood of private water and wastewater service provision and any services the private provider may request from Hunter Water. The risk of operational impacts on existing infrastructure also need to be managed.
- Operating licence and customer contract – Hunter Water's interpretation is that the licensee would be the owner of property within Hunter Water's area of operations that has an authorised connection to Hunter Water's water supply system. In this case the licensee is counted as a single property for the purposes of Hunter Water's operating licence section 4.2 system performance standards.
- Water quality – Hunter Water must comply with its operating licence at the point of handover to the licensee and is not in a position to warrant or guarantee the quality of on-sold water. Licensed network operators are also required to provide adequate backflow protection to connect to Hunter Water's systems.
- Continuity of supply – other water authorities are required to provide alternatives for water supply in the event of a disruption.

Hunter Water is working to establish utility services agreements with a number of private network operators. While no agreement has been finalised to date, the final terms and conditions of each agreement will cover: the provision of growth forecasts for water usage, specific requirements for the connection to infrastructure, ongoing maintenance of infrastructure conditions, appropriate responses to emergencies and other critical incidents, and indemnity provisions.

16.3 Pricing of utility service agreements

Each utility services agreement will set out the pricing arrangements for the provision of Hunter Water's services to the private network operator. Hunter Water expects to execute a number of these agreements prior to commencement of the next price period (which is expected to commence on 1 July 2016).

Hunter Water has sought to deal fairly and reasonably with all existing and prospective private network operators. In preparing utility services agreements, Hunter Water has looked at the question of whether it is obliged to charge prices in accordance with the IPART 2013 determination or whether it can negotiate prices directly with a WIC Act licensee. Hunter Water considers that there is uncertainty as to the legal basis for either approach.

Hunter Water recognises that some retail operating costs are avoided when providing services to private network operators. These costs relate to billing processes and some customer service functions.[182] Hunter Water intends to deduct these amounts from the water usage price that is charged to private network operators under a utility services agreement. If the current IPART determination applies to services provided to WIC Act licensees, Hunter Water would require the Treasurer's approval to deduct the retail cost component.[183]

16.4 Role of IPART in determining prices for private network operators

IPART wrote to Hunter Water on 4 May 2015 asking Hunter Water to comment on whether IPART should review the pricing of on-selling arrangements as part of the price review.[184,185]

IPART noted that a WIC Act licensee with a connection to Hunter Water's mains may not necessarily be a property and may not be covered by the Hunter Water 2013 price determination. IPART stated that:

> *As such, the Determination may not cover all instances where a WIC Act licensee acquires water and sewerage services from Hunter Water and then on-sells to its customers within the relevant development.*

At this point in time, Hunter Water is of the view that an approach based on IPART determining prices, or a methodology for calculating prices, for services supplied to WIC Act licensees would have a number of advantages.

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[182] Hunter Water does incur costs in negotiating and establishing each utility services agreement as well as ongoing costs in managing the additional obligations attached to each tailored agreement. These costs do not arise with major customers on standard contracts.
[183] 18(2) of the *Independent Pricing and Regulatory Tribunal Act 1992* states *"The approval of the Treasurer must be obtained if another Minister, an official or an agency fixes (or takes action to fix) the price below the maximum price determined by the Tribunal or calculated in accordance with the determination of the Tribunal."*
[184] IPART, 2015(d).
[185] This legal basis for setting prices supplied to WIC Act licensees was raised by Flow Systems in its April 2015 response to the IPART public consultation on Sydney Water Corporation's Operating Licence.

Hunter Water is always mindful that any pricing arrangement for WIC Act licenses needs to be fair and reasonable for new entrants without adversely impacting on existing customers. Having IPART review and determine prices for this customer type would remove any perception that Hunter Water was acting in a manner that was unfairly or improperly impeding the entry of private operators.

Such an approach may also reduce the time and cost associated with transacting future utility services agreements. IPART's determination process allows all interested parties an opportunity to provide submissions and input to a pricing decision, which then has effect for the determination period. When negotiating a utility services agreement, Hunter Water would make reference to the IPART determination, thereby eliminating the need to revisit the basis for pricing calculations in each agreement.

16.5 Pricing principles

IPART's correspondence to Hunter Water stated that IPART would consider an appropriate pricing approach for water and sewer services sold to WIC Act licensees that on-sell to end-use customers as part of the upcoming price review,

> *… such as retail-minus avoidable costs, in light of postage stamp pricing requirements.*

IPART stated that it would take account of the access pricing principles set out under section 41 of the WIC Act as part of the review. Hunter Water notes section 41(3) of the WIC Act requires that the pricing principles must be:

> *… implemented in a manner that is consistent with any relevant pricing determinations for the supply of water and the provision of sewerage services, including (where applicable) the maintenance of 'postage stamp pricing' (that is, a system of pricing in which the same kinds of customers within the same area of operations are charged the same price for the same service).*

While supporting the assessment framework outlined by IPART, Hunter Water is not in a position at this stage of the price review to provide detailed comment on the merits of specific pricing structures or methodologies for the services it sells to private network operators. Hunter Water anticipates that it will able to outline its preferred approach when responding to IPART's Issues Paper in October 2015.

17 GLOSSARY

The glossary is in two sections. Section 17.1 provides a general glossary of terms used in this submission and section 17.2 provides definitions of the capital expenditure drivers.

17.1 General terms and acronyms

Term	Acronym	Definition
Activity-based costing	**ABC**	An accounting methodology used to assign costs to products (e.g. water, wastewater etc).
Annual Information Return	**AIR**	Information submitted each year to IPART to assist in monitoring the performance of water agencies and to provide sales and connection data and expenditure and asset information to enable IPART to review the revenue requirements of each agency and set prices.
Area of Operations		As specified in Section 16 of the *Hunter Water Act 1991*, a description of which is included in Schedule B of Hunter Water's 2012 – 2017 operating licence.
Australian Drinking Water Guidelines	**ADWG**	Refers to National Health and Medical Research Council (NHMRC) and Natural Resource Management Ministerial Council (NRMMC) 2011 Australian Drinking Water Guidelines. Hunter Water's operating licence states that drinking water supplied to customers must meet the performance requirements set out in the ADWG or other standards set by NSW Health.
Australian Laboratory Services Pty Limited	**ALS, ALS Limited**	Purchaser of the laboratory business of HWA in 2014.
Backlog sewerage areas (and related programs)		These are generally well established areas that have been connected to reticulated water supply for many years but are not connected to the sewerage system. They may be communities in smaller rural villages or small pockets of within larger urban areas.
Biochemical oxygen demand	**BOD**	An indirect measure of the organic matter present in an effluent.
Brownfield development		Redevelopment or upgrade of buildings or facilities on an existing developed site. In this submission, it generally refers to upgrading wastewater treatment facilities on the site of existing wastewater treatment facilities.
Centrepay		A payment mechanism that allows customers receiving Centrelink benefits to nominate amounts that are automatically directly deducted from their benefits on a fortnightly basis and paid towards their Hunter Water bill.
Common meter		See 'master meter' definition.
The Corporation		Hunter Water Corporation.
Consumer Price Index	**CPI**	Consumer Price Index, as defined in section 1.2 of Schedule 8 IPART's Determination No4, 2009 for Hunter Water's prices, means the All Groups index number for the weighted average of eight capital cities as published by the Australian Bureau of Statistics.

Term	Acronym	Definition
Chichester Trunk Gravitation Main	**CTGM**	The Chichester Trunk Gravitation Main is the 85 kilometre pipeline connecting Chichester Dam with the water distribution system at Buttai and Stoney Pinch Reservoirs (serving Maitland and Cessnock) and Waratah Reservoir (serving Newcastle and Lake Macquarie). Sixty-seven kilometres are above ground and two critical sections making up the balance of the distance have been replaced with a buried pipeline during the price period to June 2013.
Country Towns Water Supply and Sewerage Program	**CTWSSP**	A NSW Government scheme that provides funding assistance for backlog services provided by local government water utilities.
Defined benefit superannuation		A scheme whereby an employee's superannuation is calculated as a multiple of the number of years contributing to the scheme and their final average salary. Defined benefit superannuation is a legacy scheme that is no longer open to new members.
Demand management		Strategies to reduce water demand and consumption by residential, commercial and industrial sectors.
Developer charges		Developer charges are paid by developers/new entrants at or before the time of development/connection and are levied for the provision, or upgrading, of water supply and sewerage infrastructure required to service new developments. Developer charges were abolished for water and sewerage services in 2008 but are still in place for recycled water infrastructure.
Development servicing plan	**DSP**	Development servicing plan as defined by IPART Determination No 9 of 2000 is a document that contains information used to calculate developer charges for developments in a defined DSP area. The only current DSPs apply to reticulated residential recycled water systems.
Discharge factor	**DF or SDF**	Is a measure of the volume of wastewater discharged to the wastewater system expressed as a percentage of water delivered to the property via drinking water meters.
Discounted cash flow	**DCF**	An investment analysis tool that takes account of the time in the future when specific expenditures and/or receipts occur and uses discount rates to calculate a single present value for total expenditures and/or receipts over a designated investment period.
Dual reticulation		Term used interchangeably with reticulated recycled water scheme.
Economic level of leakage	**ELL**	Is the level of leakage at which it would cost more to reduce the leakage than to produce water from another source.
Effects-based assessment	**EBA**	Methodology for developing wastewater network strategies. The EBA approach seeks to identify actual impacts of wastewater discharges on the receiving environment, including to the ecology and public amenity, and therefore the real benefits of addressing the impacts through upgrade works.
Equivalised household disposable income	**EHD**	Post-tax income adjusted for household size and composition. It is a measure of the income available to each member of a household to pay for consumption products.
Energy and Water Ombudsman of NSW	**EWON**	Means the NSW industry complaints scheme for the water industry of that name and any successor to that scheme.

Term	Acronym	Definition
Environmental impact		Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products and services.
Environmental Improvement Charge	**EIC**	An annual charge that contributes to the cost of providing sewer services to backlog areas.
Environmental Management Plan	**EMP**	The EMP sets out Hunter Water's environmental improvement strategies and objectives and details targets and timeframes for environmental activities to be undertaken over the term of the plan.
Environment Protection Authority of NSW	**EPA**	From March 2012, the EPA became the regulatory body for protection of the environment licences issued for Hunter Water's wastewater pipe network and treatment plants. EPA licences can be accessed on the EPA website.
Enterprise resource planning	**ERP**	Information technology system(s) or software that support electronic business process through the capture and processing of information on finance, payroll, human resources, procurement and inventory. Asset management and woks management (tasking field employees with jobs) may be included in the system or may link with the system.
Expenditure Review Committee	**ERC**	A committee comprised of Hunter Water senior management representatives that has been established to provide oversight of, and make decisions on, all major financial commitments and undertakings.
Filtration		A process for removing particles from a solution by passing it through a porous structure or medium, such as a screen, membrane, sand or gravel.
Full-time equivalent	**FTE**	A measure that takes account of an organisation's composition of full- and part-time employees by treating part-time employees as a proportion of a full-time employee.
Funds from operations	**FFO**	Cash flow from operations before changes in working capital and changes in other short-term and long-term operating assets and liabilities
Gigalitre	**GL**	A measure of volume equal to a billion litres.
Greenfield site or development		Development on a previously undeveloped site, for example an urban subdivision or industrial development on rezoned rural land.
Headroom		In this submission refers to the difference between actual operational performance and standards set by various regulatory instruments. For example, Hunter Water generally performs well within the standards set in its operating licence, resulting in large perceived 'headroom'. See Chapter 3 for a discussion of operational performance.
Hunter Sewerage Project	**HSP**	A backlog sewerage program that took place between 1989 and 2002.
Hunter Water Australia Pty Ltd	**HWA**	A wholly-owned subsidiary of Hunter Water that consisted of three business areas: treatment plant operations, laboratories and engineering consulting.
Inland wastewater treatment plants		Hunter Water's wastewater treatment plants that do not discharge to the ocean but rather to rivers and creeks.
Independent Pricing and Regulatory Tribunal of NSW	**IPART**	The independent body that oversees regulation in the water, gas, electricity and public transport industries in NSW.

Term	Acronym	Definition
Information and Communication Technology	**ICT**	Technological infrastructure (e.g. computers, network, software, hardware, telecommunications etc)
Integrated Supply–Demand Planning	**iSDP**	A model for forecasting future water demand that was developed by the Institute for Sustainable Futures (University of Technology, Sydney).
Interchange price		The usage price for water sales between the Lower Hunter and Central Coast regions.
Investment-grade credit rating		A credit rating of Baa under Moody's framework or BBB under Standard & Poor's framework. An entity with a relatively low risk of default on debt.
IPART Act or IPART Act,1992		Independent Pricing and Regulatory Tribunal Act, 1992 (NSW)
Kilolitre	**kL**	A measure of volume equal to one thousand litres.
Last resort arrangements		In relation to the WIC Act, this refers to retailer of last resort (RoLR) and/or operator of last resort (OoLR). The designated last resort retailer/operator is required to respond to the failure of a licensee (third party provider) so that customers continue to receive service.
Load-based licensing	**LBL**	An approach to setting environmental limits and fees based on the amount (load) of pollutant emitted.
Local government area	**LGA**	Hunter Water's area of operations covers the LGAs of Cessnock, Dungog, Lake Macquarie, Maitland, Newcastle, Port Stephens and parts of Singleton.
Long-run marginal cost	**LRMC**	A measure of the marginal cost of supplying an additional unit of output, assuming that all factors of production can be varied (e.g. new infrastructure can be built).
Lower Hunter Water Plan	**LHWP**	A plan being developed by the Metropolitan Water Directorate to identify options to secure the Lower Hunter region's water supply.
Master meter		This refers to a water meter that services multi-occupancy premises such as blocks of home units or flats. Master meters are also sometimes referred to as 'common meters'.
Megalitre	**ML**	A measure of volume equal to one million litres.
Meter equivalent	**ME**	Meter equivalent means the relationship between a particular meter size and a 20mm meter. It expresses larger meter in terms of an equivalent number of 20mm meters. For example, a 40 mm meter is equivalent to four 20mm meters.
Metropolitan Water Directorate	**MWD**	The Metropolitan Water Directorate (MWD) leads a whole-of-government approach to water planning for Sydney and the Lower Hunter; provides policy advice on water industry competition and reform; delivers recycling funding and support; and implements the Water for Life education and engagement program.
Non-filterable residue	**NFR**	A measure of suspended particles in an effluent; sometimes referred to as 'suspended solids'.
NSW Office of Water	**NOW**	The Office issues and administers the water access licences for extracting water from rivers and groundwater sources.

Term	Acronym	Definition
NSW Health	**DoH**	NSW Department of Health, sometimes also referred to as DoH.
NPV		Net present value – the difference between the present value of cash inflows or benefits and the present value of cash outflows (costs).
OH&S		Occupational health and safety, protection of the health, safety and welfare of employees, contractors and visitors who are at, or may be affected by, a worksite.
Ocean outfall wastewater treatment works		Hunter Water's wastewater treatment plants that discharge directly to the ocean. These are Boulder Bay, Burwood Beach, Edgeworth, Toronto and Belmont.
NSW Office of Environment and Heritage	**OEH**	NSW Office of Environment and Heritage develops policy in all environmental matters and regulates biodiversity, Aboriginal cultural heritage, waters and rivers, wildlife and native vegetation. From March 2012, regulatory responsibility for environmental licences was transferred to the EPA.
Operating Licence		A licence issued under the Hunter Water Act 1991 defining many of Hunter Water's performance standards
Part 3A		Refers to Part 3A of the *Environmental Planning and Assessment Act 1979*, which provides an assessment and approval process for major infrastructure projects. Part 3A applies to the carrying out of development that is declared by a State environmental planning policy (SEPP) or by an Order of the Minister to be a Project to which Part 3A applies. For further information see http://majorprojects.planning.nsw.gov.au
Payment Assistance Scheme	**PAS**	Payment Assistance Scheme operated by Hunter Water. This scheme provides financial assistance for paying water and sewer bills. Eligibility for assistance is determined by local welfare agencies. Further detail is provided in Box 11.1 in Chapter 11.
Pollution reduction program	**PRP**	As specified in section 68 of the *Protection of the Environment Operations Act 1997*. A mandatory action imposed by the EPA on a licensee, which may include studies, construction of infrastructure etc, to reduce the risk of environmental harm.
Potable		Fit or suitable for drinking
Priority Sewerage Program	**PSP**	This is a NSW Government program that provides funding assistance for the provision of sewer services to existing areas that do not have sewer services. Priority for funding is based on environmental and health criteria.
Public Interest Advocacy Centre	**PIAC**	An independent, non-profit law and policy organisation dedicated to helping vulnerable and disadvantaged people.
Quality assurance check	**QA**	As specified in IPART's 2014 guidelines for water agency submissions.
Rainwater tank		On-site storages to collect rainwater for beneficial use.
Receiving water		A stream, river, lake or ocean that receives stormwater or wastewater discharges.

Term	Acronym	Definition
Recycled water		Highly treated wastewater that can be used in industrial processes, to irrigate agriculture, urban parks and landscapes, and in the home for flushing toilets, car washing and watering gardens. It is not used for drinking or personal use.
Regulatory asset base	**RAB**	The value of Hunter Water's assets used to provide regulated services, determined by IPART and used in estimating the rate of return on investment as an input to assessing Hunter Water's annual revenue requirement.
Reserve Bank of Australia	**RBA**	Australia's central bank.
Retained cash flow	**RCF**	Difference between incoming and outgoing cash over a financial period.
Reticulated recycled water scheme		Refers to schemes where the water agency provides recycled water to a large number of customers using a distribution system similar to that used for reticulating potable water. These schemes are sometimes called 'dual reticulation' schemes because customers can access both reticulated potable water and recycled water from separate pipe networks. They are also called 'third pipe' schemes referring to the three pipe networks servicing customers – potable water, recycled water and wastewater service networks.
SAS Trustee Corporation, State Super	**STC**	Trustee of NSW government defined benefit superannuation schemes.
Short-run marginal cost	**SRMC**	A measure of the marginal cost of supplying an additional unit of output, assuming that at least one factor of production cannot be varied (e.g. infrastructure is fixed and cannot be augmented).
Statement of Corporate Intent	**SCI**	The SCI is essentially a performance agreement between the Board and senior management of a government-owned corporation and its 'shareholders'. It provides a summation of the corporation's strategic and performance commitments to the shareholders and is based on its business plan.
Supervisory Control and Data Acquisition.	**SCADA**	A system that enables remote monitoring and control of plant and equipment.
Sewage		Term used interchangeably with wastewater. The wastewater from homes, offices, shops, factories and other premises discharged to the sewer. About 99 per cent of sewage is water.
Sewerage overflow		Any liquid that escapes from the sewerage system, as well as partially treated sewerage that is discharged from a sewerage (wastewater) treatment plant.
Sewerage system		The network of pipes, pumping stations and treatment plants used to collect, transport, treat sewage (wastewater) for disposal or recycling.
Special Information Return	**SIR**	Special Information Return required by IPART in a price review year to assist in determining prices.
Source(s)		Sources are raw water sources such as dams, river extraction points, groundwater bores, desalination plants or other sources such as stormwater harvesting arrangements, recycling etc.

Term	Acronym	Definition
System performance standards	**SPS**	Minimum service levels set in Hunter Water's 2012-2017 operating licence.
Stormwater		Rainwater that runs off the land, frequently carrying various forms of pollution, such as litter and detritus, animal droppings and dissolved chemicals. This untreated water is dissolved in stormwater channels and discharged directly into creeks, rivers, the harbour and the ocean.
Sustainable water supply		Achieving a long-term balance between the ability of the system to capture and store supplies of water and the demand of current and future users, including the environment.
Treasury Corporation of NSW	**TCorp**	The central financing authority for the New South Wales public sector.
The Tribunal		Independent Pricing and Regulatory Tribunal of NSW (IPART).
Third pipe scheme		Refers to reticulated recycled water scheme that provides recycled water directly to customers, usually in residential areas. The recycled water pipe network is the third pipe after water supply and sewer pipes.
Trade waste		Industrial or commercial wastewater that contains significant quantities of potential contaminants, commonly controlled by trade waste agreements limiting contaminant inputs to the sewerage system at the source.
Typical residential customer		In this submission, typical residential customer refers to a customer living in a detached house with water and sewer services only (not including stormwater services) and using 185 kilolitres of water per year. The customer is not eligible for the pensioner rebate.
Ultraviolet	**UV**	Short wavelength light. UV can be used in water or wastewater treatment to inactivate microorganisms (disinfection).
Wastewater		Term used interchangeably with sewage.
Wastewater overflow		A discharge of wastewater from the wastewater system. These overflows may occur in wet or in dry weather.
Wastewater system		Term used interchangeably with sewerage system.
Water Administration Ministerial Corporation of NSW	**WAMC**	The legal entity that issues water access licences and its day-to-day activity is carried out by the NSW Office of Water (NOW).
Water conservation target		The five year rolling average for annual residential water consumption calculated for each financial year. The target is currently set at 215kL per year.
Water demand		Total water use requirements for drinking, agriculture, industry, recreation and gardening, seasonal and highly influenced by the weather.
Water efficiency		Preventing and reducing wasteful, uneconomical, impractical or unreasonable use of water resources.
Water supply network		System of water sources, including dams, bores, treatment plants, pump stations and distribution pipes, used to supply drinking water on demand to customers.

Term	Acronym	Definition
Weighted average cost of capital	**WACC**	Cost of debt and cost of equity weighted to take into account the proportions of debt and equity in a firm's capital structure.
Work as executed	**WAE**	Drawings or plans showing the actual constructed infrastructure and associated survey information. Also known as "As-Constructed" drawings.
WIC Act	**WICA**	Water Industry Competition Act, 2006 (NSW)
Water Services Association Australia	**WSAA**	The peak industry body for the Australian urban water industry.
Wastewater treatment plant	**WWTP**	Term used interchangeably with wastewater treatment works or sewage treatment plant.
Water treatment plant	**WTP**	Infrastructure and processes used to treat water so that the resulting water quality is appropriate for its intended end-use.
X factor		CPI-X regulation involves setting a price-path (price-cap regulation) for a utility, allowing for changes in inflation (the CPI factor) and expected efficiency improvements (the 'X' factor). The 'X' factor may incorporate other aspects in addition to the expected improvement in efficiency, such as rewards for improvements in output quality, service levels or demand management actions.
2012 pricing consultation		The focus group and customer survey work carried out in June and July 2012 by Insync Surveys to provide customer views on the pricing proposals in the submission. Details can be found in Chapter 13.
2014 pricing consultation		The customer survey work carried out in 2014 by Insync Surveys to provide customer views on affordability, price structures and assistance for customers experiencing financial hardship.

17.2 Capital expenditure drivers

Driver	Definition
Growth	Capital expenditure to meet the requirements of new customers or increased requirements of existing customers in accordance with mandatory standards. Expenditure is funded through cash income from charges other than developer charges.
Mandatory standards	Capital expenditure as a result of an existing or new mandatory standard. A mandatory standard is an obligation imposed by statute or the imposition of a requirement by a regulator that is mandatory on the agency and is enforceable. Examples include expenditure to improve the reliability of assets to ensure compliance with existing or newly-imposed mandatory standards.
Business decisions	Capital expenditure that is wholly justified on the grounds of expected reductions in operating expenditure. The resulting savings should be reflected in the operating budget.
Asset and service reliability	Capital expenditure intended to enhance asset and service reliability.
Discretionary standards	Capital expenditure as a result of a discretionary standard. A discretionary standard is a decision taken by the agency itself that is not imposed or enforceable by any regulatory instrument. These standards include but are not limited to a level of service higher than the level enforceable under a mandatory standard. Agencies may need to supply additional justification for this type of expenditure such as 'community willingness to pay' analysis.
Government programs	Capital expenditure to meet specific Government programs or directives. The expenditure is driven by the Government program which may override other objectives such as commercial return.

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SUBMISSION TO IPART

On prices to apply from 1 July 2016

APPENDICES

APPENDICES

APPENDIX A

SALES AND REVENUE

The actual sales, revenue and connections realised during the current determination period compared to the corresponding projections used for setting prices in 2013 are provided in Tables A.1 to A.3 below.

Table A.1 Sales (ML)

	2013-14	2014-15	2015-16
Hunter Water Actual/Projected [a]	62,161	55,454	54,621
IPART Determination [b]	58,454	57,203	56,321
Difference	3,707	(1,749)	(1,700)

Source: Hunter Water and IPART. Actual figure for 2013-14. Full year forecast figure for 2014-15. Budgeted figure for 2015-16 includes 5 ML bulk water excluded from AIR row 429.

a) Annual Information Return, Non-financial data, Table 1.3 Water consumption, Total metered consumption (row 429).
b) IPART, 2013, p.85, Table 8.1.

Table A.2 Customer Water Connections

	2013-14	2014-15	2015-16
Hunter Water Actual/Projected [a]	235,635	238,768	241,856
IPART Determination [b]	235,696	239,083	242,469
Difference	(61)	(315)	(613)

Source: Hunter Water and IPART. Actual figure for 2013-14. Full year forecast figure for 2014-15. Budgeted figure for 2015-16.

a) Annual Information Return, Non-financial data, Table 1.2 Customer Profile, Water supplies – total customers (row 180).
b) IPART 2013, p.92, Section 8.7. It is assumed that IPART's Determination was based on Hunter Water's 2012 Annual Information Return, Non-financial data, Table 1.2 Customer Profile, Water supplies – total properties (row 98).

Table A.3 Revenue ($m)

	$ terms	2013-14	2014-15	2015-16
Hunter Water Actual/Projected	Nominal	279.1	276.7	278.9
IPART Determination [a]	$2012-13	263.0	262.4	262.8
IPART Determination [b]	Nominal	270.9	276.8	284.1
Variance	Nominal	8.2	(0.1)	(5.2)

Source: Hunter Water and IPART. Actual figure for 2013-14. Full year forecast figure for 2014-15. Budgeted figure for 2015-16. Consists of revenue from service charges (excluding recycled water service charges and Clarence Town sewer levy), revenue from usage charges (excluding recycled water, other regulated income (miscellaneous/ancillary charges) and other non-regulated income (excluding rent from properties at Tillegra)

a) IPART, 2013(a), p.46, Table 4.1.
b) Indexed using CPI figures – $2012-13 to $2013-14 - 3.0%, $2013-14 to $2014-15 – 2.4%, $2014-15 to $2015-16 – 2.5%.

APPENDIX B

PHYSICAL OUTPUT MEASURES 2013-14 TO 2015-16

Table B.1 Water Services

Measure	Units	Target Output [a]		Actual/Projected [b]				Variance	Variance	Comments
		4 years	3 years [A]	2013-14	2014-15	2015-16	Total [B]	[B-A]	(%)	
Renewal/ reliability of water distribution mains	km	21	15.8	5.4	4.9	4.9	15.2	-0.6	-4%	Lower output is due to slight increase in unit rate.
Trunkmains undergoing condition assessment	km	67	50.3	0	20	50	70	19.7	39%	Large package of assessments scheduled to commence mid 2015.
Replacement of critical trunkmains	km	3	2.3	0	0	0	0	-2.3	-100%	Focus has been on replacement of trunk valves and fittings. Two large sections of trunkmain are currently in design phase.
Water treatment plant upgrades (chemical storage systems)	systems	3	3	0	0	3	3	0	-	All systems in construction phase.
Water facilities high voltage upgrades	sites	28	28	0	28	0	28	0	-	All sites completed by January 2015.
Deferral of Grahamstown WTP Upgrade (Stage 3 - $11.15m)	-	Construction deferred to after 1/7/2018	Construction deferred to after 1/7/2018	n/a	n/a	n/a	Construction deferred to after 1/7/2023	5	-	Design work scheduled to commence in 2021.

Source: Hunter Water.

a) Target outputs (or activities) for linear assets were pro-rated over the truncated price period.

b) Actual figure for 2013-14. Forecast figures for 2014-15 and 2015-16.

Table B.2 Wastewater Services

Measure	Units	Target Output [a]		Actual/Projected [b]				Variance	Variance	Comments
		4 years	3 years [A]	2013-14	2014-15	2015-16	Total [B]	[B-A]	(%)	
Renewal of non-critical sewermains	km	41	30.8	7.3	8.4	8.4	24.1	-6.7	-22%	Lower output is due to a slight increase in unit rate.
Critical sewermains undergoing condition assessment	km	82	61.5	0	30	30	60	-1.5	-2%	The critical sewer model was updated in 2014, so additional assessments will be delivered in 2014-15 and 2015-16.
Renewal/refurbishment of critical sewerage mains (cast iron program)	km	4.2	3.2	<0.1	0.6	0.5	1.1	-2.1	-66%	Renewal scope reduced due to access difficulty and risk associated with the full scope of work. There have also been cost increases for gravity critical main and access hole renewals.
Wastewater facilities high voltage upgrades	sites	3	3	0	3	0	3	0	-	All sites delivered in 2014.

Source: Hunter Water.

a) Target outputs (or activities) for linear assets were pro-rated over the truncated price period.
b) Actual figure for 2013-14. Forecast figures for 2014-15 and 2015-16.

Table B.3 Mechanical and Electrical Assets

Measure	Units	Target Output [a]		Actual/Projected [b]				Variance	Variance	Comments
		4 years	3 years [A]	2013-14	2014-15	2015-16	Total [B]	[B-A]	(%)	
Telemetry upgrades (water & wastewater)	sites	138	103	15	10	90	115	12	12%	Strategy updated in 2014 with accelerated rate of renewals scheduled for 2015-16.
Replacement of pumps (water & wastewater)	pumps	342	256	91	85	80	256	0	-	The decision to repair or replace pumps is determined by risk.
Replacement of switchboards (water & wastewater)	sites	40	30	12	8	10	30	0	-	A standardised switchboard has been developed to improve the process.

Source: Hunter Water.

a) Target outputs (or activities) were pro-rated over the truncated price period.
b) Actual figure for 2013-14. Forecast figures for 2014-15 and 2015-16.

Table B.4 Drainage

Measure	Units	Target Output [a]		Actual/Projected [b]				Variance	Variance	Comments
		4 years	3 years [A]	2013-14	2014-15	2015-16	Total [B]	[B-A]	(%)	
Rehabilitation of stormwater drainage channels	km	0.6	**0.45**	<0.1	0.1	0.1	**0.2**	-0.25	56%	Minor renewals to date with longer section planned for 2016-17.

Source: Hunter Water.

a) Target outputs (or activities) were pro-rated over the truncated price period.
b) Actual figure for 2013-14. Forecast figures for 2014-15 and 2015-16.

Table B.5 Corporate

Measure	Units	Target Output [a]		Actual/Projected [b]				Variance	Variance	Comments
		4 years	3 years [A]	2013-14	2014-15	2015-16	Total [B]	[B-A]	(%)	
Replacement of customer meters (20mm)	meters	13,200	9,900	9,252	28,413	28,413	66,078	56,178	567	New strategy to replace a style of meter identified with a defective backflow device.

Source: Hunter Water.

a) Target outputs (or activities) were pro-rated over the truncated price period.

b) Actual figure for 2013-14. Forecast figures for 2014-15 and 2015-16.

Note: Detailed commentary available in the annual progress report of activity against output measures, as submitted to IPART each year as part of Hunter Water's annual information return package.

APPENDIX C

MAJOR CAPITAL PROJECTS DURING CURRENT PRICE PERIOD

Table C.1 Comparison of actual capital expenditure to IPART-determined capital expenditure ($m 2015-16)

Project Name	Actual 2013-14	Actual 2014-15	Forecast 2015-16	Cumulative over period	Determination[a]	Variance	Explanations
Wastewater							
Shortland WWTP Sludge Handling Upgrade	1.1	8.5	8.3	17.9	6.7	11.2	Project under construction. Estimated commissioning date is mid-2016, one year ahead of schedule.
Burwood Beach Stage 2b WWTP (Disinfection)	0.2	0.7	9.0	9.9	18.3	-8.4	Project deferred by 6 months due to a need to change the preferred treatment technology from chlorination to UV.
Dungog Stage 1 WWTP	0.0	0.2	0.8	1.0	5.8	-4.8	Project deferred due to ongoing negotiations with the EPA regarding the preferred long term effluent management strategy.
Morpeth Stage 2 WWTP (Hydraulic)	1.0	5.8	13.3	20.2	15.6	4.5	The scope of work required to meet the project objectives was underestimated.
Farley Effluent Reuse Enterprise	0.0	0.1	0.1	0.1	1.9	-1.8	Project scope has changed, with interim upgrades now being delivered in 2016 to provide for growth until 2021. A long term upgrade strategy currently being developed.
Belmont 6 Rising Main	0.4	3.6	4.4	8.4	7.9	0.5	Stage 1 upgrade is currently under construction. Estimated commissioning date is early 2016.
Williamtown/Tomago Wastewater Transfer System	6.5	0.4	0.0	6.9	11.1	-4.2	Project proceeded ahead of schedule in 2012-13, reducing the expenditure in this price period. Commissioning occurred in April 2014.
Non-Critical Sewermain Rehabilitation Price Path Provision	0.9	1.2	1.3	3.4	4.1	-0.7	Some funding re-allocated to other price path provision programs.

Project Name	Actual 2013-14	Actual 2014-15	Forecast 2015-16	Cumulative over period	Determination[a]	Variance	Explanations
Water							
Grahamstown WTP Interim Upgrades	0.0	0.8	2.2	3.0	11.2	-8.2	Scope reduced as an upgrade to the clear water tank is not currently required. Project now comprises bulk alum storage upgrade only.
Non-Critical Main Replacements Water Distribution Price Path Provision	1.8	1.9	1.8	5.5	6.5	-0.9	Some funding re-allocated to other price path provision programs.
Nelson Bay WTP Upgrade	0.0	0.1	1.0	1.1	5.9	-4.8	Scope reduced significantly based on detailed assessment of risk and requirements. Project currently in design phase, with commissioning scheduled for late 2016.
Chichester Trunk Gravity Main Hunter River Tunnel Replacement	0.0	0.1	0.8	0.9	3.4	-2.4	Project delayed. Design to commence in 2015.
Tarro to Beresfield WPS - Augmentation (Construction)	0.2	0.2	2.9	3.3	4.0	-0.7	Project delayed slightly due to additional environmental assessments, which also impacted cost. Currently in design phase with commissioning scheduled for early 2017.
Swansea Channel Crossing (Watermain)	0.0	0.1	0.6	0.7	5.0	-4.2	Project delayed. Design to commence in 2015.

Project Name	Actual 2013-14	Actual 2014-15	Forecast 2015-16	Cumulative over period	Determination[a]	Variance	Explanations
Corporate							
ICT Capital Program of Work	5.3	6.1	9.7	21.0	21.9	-0.9	Program on track to be delivered.
ICT Enterprise Resource Planning Upgrade	8.3	5.7	0.7	14.8	10.4	4.3	Project was delayed in 2012-13, which increased expenditure in the current price period. Phase 1 of project was delivered in 2014. The second phase is scheduled for delivery in late 2015.
Other							
Recycled Water Stage 1 Kooragang Island	36.3	5.7	0.3	42.3	51.1	-8.8	Project proceeded ahead of schedule in 2012-13, which reduced the expenditure in this price path. Commissioning occurred in October 2014.
High Voltage Upgrade	30.9	13.5	0.3	44.7	36.2	8.6	Project delayed in 2012-13 due to increased design work. 31 sites were commissioned in 2014. The final site was commissioned in early 2015.

Source: Hunter Water. Based on Hunter Water, 2012, Appendix F. Totals may not add precisely due to rounding.

a) Based on expenditure profile over period 2013-14 to 2015-16.

APPENDIX F

PROPOSED OUTPUT MEASURES 2016-17 TO 2019-20

Table F.1 Water Services

Output (or activity) measure	Target Output
Renewal/reliability of distribution mains	20 km
Trunkmains undergoing condition assessment	12 km
Critical trunkmain replacement	0.4 km

Table F.2 Wastewater Services

Output (or activity) measure	Target Output
Renew non-critical mains	36 km
Critical sewer mains undergoing condition assessment	55 km
Renewal/refurbishment of critical sewerage mains (cast iron program)	1.5 km

Table F.3 Mechanical and Electrical Services

Output (or activity) measure	Target Output
Telemetry upgrades (water and wastewater)	250 sites
Switchboards replaced	40 sites
Replacement or refurbishment of pumps	430 pumps

Table F.4 Drainage

Output (or activity) measure	Target Output
Stormwater drainage channel rehabilitations	0.7 km

Table F.5 Corporate

Output (or activity) measure	Target Output
Replace customer meters 20mm	67,000 meters

Source: Hunter Water.

APPENDIX G

WEIGHTED AVERAGE COST OF CAPITAL PARAMETERS

WACC parameters and formula

IPART's post-tax WACC calculation applies the following formula:

Formula for post-tax WACC

$$r = \frac{\left(1 + \left\{R_e.(\frac{E}{D+E}) + R_d.(\frac{D}{D+E})\right\}\right)}{(1+\Pi)} - 1$$

r is the post-tax WACC
R_d is the nominal cost of debt,
R_e is the nominal cost of equity
D is the level of debt
E is the level of equity
Π is expected inflation

Hunter Water has adopted a real post-tax WACC of 4.6 per cent for all revenue modelling in this price submission. This estimate is derived using the historical and current data estimates shown in Table G.1.

Table G.1 Hunter Water's WACC parameter estimates

	Historical data	Current data
Nominal risk-free rate	4.5%	2.5%
Inflation	2.5%	2.5%
Debt margin	2.9%	2.2%
Debt to total assets	60%	60%
Market risk premium	6.0%	8.2%
Equity beta	0.7	0.7
Cost of equity	8.7%	8.3%
Cost of debt	7.4%	4.7%
WACC range	5.3%	3.6%
WACC estimate	**4.6%**	

Note: The Hunter Water WACC estimate of 4.6 per cent is not the exact midpoint of the WACC range. Hunter Water has given a weighting of 60 per cent to long-term data on debt costs and a weighting of 40 per cent to current market data on debt costs.

Hunter Water acknowledges that IPART's WACC estimate will reflect prevailing market conditions for key parameters when it completes its modelling work for the determination. IPART has advised that it will undertake this work in early April 2016 using market data for the end of March 2016. Movements in the market data will result in possible changes to the risk-free rate, the market risk premium and debt margin. IPART will also update the 10-year historical data at the same time.

Nominal risk-free rate

IPART's WACC methodology established that IPART would use both current market data (approximated using 40-day averages) and long-term averages (approximated using 10-year averages) to estimate the cost of debt. IPART uses Commonwealth Government bond yields with a term-to-maturity of 10 years for the risk-free rate.

Hunter Water locked-in a WACC estimate for revenue modelling purposes at the end of January 2015. Hunter Water used current market data to predict, to the extent possible, IPART's likely WACC calculation projected to April 2016.

For the long-term risk-free rate, Hunter Water included the previous eight years and nine months of actual historical bond yields and 15 months of a projected bond yield. Figure G.1 shows the actual historical data up to the end of January 2015 (prior to the vertical orange line). Hunter Water applied the prevailing risk-free bond yield of 2.5 per cent for the remaining months. The simple average of the 10 years of historical and projected monthly data is 4.5 per cent.

Figure G.1 Commonwealth Government 10-year bond yields

Source: RBA.

Hunter Water applied the prevailing Commonwealth Government bond yield at the end of January 2015 as a proxy for the 40-day trailing average market rate at the start of April 2016. The Commonwealth Government 10-year bond yield fell sharply in the six months to the end of January 2015 – by more almost 100 basis points in total. Hunter Water formed the view that the January 2015 market data for Commonwealth Government bonds provided the best indicator of future bond yields at the time. The time-decay method for forecasting possible movements in risk-free rates, whereby current rates tend towards the long-term average, was considered but not adopted. The persistent drop in bond yields to historical lows, domestically and internationally, suggests that past financial market outcomes are a less reliable guide for forecasting interest rate movements.

Hunter Water has proposed a 60 per cent weighting for cost of debt in the long-term average WACC. The rationale for this transitional arrangement is explained in Chapter 7.

Inflation rate

IPART issued a fact sheet in March 2015 outlining a new approach for forecasting the WACC inflation adjustment.[6] IPART's final decision was to use an inflation forecast calculated using the 10-year geometric average of the one-year Reserve Bank of Australia (RBA) headline inflation forecast and the middle of the RBA's target band of inflation for the remaining nine years.

Hunter Water made a submission to the IPART review of the forecasting methodology. Hunter Water appreciated the effort that IPART had made to develop a more rigorous and accurate methodology. The forecasting approach detailed in the final IPART decision is supported by Hunter Water.

The RBA one-year inflation forecast refers to the most recent RBA statement on monetary policy. The RBA's February 2015 Statement on Monetary Policy included a one-year ahead CPI inflation forecast of 2 to 3 per cent. IPART's methodology uses the midpoint of any RBA range. On this basis, the new IPART methodology gives a WACC inflation forecast of 2.5 per cent – 10 years of 2.5 per cent forecasts.

Hunter Water has no basis for anticipating any movement in the inflation forecast as at April 2016 when IPART finalises its revenue modelling for the 2016 determination. Hunter Water has therefore used the 2.5 per cent inflation forecast to convert the nominal WACC estimate to the real WACC estimate.

[6] IPART, 2015(c).

Debt margin

The debt margin is the cost of debt an entity has to pay above the nominal risk-free rate. The margin reflects the volatility of recent bond interest rates, the debt maturity, the capital structure and the credit rating of the entity.

IPART issued a fact sheet in April 2014 detailing a new approach to estimating the cost of debt for the component of the WACC that uses current market data.[7] IPART decided to use data published by the RBA on credit spreads for Australian non-financial corporations with a credit rating of BBB.[8] The RBA started publishing these monthly credit spreads in December 2013.

The RBA data includes a cost-of-debt estimate for 10-year term-to-maturity bonds based on a robust methodology and sample size. The 10-year rate matches the risk-free maturity for the current market debt rates. The previous IPART approach used a data source for debt products with a shorter tenor, averaging around five years. Using RBA data has the additional advantage of providing a public source of information for this WACC parameter.

Hunter Water has applied two debt margins in the WACC calculation:

- 2.9 per cent for the 10-year historical average
- 2.2 per cent for the current market data 10-year average.

The Hunter Water debt margin estimates are in line with IPART's February 2015 WACC biannual update. The debt margins include a 12.5 basis points allowance for borrowing costs, consistent with IPART's WACC methodology.

Market risk premium

IPART's 2013 WACC methodology incorporated a defined approach for calculating the market risk premium for both the long-term historical average and the current market data estimates.

For the market risk premium using long-term averages, IPART stated that it would use an estimate of 6 per cent – the midpoint of the 5.5 per cent to 6.6 per cent range of the past 10 years of average excess market returns over risk-free rates. Hunter Water has applied the 6 per cent long-term market risk premium in its WACC calculations, which aligns with the parameter estimate reported in IPART's February 2015 WACC update.

Under the new WACC methodology, IPART has documented the approach it will take for calculating the market risk premium based on current market data. IPART carries out modelling of six market risk premium methodologies using proprietary market data. IPART uses these modelling results to calculate a market risk premium range and then selects the midpoint of that range. IPART has listed the six models that it uses to make this calculation.

Hunter Water has applied a market risk premium of 8.2 per cent for the current market data parameter. This figure was marginally lower than the IPART market risk premium reported in the IPART August 2014 WACC update. IPART's February 2015 WACC update, released just after Hunter Water completed its modelling work, reported a market risk premium of 8.3 per cent. The minor difference in market risk premium estimates has no material impact on the overall WACC calculation.

Equity beta

The equity beta represents the systematic or market wide risk of an asset. It measures variations in revenue and profit due to variations in general economic parameters of the relevant market.

IPART's WACC methodology states that it will review and determine the value of equity betas as part of its price determination process.[9] IPART has chosen an equity beta range of 0.6 to 0.8 for the water utility sector, as set out in Hunter Water's 2013 determination and the IPART WACC biannual updates.

Hunter Water has argued in past price reviews that it should be afforded the upper end of IPART's equity beta range to reflect the water sales volume risks faced by the business. Water supply in the lower Hunter is highly vulnerable to drought. Water levels can drop faster than in most other major Australian urban centres during prolonged dry periods because lower Hunter storages are small or shallow and have high evaporation rates.

Hunter Water has taken a pragmatic approach and applied an equity beta of 0.7 for this price submission, the mid-point of IPART's equity beta range for the water industry.

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[7] IPART, 2014(g).
[8] Data is published at www.rba.gov.au/statistics/tables/index.html.
[9] IPART, 2013(c), p. 3.

Debt gearing ratio

The debt gearing ratio represents the proportion of the assets funded by debt. IPART applies an industry-specific gearing level, as opposed to utilising the agency's actual debt gearing ratio. IPART's rationale for this approach is to ensure that customers do not bear the cost associated with an inefficient financing structure.

IPART applies a notional debt gearing ratio of 60 per cent to the water utilities it regulates. Hunter Water accepts this approach, provided 60 per cent remains the maximum gearing ratio. At present, Hunter Water's capital structure, as measured by net debt divided by the regulatory asset base, is 51 per cent funded by debt. Hunter Water manages its capital structure to ensure it maintains an investment grade credit rating and the financial viability of the business. This is discussed further in Chapter 8.

APPENDIX J

WYEE BACKLOG SEWER SCHEME ANNOUNCEMENTS

Kevin Humphries MP
Minister for Natural Resources, Lands and Water
Minister for Western NSW

MEDIA RELEASE

Thursday 13 November 2014

25-YEAR WAIT FOR WYEE IS FINALLY OVER

Wyee residents will save up to $3500 a year as the result of the NSW Government's decision to connect the town to Hunter's Water's sewerage system, NSW Minister for Natural Resources, Lands and Water announced today.

Mr Humphries said that under the fully funded $26 million plan, Hunter Water's sewer system will connect 400 lots and be built with an eye to future development, with the system large enough to transfer the sewerage flows of 1000 lots.

"There are literally hundreds of families who have been waiting more than 25 years for Hunter Water's sewerage network to be extended to Wyee and I am very pleased to announce that the NSW Government and Hunter Water will fund 100 per cent of the cost of the connection," Mr Humphries said.

"Hunter Water will now complete preliminary plans to transfer the waste to the Dora Creek or Charmhaven treatment plants or possibly to a privately owned system that makes use of a small, locally operated plant.

"The cost of pump-out services is significantly higher than reticulated sewer, and far less reliable leaving residents facing an additional cost of living while also having to manage temperamental, environmentally unfriendly effluent disposal systems.

"This $2.4 million contribution by the NSW Government and $23.6 million funded through an Environmental Improvement Charge on Hunter Water's sewerage customers will result in an annual saving of up to $3500 per family who have fortnightly been paying for their septic tanks to be pumped."

Mr Humphries said connecting to Hunter Water's reticulated sewerage system will unlock Wyee's vast potential.

"Wyee is well positioned to become a key growth corridor linking the Hunter and Central Coast. It has its own train station, is just five minutes from the M1 and has an abundance of large land that will now be developed over the next decade," Mr Humphries said.

"It will open up land for affordable housing, attracting families, and boosting commercial investment and local employment."

Wyee Childcare Centre owner Karen O'Connor said the decision would be welcomed by local business owners.

"Small businesses in Wyee have to juggle pump-out costs and septic maintenance among other overheads, which can make doing business in the area incredibly challenging. Knowing we'll get sewerage here is a huge relief and has already lifted the spirits of the community," Ms O'Connor said.

Mike Baird MP
Premier of NSW
Minister for Infrastructure
Minister for Western Sydney

MEDIA RELEASE

Thursday 4 December 2014

$26 MILLION INVESTMENT IN WYEE
GREAT NEWS FOR LOCAL FAMILIES AND BUSINESS

NSW Premier Mike Baird today met Wyee residents who will save up to $3,500 a year as the result of the NSW Government's decision to connect the town to Hunter Water's sewerage system.

"For far too long families in Wyee waited for Hunter Water's sewerage network to be extended to the town – their wait of more than 25 years is now over," Mr Baird said.

"The NSW Government is investing $26 million to connect about 400 homes and businesses to the sewerage network.

"We are ensuring the system can cope with future demand and will be large enough to transfer the sewerage flows of 1,000 lots.

"Labor failed to deliver this key project in 16 years. I am proud to lead a government which has made this vital commitment to the people of Wyee.

"I pay tribute to Lake Macquarie MP Greg Piper who strongly advocated for this project over many years.

"Our $26 million investment will put an end to the need for families to pay expensive septic pump-out costs each fortnight.

"The connection of Wyee to the sewerage system is also fantastic news for local businesses that have had to juggle pump-out and septic maintenance costs with their other expenses.

"We know Wyee has enormous potential which can now be fully realised.

"Wyee is close to the M1, it has its own train station and with the area now connected to the sewerage system even more families and business will be attracted to the region.

"That will boost the local economy and lead to the creation of even more jobs close to this booming area."

MEDIA:
Mark Tobin (Premier) 8574 5000

APPENDIX K

BILL IMPACTS
($nominal terms)

Key charges summary				Price terms:	$nominal	
		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
		[Current]				
Water						
Usage charge						
Filtered water price (per kL)	$nominal	2.24	2.30	2.35	2.41	2.47
Service charges						
Residential						
House	$nominal	17.89	17.57	32.49	48.27	64.82
Units	$nominal	17.89	17.57	32.49	48.27	64.82
Non-Residential						
20mm stand alone	$nominal	17.89	17.57	32.49	48.27	64.82
Other (ME based)	$nominal	29.20	31.79	58.69	87.05	116.73
Sewer						
Usage charge						
Non-res usage price (per kL)	$nominal	0.67	0.67	0.67	0.67	0.67
Service charges						
Residential						
Houses	$nominal	598.13	603.95	604.65	605.30	606.07
Flats and units	$nominal	433.64	452.96	503.87	554.86	606.07
Non-residential						
20mm stand alone (per connection)	$nominal	598.13	603.95	604.65	605.30	606.07
$/Non-res 25mm equivalent	$nominal	1,857.22	1,964.55	2,005.30	2,053.01	2,093.16
Environmental improvement charge						
Residential, non-residential and vacant	$nominal	38.67	39.63	40.62	41.64	42.68
Stormwater drainage charges						
Residential properties						
Houses	$nominal	72.41	75.21	78.12	81.14	84.36
Units	$nominal	26.79	27.83	28.90	30.02	30.88
Non-residential properties						
Small (<1,000m2) / low impact	$nominal	72.41	75.21	78.12	81.14	84.36
Medium (1,001 - 10,000m2)	$nominal	130.89	135.93	141.19	146.65	152.48
Large (10,001 - 45,000m2)	$nominal	832.55	864.65	898.08	932.78	969.90
Very Large (>45,000m2)	$nominal	2,645.21	2,747.19	2,853.40	2,963.68	3,081.60

Summary of bills and key indicators					Price terms: $nominal		
		FY 2016	FY 2020	$ change over 4 years	$ change per year	% change over 4 years	% change per year
	Typical residential bills						
1	House - including drainage	1,141	1,255	113.39	28.35	9.9%	2.5%
2	House - excluding drainage	1,069	1,171	101.43	25.36	9.5%	2.4%
3	Pensioner household	563	615	51.65	12.91	9.2%	2.3%
4	Strata unit - excluding drainage	826	1,084	257.87	64.47	31.2%	7.8%
5	Strata unit - including drainage	853	1,115	261.96	65.49	30.7%	7.7%
	Sample non-residential bills						
6	Service station (20mm individual meter)	1,918	2,034	116.18	29.04	6.1%	1.5%
7	Small shop - Newcastle (20mm individual meter)	1,163	1,209	45.86	11.47	3.9%	1.0%
8	Small shop – Cessnock (25mm meter)	1,870	2,181	310.79	77.70	16.6%	4.2%
9	Large licenced club	65,355	72,483	7,128.04	1,782.01	10.9%	2.7%
10	Medium licenced hotel	6,228	6,954	725.78	181.45	11.7%	2.9%
11	Regional shopping centre	358,421	390,440	32,019.02	8,004.75	8.9%	2.2%
12	Large office - Newcastle	16,928	18,867	1,938.70	484.68	11.5%	2.9%
13	Regional office - Maitland	6,331	7,153	821.69	205.42	13.0%	3.2%
14	Small industrial firm (20mm individual meter)	947	1,041	93.55	23.39	9.9%	2.5%
15	Medium industrial firm	284,101	315,681	31,579.99	7,895.00	11.1%	2.8%
16	Large industrial firm no sewer	351,626	397,604	45,978.16	11,494.54	13.1%	3.3%
17	Large industrial firm with sewer	495,731	548,239	52,507.37	13,126.84	10.6%	2.6%
18	Nursery low DF (20mm individual meter)	2,050	2,226	176.22	44.06	8.6%	2.1%
19	Nursery low DF	14,773	16,423	1,650.11	412.53	11.2%	2.8%

Impact of proposed charges

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	414.40	425.50	434.75	445.85	456.95
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
		-	-	-	-	-
Drainage	$nominal	72.41	75.21	78.12	81.14	84.36
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	1,141.50	1,161.86	1,190.63	1,222.20	1,254.88
% change on the previous year			1.8%	2.5%	2.7%	2.7%
Water usage % of water charges		96%	96%	93%	90%	88%
Water usage % of total bill		36%	37%	37%	36%	36%

Changes over the 15/16 to 19/20 period ($nominal)

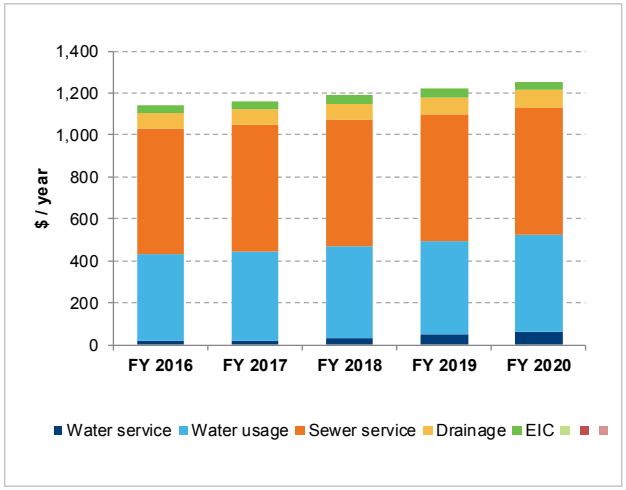
		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	414.40	456.95	42.55	10.64	0.20
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
		-	-	-	-	-
Drainage	$nominal	72.41	84.36	11.95	2.99	0.06
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	1,141.50	1,254.88	113.39	28.35	0.55

Notes
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $1,141.
By 2019-20 this bill is projected to be $1,255 a change of $113 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 9.9%.
The annual average change in percentage terms is 2.5% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

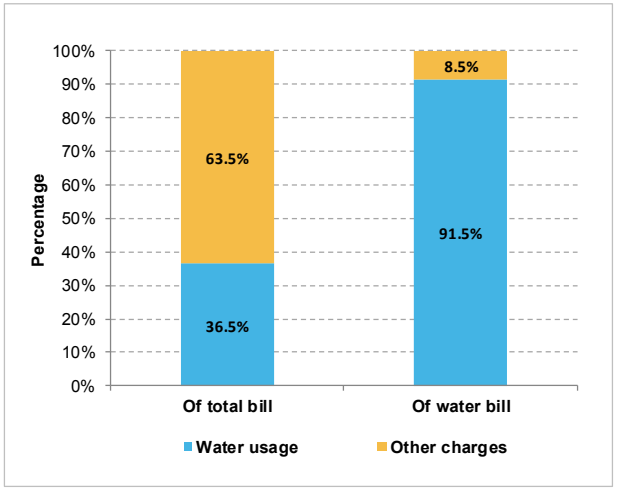
Customer type: House - including drainage

Charges: water, sewer, house drainage, EIC
Configuration: 185 kL p.a. / 20mm meter

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	414.40	425.50	434.75	445.85	456.95
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
		-	-	-	-	-
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	1,069.09	1,086.65	1,112.51	1,141.06	1,170.52
% change on the previous year			1.6%	2.4%	2.6%	2.6%
Water usage % of water charges		96%	96%	93%	90%	88%
Water usage % of total bill		39%	39%	39%	39%	39%

Changes over the 15/16 to 19/20 period ($nominal)

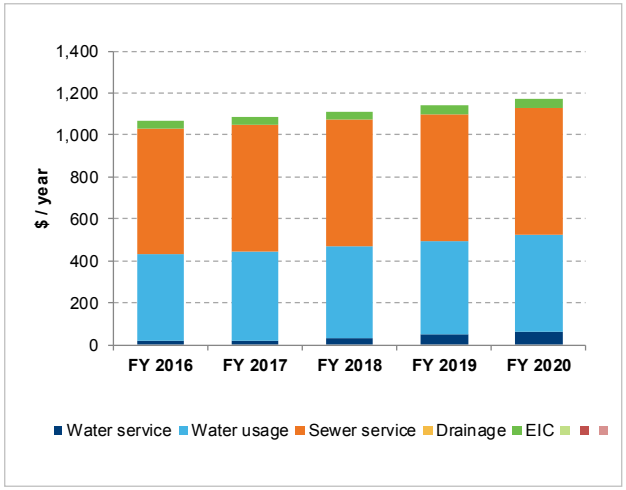
		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	414.40	456.95	42.55	10.64	0.20
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
		-	-	-	-	-
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	1,069.09	1,170.52	101.43	25.36	0.49

Notes
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $1,069.
By 2019-20 this bill is projected to be $1,171 a change of $101 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 9.5%.
The annual average change in percentage terms is 2.4% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

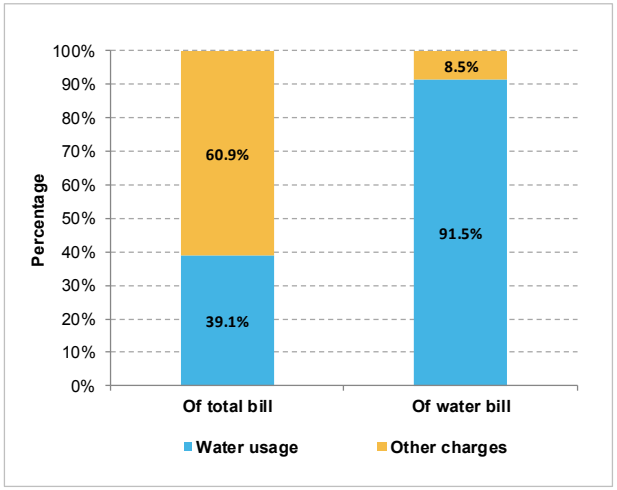
Customer type: House - excluding drainage

Charges: water, sewer, EIC
Configuration: 185 kL p.a. / 20mm meter

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Pensioner household

Charges: water, sewer,
Configuration: 100 kL p.a. / 20mm meter

Composition of the projected annual bill ($nominal)

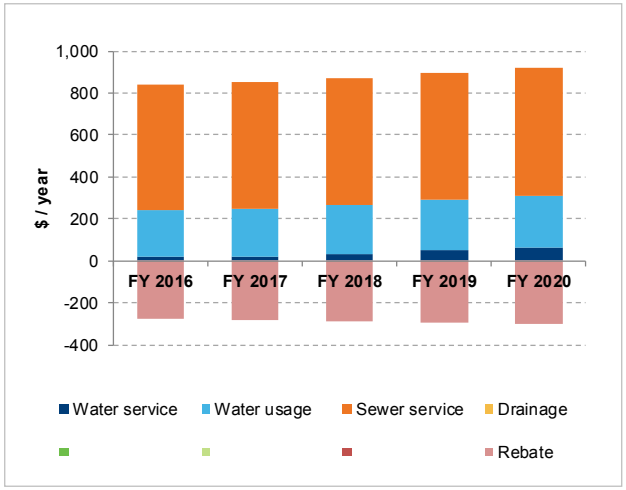
		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	224.00	230.00	235.00	241.00	247.00
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
		-	-	-	-	-
Drainage	$nominal	-	-	-	-	-
		-	-	-	-	-
Rebate	$nominal	(276.65)	(281.20)	(287.86)	(295.25)	(302.87)
		-	-	-	-	-
Projected total annual bill	$nominal	563.37	570.32	584.28	599.32	615.02
% change on the previous year			1.2%	2.4%	2.6%	2.6%
Water usage % of water charges		93%	93%	88%	83%	79%
Water usage % of total bill		40%	40%	40%	40%	40%

Changes over the 15/16 to 19/20 period ($nominal)

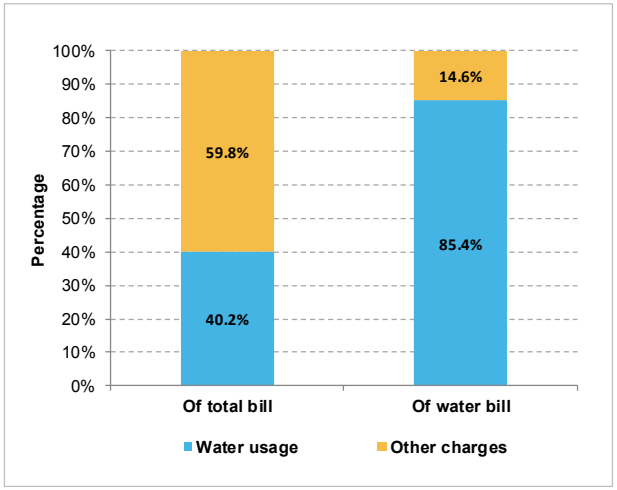
		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	224.00	247.00	23.00	5.75	0.11
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
		-	-	-	-	-
Drainage	$nominal	-	-	-	-	-
		-	-	-	-	-
Rebate	$nominal	(276.65)	(302.87)	(26.22)	(6.56)	(0.13)
		-	-	-	-	-
Projected total annual bill	$nominal	563.37	615.02	51.65	12.91	0.25

Notes
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $563.
By 2019-20 this bill is projected to be $615 a change of $52 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 9.2%.
The annual average change in percentage terms is 2.3% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.
Proportional increase similar to the households.
The rebate increases in proportion to the bill.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	336.00	345.00	352.50	361.50	370.50
Sewer service	$nominal	433.64	452.96	503.87	554.86	606.07
		-	-	-	-	-
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	826.20	855.16	929.48	1,006.27	1,084.07
% change on the previous year			3.5%	8.7%	8.3%	7.7%
Water usage % of water charges		95%	95%	92%	88%	85%
Water usage % of total bill		41%	40%	38%	36%	34%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	336.00	370.50	34.50	8.63	0.17
Sewer service	$nominal	433.64	606.07	172.43	43.11	0.83
		-	-	-	-	-
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	826.20	1,084.07	257.87	64.47	1.24

Notes

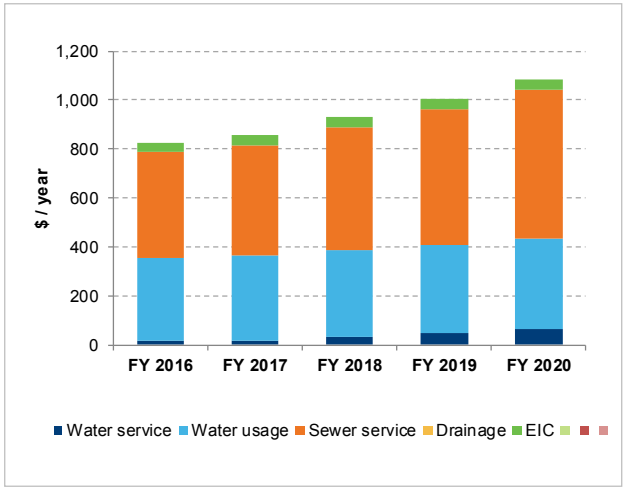
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $826.
By 2019-20 this bill is projected to be $1,084 a change of $258 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 31.2%.
The annual average change in percentage terms is 7.8% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.
The increase in the total bill is also as a result of changes to the structure of the sewer service charge.
This will see strata units paying the same sewer service charge as houses by 2019-20.
HWC is proposing a phasing in of this change over the four years which keeps annual price increases in real terms under 5% per annum.

Customer type: Strata unit - excluding drainage

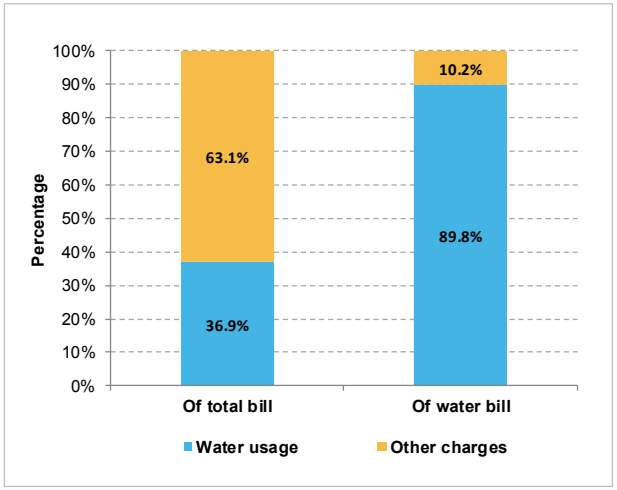
Charges: water, sewer, EIC

Configuration: 150 kL p.a. / 40mm meter shared by 12 units

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	336.00	345.00	352.50	361.50	370.50
Sewer service	$nominal	433.64	452.96	503.87	554.86	606.07
		-	-	-	-	-
Drainage	$nominal	26.79	27.83	28.90	30.02	30.88
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	852.99	882.99	958.38	1,036.29	1,114.95
% change on the previous year			3.5%	8.5%	8.1%	7.6%
Water usage % of water charges		95%	95%	92%	88%	85%
Water usage % of total bill		39%	39%	37%	35%	33%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	336.00	370.50	34.50	8.63	0.17
Sewer service	$nominal	433.64	606.07	172.43	43.11	0.83
		-	-	-	-	-
Drainage	$nominal	26.79	30.88	4.09	1.02	0.02
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
		-	-	-	-	-
Projected total annual bill	$nominal	852.99	1,114.95	261.96	65.49	1.26

Notes

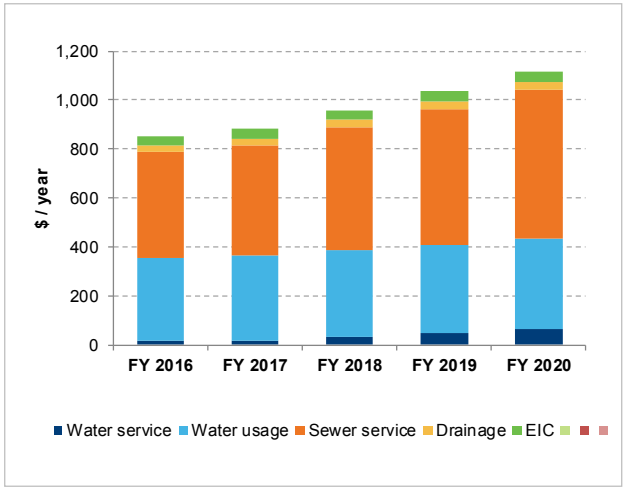
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $853.
By 2019-20 this bill is projected to be $1,115 a change of $262 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 30.7%.
The annual average change in percentage terms is 7.7% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.
The increase in the total bill is also as a result of changes to the structure of the sewer service charge.
This will see strata units paying the same sewer service charge as houses by 2019-20.
HWC is proposing a phasing in of this change over the four years which keeps annual price increases in real terms under 5% per annum.

Customer type: Strata unit - including drainage

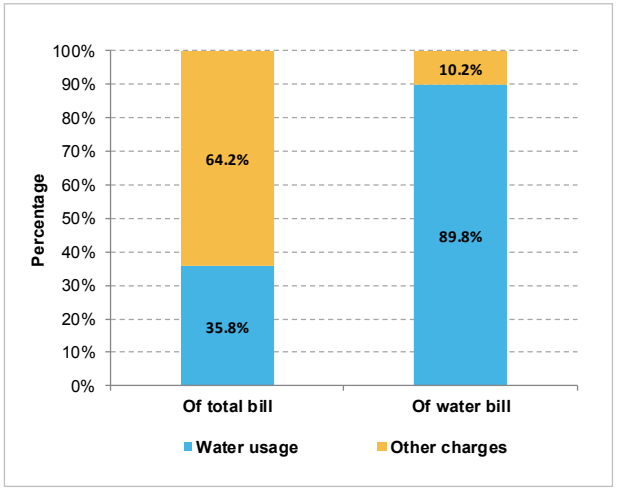
Charges: water, sewer, unit drainage, EIC

Configuration: 150 kL p.a. / 40mm meter shared by 12 units

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	882.56	906.20	925.90	949.54	973.18
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
Sewer usage	$nominal	195.91	181.67	167.43	153.20	138.96
Drainage	$nominal	72.41	75.21	78.12	81.14	84.36
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	112.41	115.23	118.11	121.06	124.09
Projected total annual bill	$nominal	1,917.98	1,939.46	1,967.32	2,000.14	2,034.16
% change on the previous year			1.1%	1.4%	1.7%	1.7%
Water usage % of water charges		98%	98%	97%	95%	94%
Water usage % of total bill		46%	47%	47%	47%	48%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	882.56	973.18	90.62	22.66	0.44
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
Sewer usage	$nominal	195.91	138.96	(56.95)	(14.24)	(0.27)
Drainage	$nominal	72.41	84.36	11.95	2.99	0.06
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	112.41	124.09	11.67	2.92	0.06
Projected total annual bill	$nominal	1,917.98	2,034.16	116.18	29.04	0.56

Notes

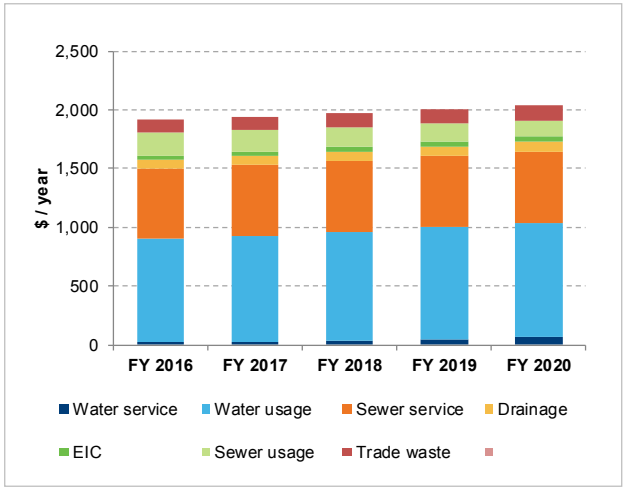
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $1,918.
By 2019-20 this bill is projected to be $2,034 a change of $116 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 6.1%.
The annual average change in percentage terms is 1.5% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.
The current pricing structures require small non-res customers (20mm stand alone) to pay the same service charge as houses.
Sewer usage charge = (water consumption minus "free threshold allowance") x non-residential sewer usage charge x discharge factor.
Sewer service charge = 20mm stand alone (residential service charge).
Note that a discharge factor does not apply to the service charge calculation in the case of a individual 20mm meter customer.

Customer type: Service station (20mm indiv. meter)

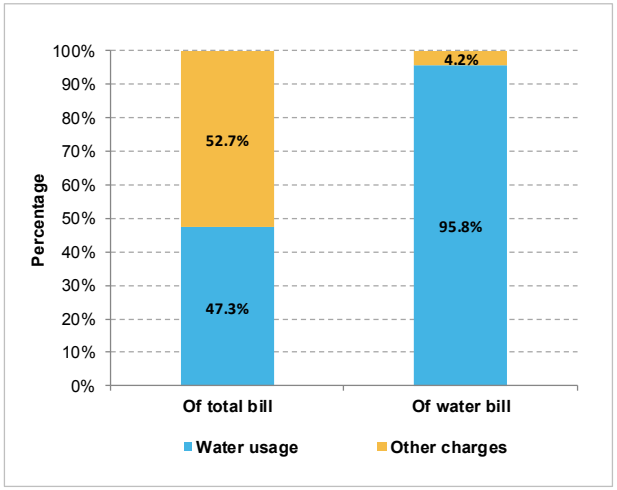
Charges: water, sewer, small non-res. drainage, minor trade waste

Configuration: 394 kL p.a. / 20mm meter / discharge factor 76% -100%

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Small shop - Newcastle (20mm indiv. meter)

Charges: water, sewer

Configuration: 191 kL p.a. / 20mm meter / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	427.84	439.30	448.85	460.31	471.77
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
Sewer usage	$nominal	80.30	66.06	51.82	37.59	23.35
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	1,162.83	1,166.51	1,178.43	1,193.11	1,208.69
% change on the previous year			0.3%	1.0%	1.2%	1.3%
Water usage % of water charges		96%	96%	93%	91%	88%
Water usage % of total bill		37%	38%	38%	39%	39%

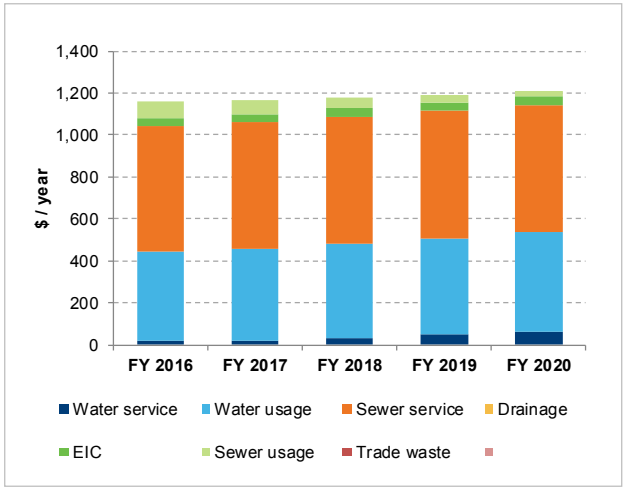
Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	427.84	471.77	43.93	10.98	0.21
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
Sewer usage	$nominal	80.30	23.35	(56.95)	(14.24)	(0.27)
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	1,162.83	1,208.69	45.86	11.47	0.22

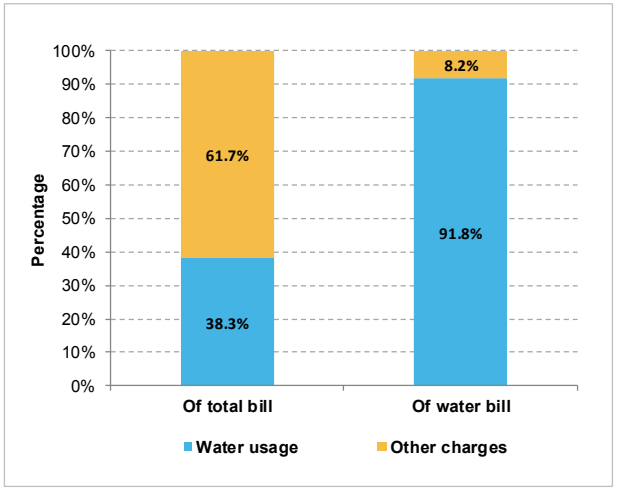
Notes

All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $1,163.
By 2019-20 this bill is projected to be $1,209 a change of $46 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 3.9%.
The annual average change in percentage terms is 1.0% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.
IPART's pricing structures requires small non-res customers (20mm stand alone) to pay the same service charge as houses.
Sewer usage charge = (water consumption minus "free threshold allowance") x non-residential sewer usage charge x discharge factor.
The sewer service charge = 20mm stand alone (residential service charge).
Note that a discharge factor does not apply to the service charge calculation in the case of an individual 20mm meter customer.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Small shop - Cessnock (25mm meter)

Charges: water, sewer, small non-res. drainage

Configuration: 64 kL p.a. / 25mm meter / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	29.20	31.79	58.69	87.05	116.73
Water usage	$nominal	143.36	147.20	150.40	154.24	158.08
Sewer service	$nominal	1,578.64	1,669.87	1,704.51	1,745.06	1,779.19
Sewer usage	$nominal	7.97	-	-	-	-
Drainage	$nominal	72.41	75.21	78.12	81.14	84.36
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	1,870.25	1,963.70	2,032.33	2,109.12	2,181.04
% change on the previous year			5.0%	3.5%	3.8%	3.4%
Water usage % of water charges		83%	82%	72%	64%	58%
Water usage % of total bill		8%	7%	7%	7%	7%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	29.20	116.73	87.53	21.88	0.42
Water usage	$nominal	143.36	158.08	14.72	3.68	0.07
Sewer service	$nominal	1,578.64	1,779.19	200.55	50.14	0.96
Sewer usage	$nominal	7.97	-	(7.97)	(1.99)	(0.04)
Drainage	$nominal	72.41	84.36	11.95	2.99	0.06
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	1,870.25	2,181.04	310.79	77.70	1.49

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $1,870.

By 2019-20 this bill is projected to be $2,181 a change of $311 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 16.6%.

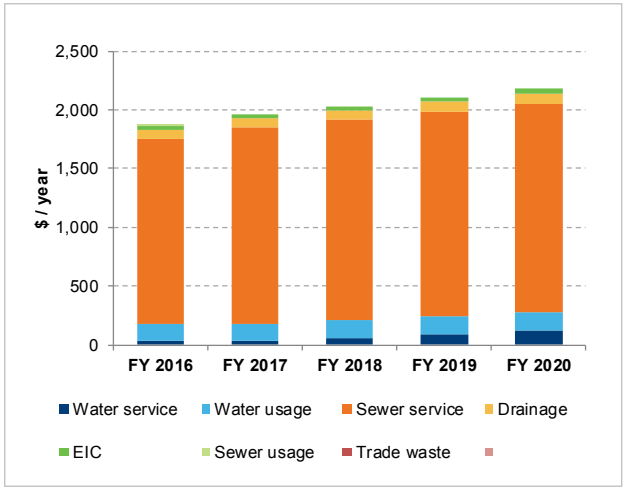
The annual average change in percentage terms is 4.2% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

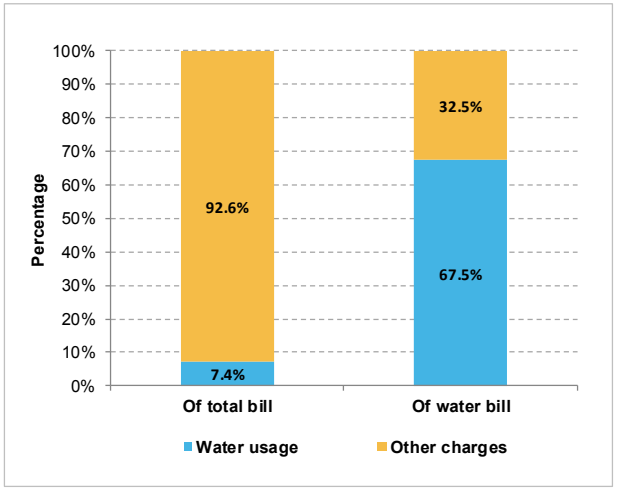
Sewer usage charge = (water consumption minus the free threshold allowance) x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Large licenced club

Charges: water, sewer, medium non-res. drainage, major trade waste

Configuration: 14,307 kL p.a. / 80mm meter / discharge factor 80%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	299.01	325.53	600.99	891.39	1,195.32
Water usage	$nominal	32,047.68	32,906.10	33,621.45	34,479.87	35,338.29
Sewer service	$nominal	15,214.35	16,093.59	16,427.42	16,818.26	17,147.17
Sewer usage	$nominal	7,641.75	7,628.35	7,614.95	7,601.55	7,588.15
Drainage	$nominal	130.89	135.93	141.19	146.65	152.48
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	9,982.38	10,231.94	10,487.74	10,749.93	11,018.68
Projected total annual bill	$nominal	65,354.72	67,361.08	68,934.35	70,729.29	72,482.76
% change on the previous year			3.1%	2.3%	2.6%	2.5%
Water usage % of water charges		99%	99%	98%	97%	97%
Water usage % of total bill		49%	49%	49%	49%	49%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	299.01	1,195.32	896.31	224.08	4.31
Water usage	$nominal	32,047.68	35,338.29	3,290.61	822.65	15.82
Sewer service	$nominal	15,214.35	17,147.17	1,932.82	483.21	9.29
Sewer usage	$nominal	7,641.75	7,588.15	(53.60)	(13.40)	(0.26)
Drainage	$nominal	130.89	152.48	21.59	5.40	0.10
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	9,982.38	11,018.68	1,036.30	259.07	4.98
Projected total annual bill	$nominal	65,354.72	72,482.76	7,128.04	1,782.01	34.27

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $65,355.

By 2019-20 this bill is projected to be $72,483 a change of $7,128 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 10.9%.

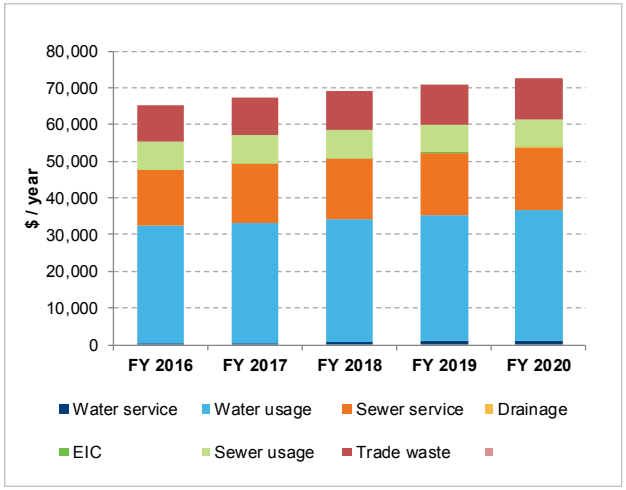
The annual average change in percentage terms is 2.7% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

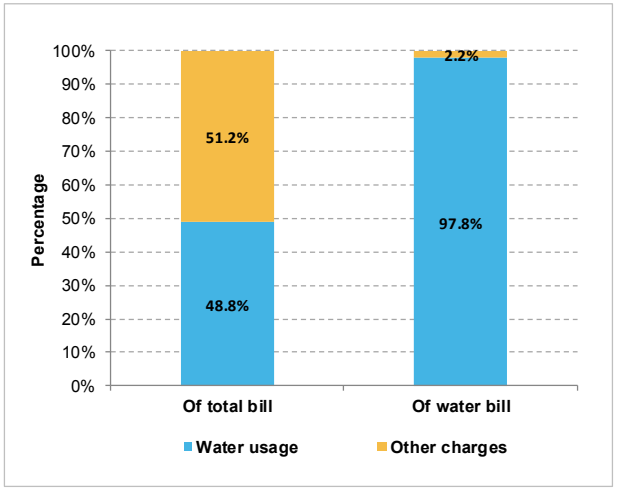
Sewer usage charge = (water consumption minus "free threshold allowance") x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Medium licenced hotel

Charges: water, sewer, medium non-res. drainage, minor trade waste

Configuration: 1,189 kL p.a. / 32mm meter / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	47.84	52.08	96.16	142.62	191.25
Water usage	$nominal	2,663.36	2,734.70	2,794.15	2,865.49	2,936.83
Sewer service	$nominal	2,586.44	2,735.91	2,792.66	2,859.10	2,915.02
Sewer usage	$nominal	648.66	634.42	620.19	605.95	591.71
Drainage	$nominal	130.89	135.93	141.19	146.65	152.48
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	112.41	115.23	118.11	121.06	124.09
Projected total annual bill	$nominal	6,228.27	6,447.91	6,603.07	6,782.51	6,954.05
% change on the previous year			3.5%	2.4%	2.7%	2.5%
Water usage % of water charges		98%	98%	97%	95%	94%
Water usage % of total bill		43%	42%	42%	42%	42%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	47.84	191.25	143.41	35.85	0.69
Water usage	$nominal	2,663.36	2,936.83	273.47	68.37	1.31
Sewer service	$nominal	2,586.44	2,915.02	328.58	82.14	1.58
Sewer usage	$nominal	648.66	591.71	(56.95)	(14.24)	(0.27)
Drainage	$nominal	130.89	152.48	21.59	5.40	0.10
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	112.41	124.09	11.67	2.92	0.06
Projected total annual bill	$nominal	6,228.27	6,954.05	725.78	181.45	3.49

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $6,228.

By 2019-20 this bill is projected to be $6,954 a change of $726 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 11.7%.

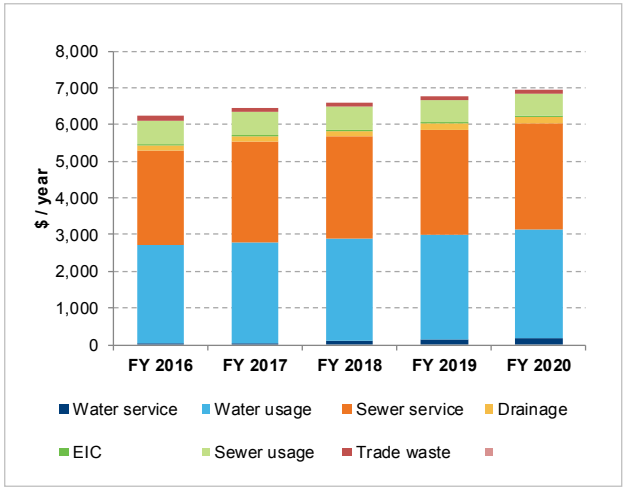
The annual average change in percentage terms is 2.9% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

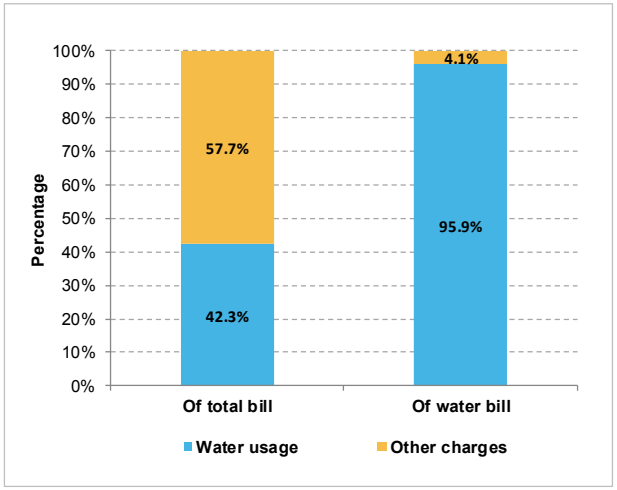
Sewer usage charge = (water consumption minus "free threshold allowance") x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Regional shopping centre

Charges: water, sewer, very large non-res. drainage, major trade waste

Configuration: 117,996 kL p.a. / Multiple meters / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	373.76	406.91	751.23	1,114.24	1,494.14
Water usage	$nominal	264,311.04	271,390.80	277,290.60	284,370.36	291,450.12
Sewer service	$nominal	1,312.14	1,397.30	1,697.50	2,016.59	2,345.20
Sewer usage	$nominal	67,170.25	67,156.01	67,141.77	67,127.53	67,113.30
Drainage	$nominal	2,645.21	2,747.19	2,853.40	2,963.68	3,081.60
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	22,569.80	23,134.05	23,712.40	24,305.21	24,912.84
Projected total annual bill	$nominal	358,420.86	366,271.89	373,487.52	381,939.24	390,439.88
% change on the previous year			2.2%	2.0%	2.3%	2.2%
Water usage % of water charges		100%	100%	100%	100%	99%
Water usage % of total bill		74%	74%	74%	74%	75%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	373.76	1,494.14	1,120.38	280.10	5.39
Water usage	$nominal	264,311.04	291,450.12	27,139.08	6,784.77	130.48
Sewer service	$nominal	1,312.14	2,345.20	1,033.06	258.27	4.97
Sewer usage	$nominal	67,170.25	67,113.30	(56.95)	(14.24)	(0.27)
Drainage	$nominal	2,645.21	3,081.60	436.39	109.10	2.10
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	22,569.80	24,912.84	2,343.04	585.76	11.26
Projected total annual bill	$nominal	358,420.86	390,439.88	32,019.02	8,004.75	153.94

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $358,421.

By 2019-20 this bill is projected to be $390,440 a change of $32,019 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 8.9%.

The annual average change in percentage terms is 2.2% per annum.

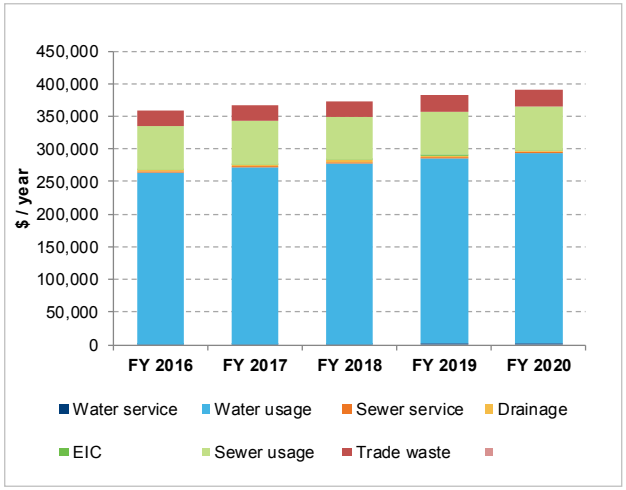
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

Sewer usage charge = (water consumption minus "free threshold allowance") x non-residential sewer usage charge x discharge factor.

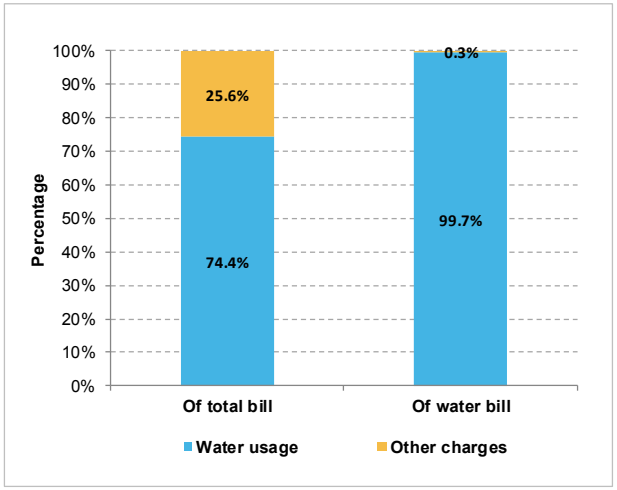
Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Price increases in percentage terms similar to a household and reflect HWC's increasing costs.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Large office - Newcastle

Charges: water, sewer, minor trade waste

Configuration: 5,554 kL p.a. / Multiple meters / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	112.13	122.07	225.37	334.27	448.24
Water usage	$nominal	12,440.96	12,774.20	13,051.90	13,385.14	13,718.38
Sewer service	$nominal	1,089.75	1,155.18	1,250.52	1,353.61	1,456.18
Sewer usage	$nominal	3,134.53	3,120.29	3,106.05	3,091.82	3,077.58
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	112.41	115.23	118.11	121.06	124.09
Projected total annual bill	$nominal	16,928.45	17,326.60	17,792.57	18,327.54	18,867.15
% change on the previous year			2.4%	2.7%	3.0%	2.9%
Water usage % of water charges		99%	99%	98%	98%	97%
Water usage % of total bill		73%	74%	73%	73%	73%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	112.13	448.24	336.12	84.03	1.62
Water usage	$nominal	12,440.96	13,718.38	1,277.42	319.36	6.14
Sewer service	$nominal	1,089.75	1,456.18	366.43	91.61	1.76
Sewer usage	$nominal	3,134.53	3,077.58	(56.95)	(14.24)	(0.27)
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	112.41	124.09	11.67	2.92	0.06
Projected total annual bill	$nominal	16,928.45	18,867.15	1,938.70	484.68	9.32

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $16,928.

By 2019-20 this bill is projected to be $18,867 a change of $1,939 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 11.5%.

The annual average change in percentage terms is 2.9% per annum.

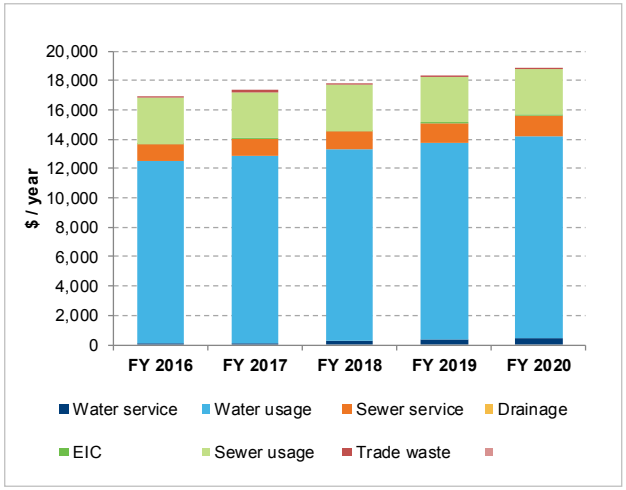
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

Sewer usage charge = (water consumption minus "free threshold allowance") x non-residential sewer usage charge x discharge factor.

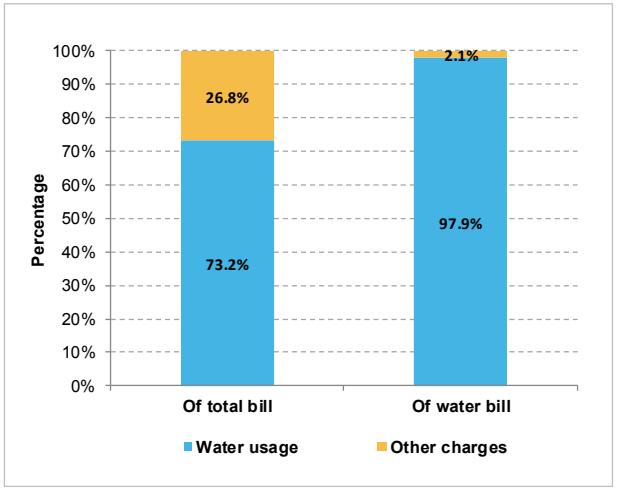
Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

0

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Regional office - Maitland

Charges: water, sewer

Configuration: 1,300 kL p.a. / Multiple meters / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	66.53	72.43	133.72	198.33	265.96
Water usage	$nominal	2,912.00	2,990.00	3,055.00	3,133.00	3,211.00
Sewer service	$nominal	2,602.32	2,753.20	2,824.59	2,906.46	2,978.52
Sewer usage	$nominal	711.88	697.64	683.40	669.16	654.93
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	6,331.39	6,552.90	6,737.33	6,948.60	7,153.08
% change on the previous year			3.5%	2.8%	3.1%	2.9%
Water usage % of water charges		98%	98%	96%	94%	92%
Water usage % of total bill		46%	46%	45%	45%	45%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	66.53	265.96	199.43	49.86	0.96
Water usage	$nominal	2,912.00	3,211.00	299.00	74.75	1.44
Sewer service	$nominal	2,602.32	2,978.52	376.20	94.05	1.81
Sewer usage	$nominal	711.88	654.93	(56.95)	(14.24)	(0.27)
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	6,331.39	7,153.08	821.69	205.42	3.95

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $6,331.

By 2019-20 this bill is projected to be $7,153 a change of $822 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 13.0%.

The annual average change in percentage terms is 3.2% per annum.

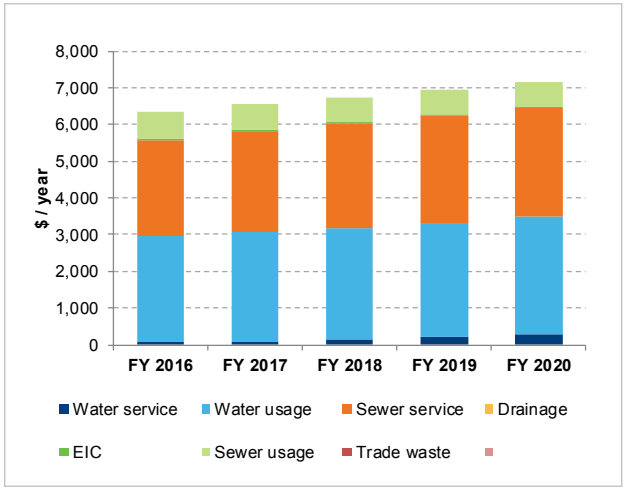
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

IPART's required pricing structures requires small non-res customers (20mm stand alone) to pay the same service charge as houses.

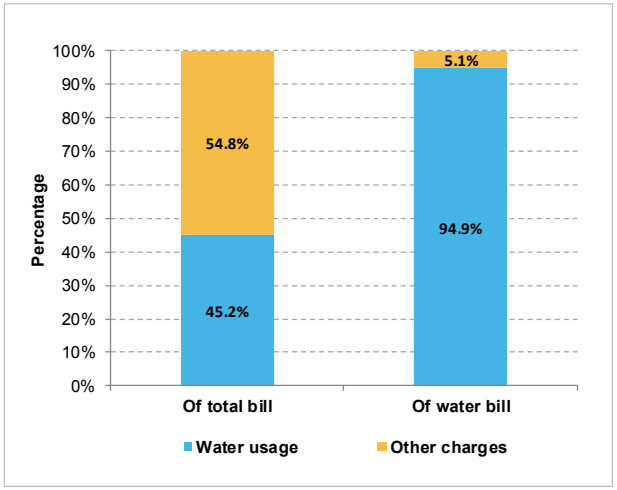
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Small industrial firm (20mm indiv. meter)

Charges: water, sewer, small non-res. drainage, minor trade waste

Configuration: 48 kL p.a. / 20mm meter / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	107.52	110.40	112.80	115.68	118.56
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
Sewer usage	$nominal	-	-	-	-	-
Drainage	$nominal	72.41	75.21	78.12	81.14	84.36
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	112.41	115.23	118.11	121.06	124.09
Projected total annual bill	$nominal	947.03	961.98	986.78	1,013.08	1,040.58
% change on the previous year			1.6%	2.6%	2.7%	2.7%
Water usage % of water charges		86%	86%	78%	71%	65%
Water usage % of total bill		11%	11%	11%	11%	11%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	107.52	118.56	11.04	2.76	0.05
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
Sewer usage	$nominal	-	-	-	-	-
Drainage	$nominal	72.41	84.36	11.95	2.99	0.06
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	112.41	124.09	11.67	2.92	0.06
Projected total annual bill	$nominal	947.03	1,040.58	93.55	23.39	0.45

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $947.

By 2019-20 this bill is projected to be $1,041 a change of $94 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 9.9%.

The annual average change in percentage terms is 2.5% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

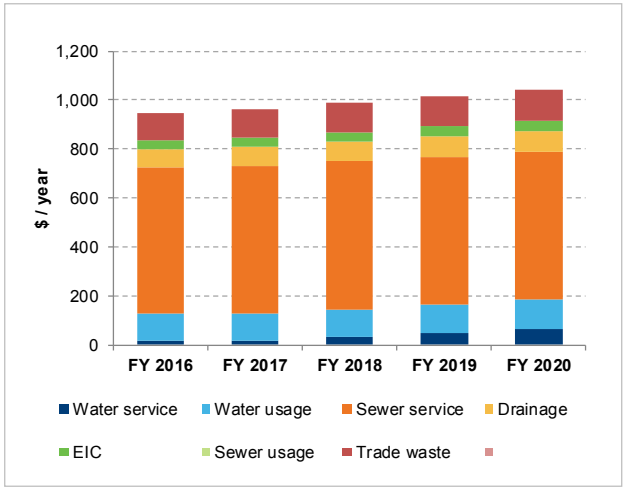
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

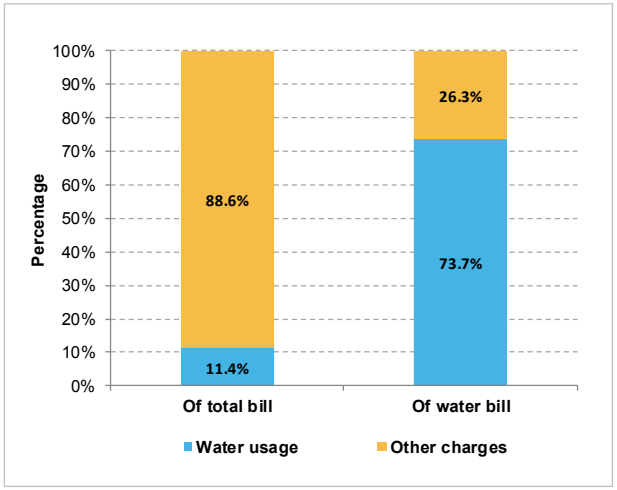
Price increases in percentage terms similar to a household and reflect HWC's increasing costs.

Note that a discharge factor does not apply to the service charge calculation in the case of a individual 20mm meter customer.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Medium industrial firm

Charges: water, sewer, major trade waste

Configuration: 105,477 kL p.a. / Multiple meters / discharge factor 60%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	515.09	560.78	1,035.29	1,535.56	2,059.12
Water usage	$nominal	220,446.93	229,939.86	235,213.71	241,542.33	247,870.95
Sewer service	$nominal	17,858.04	18,890.96	19,308.63	19,794.55	20,209.20
Sewer usage	$nominal	42,381.65	42,371.60	42,361.55	42,351.50	42,341.45
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	2,860.70	2,932.22	3,005.52	3,080.66	3,157.68
Projected total annual bill	$nominal	284,101.08	294,735.05	300,965.33	308,346.25	315,681.08
% change on the previous year			3.7%	2.1%	2.5%	2.4%
Water usage % of water charges		100%	100%	100%	99%	99%
Water usage % of total bill		78%	78%	78%	78%	79%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	515.09	2,059.12	1,544.03	386.01	7.42
Water usage	$nominal	220,446.93	247,870.95	27,424.02	6,856.01	131.85
Sewer service	$nominal	17,858.04	20,209.20	2,351.15	587.79	11.30
Sewer usage	$nominal	42,381.65	42,341.45	(40.20)	(10.05)	(0.19)
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	2,860.70	3,157.68	296.98	74.24	1.43
Projected total annual bill	$nominal	284,101.08	315,681.08	31,579.99	7,895.00	151.83

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $284,101.

By 2019-20 this bill is projected to be $315,681 a change of $31,580 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 11.1%.

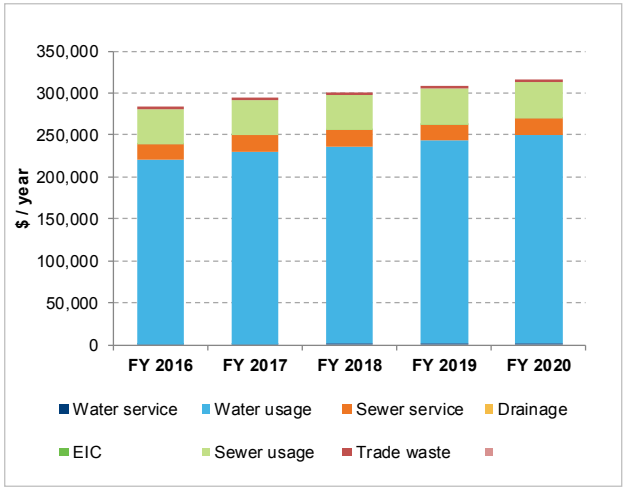
The annual average change in percentage terms is 2.8% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

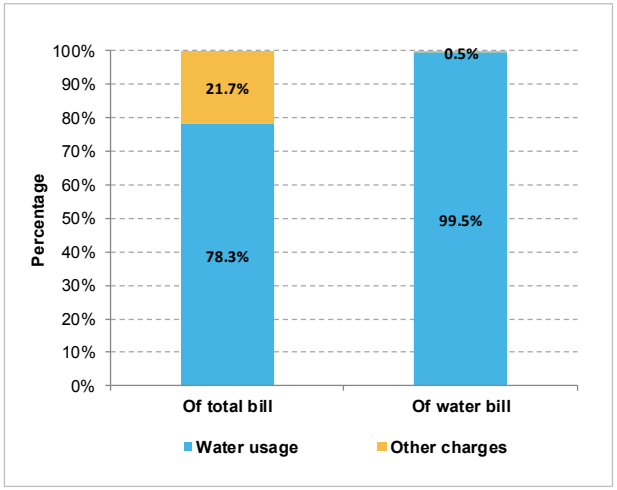
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	766.21	834.17	1,540.03	2,284.19	3,063.00
Water usage	$nominal	350,026.93	365,099.86	373,473.71	383,522.33	393,570.95
Sewer service	$nominal	-	-	-	-	-
Sewer usage	$nominal	-	-	-	-	-
Drainage	$nominal	832.55	864.65	898.08	932.78	969.90
EIC	$nominal	-	-	-	-	-
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	351,625.69	366,798.68	375,911.81	386,739.31	397,603.85
% change on the previous year			4.3%	2.5%	2.9%	2.8%
Water usage % of water charges		100%	100%	100%	99%	99%
Water usage % of total bill		100%	100%	99%	99%	99%

Changes over the 15/16 to 19/20 period ($nominal)

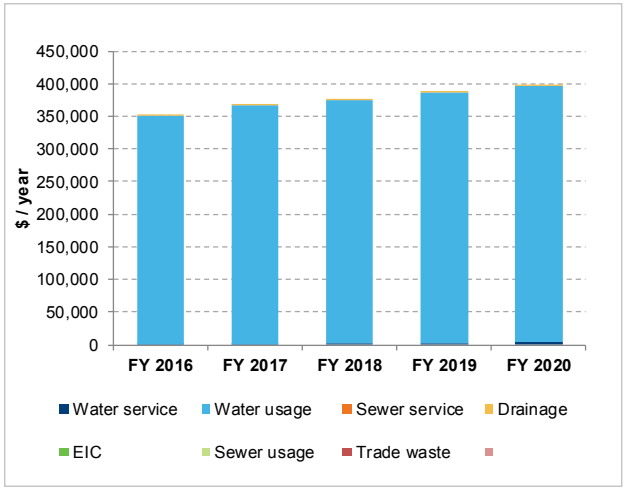
		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	766.21	3,063.00	2,296.79	574.20	11.04
Water usage	$nominal	350,026.93	393,570.95	43,544.02	10,886.01	209.35
Sewer service	$nominal	-	-	-	-	-
Sewer usage	$nominal	-	-	-	-	-
Drainage	$nominal	832.55	969.90	137.35	34.34	0.66
EIC	$nominal	-	-	-	-	-
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	351,625.69	397,603.85	45,978.16	11,494.54	221.05

Notes
All values are shown are in $nominal terms
The typical bill for this customer category in 15/16 is $351,626.
By 2019-20 this bill is projected to be $397,604 a change of $45,978 in $nominal terms.
The percentage change in the bills over this 4 years (i.e. by 2019-20) is 13.1%.
The annual average change in percentage terms is 3.3% per annum.
The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.
Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

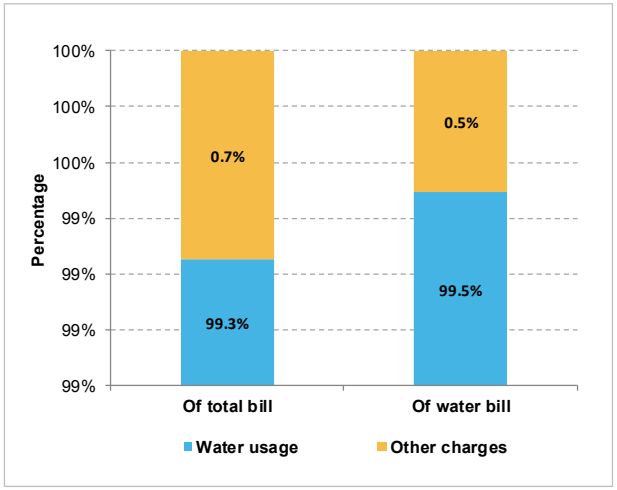
Customer type: Large industrial firm no sewer

Charges: water, large non-res. drainage, major trade waste
Configuration: 167,477 kL p.a. / Multiple meters

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Large industrial firm with sewer

Charges: water, sewer, large non-res. drainage, major trade waste

Configuration: 167,477 kL p.a. / Multiple meters / discharge factor 76% -100%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	766.21	834.17	1,540.03	2,284.19	3,063.00
Water usage	$nominal	350,026.93	365,099.86	373,473.71	383,522.33	393,570.95
Sewer service	$nominal	16,562.36	17,531.79	18,252.32	19,053.28	19,806.39
Sewer usage	$nominal	95,349.68	95,335.44	95,321.20	95,306.96	95,292.73
Drainage	$nominal	832.55	864.65	898.08	932.78	969.90
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	32,155.10	32,958.98	33,782.95	34,627.53	35,493.21
Projected total annual bill	$nominal	495,731.49	512,664.51	523,308.90	535,768.72	548,238.86
% change on the previous year			3.4%	2.1%	2.4%	2.3%
Water usage % of water charges		100%	100%	100%	99%	99%
Water usage % of total bill		71%	71%	71%	72%	72%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	766.21	3,063.00	2,296.79	574.20	11.04
Water usage	$nominal	350,026.93	393,570.95	43,544.02	10,886.01	209.35
Sewer service	$nominal	16,562.36	19,806.39	3,244.03	811.01	15.60
Sewer usage	$nominal	95,349.68	95,292.73	(56.95)	(14.24)	(0.27)
Drainage	$nominal	832.55	969.90	137.35	34.34	0.66
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	32,155.10	35,493.21	3,338.11	834.53	16.05
Projected total annual bill	$nominal	495,731.49	548,238.86	52,507.37	13,126.84	252.44

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $495,731.

By 2019-20 this bill is projected to be $548,239 a change of $52,507 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 10.6%.

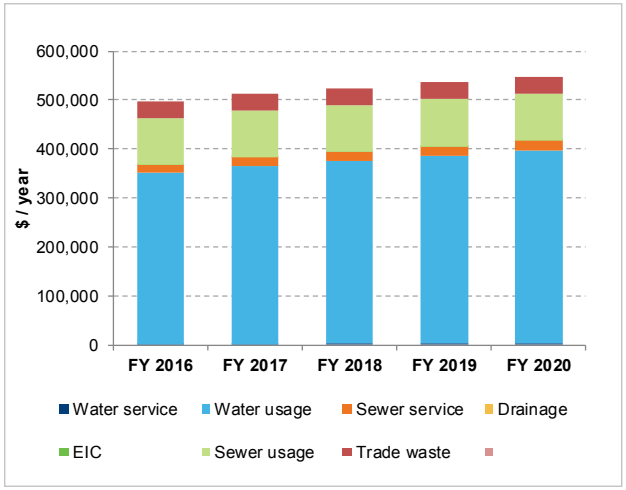
The annual average change in percentage terms is 2.6% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

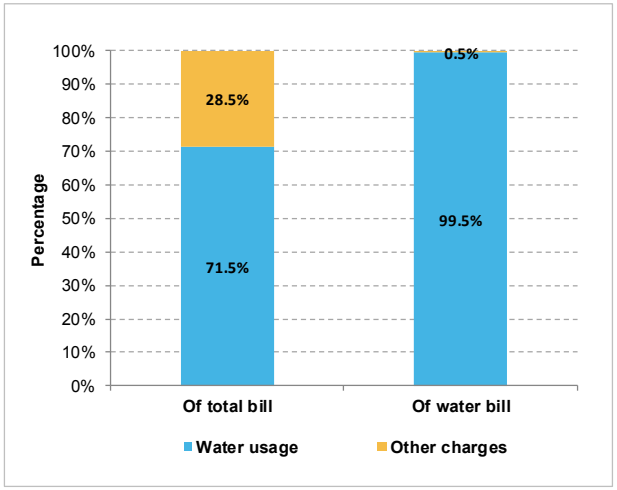
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Nursery low DF (20mm indiv. meter)

Charges: water, sewer

Configuration: 583 kL p.a. / 20mm meter / discharge factor 25%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	17.89	17.57	32.49	48.27	64.82
Water usage	$nominal	1,305.92	1,340.90	1,370.05	1,405.03	1,440.01
Sewer service	$nominal	598.13	603.95	604.65	605.30	606.07
Sewer usage	$nominal	89.28	85.09	80.90	76.72	72.53
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	2,049.88	2,087.14	2,128.71	2,176.96	2,226.11
% change on the previous year			1.8%	2.0%	2.3%	2.3%
Water usage % of water charges		99%	99%	98%	97%	96%
Water usage % of total bill		64%	64%	64%	65%	65%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	17.89	64.82	46.93	11.73	0.23
Water usage	$nominal	1,305.92	1,440.01	134.09	33.52	0.64
Sewer service	$nominal	598.13	606.07	7.94	1.99	0.04
Sewer usage	$nominal	89.28	72.53	(16.75)	(4.19)	(0.08)
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	2,049.88	2,226.11	176.22	44.06	0.85

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $2,050.

By 2019-20 this bill is projected to be $2,226 a change of $176 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 8.6%.

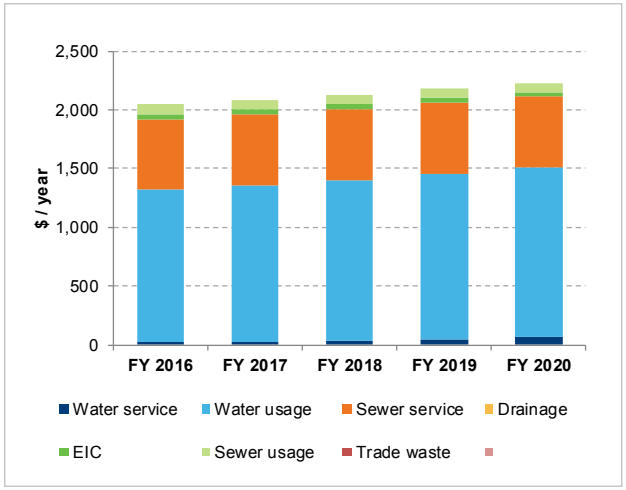
The annual average change in percentage terms is 2.1% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

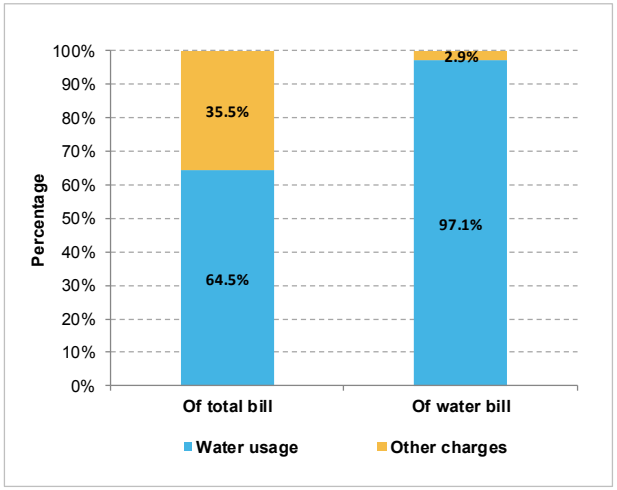
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.

Sewer service charge = 20mm stand alone (residential service charge).

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



Impact of proposed charges

Customer type: Nursery low DF

Charges: water, sewer

Configuration: 5,599 kL p.a. / 40mm meter / discharge factor 25%

Composition of the projected annual bill ($nominal)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water service	$nominal	74.75	81.38	150.25	222.85	298.83
Water usage	$nominal	12,541.76	12,877.70	13,157.65	13,493.59	13,829.53
Sewer service	$nominal	1,188.62	1,257.31	1,283.39	1,313.93	1,339.62
Sewer usage	$nominal	929.46	925.27	921.08	916.90	912.71
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	39.63	40.62	41.64	42.68
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	14,773.26	15,181.29	15,552.99	15,988.90	16,423.37
% change on the previous year			2.8%	2.4%	2.8%	2.7%
Water usage % of water charges		99%	99%	99%	98%	98%
Water usage % of total bill		85%	85%	85%	84%	84%

Changes over the 15/16 to 19/20 period ($nominal)

		FY 2016 Bill	FY 2020 Bill	Difference	Av Ann Δ	Av Wkly Δ
Water service	$nominal	74.75	298.83	224.08	56.02	1.08
Water usage	$nominal	12,541.76	13,829.53	1,287.77	321.94	6.19
Sewer service	$nominal	1,188.62	1,339.62	151.00	37.75	0.73
Sewer usage	$nominal	929.46	912.71	(16.75)	(4.19)	(0.08)
Drainage	$nominal	-	-	-	-	-
EIC	$nominal	38.67	42.68	4.01	1.00	0.02
		-	-	-	-	-
Trade waste	$nominal	-	-	-	-	-
Projected total annual bill	$nominal	14,773.26	16,423.37	1,650.11	412.53	7.93

Notes

All values are shown are in $nominal terms

The typical bill for this customer category in 15/16 is $14,773.

By 2019-20 this bill is projected to be $16,423 a change of $1,650 in $nominal terms.

The percentage change in the bills over this 4 years (i.e. by 2019-20) is 11.2%.

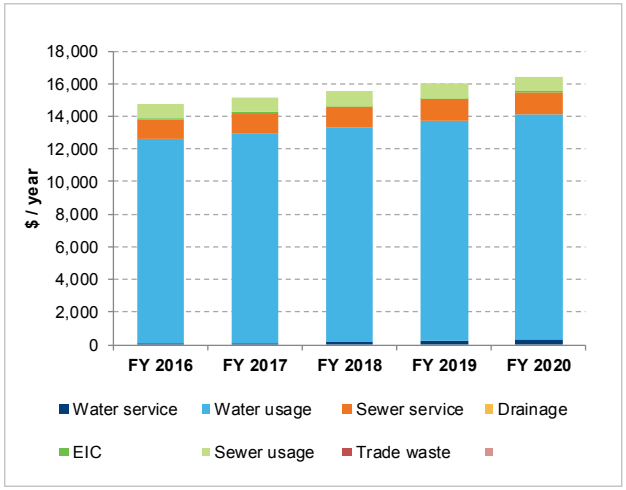
The annual average change in percentage terms is 2.8% per annum.

The water service charge increases in real terms over the period while the water usage rate remains constant in real terms.

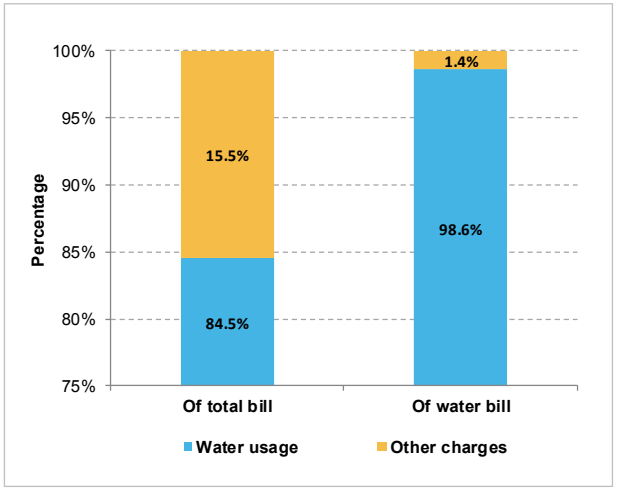
Sewer usage charge = water consumption x non-residential sewer usage charge x discharge factor.

Sewer service charge = number of meter equivalents x ME unit charge x discharge factor.

Projected annual bill ($nominal terms)



Average water usage component over 16/17 to 19/20



APPENDIX L

PRICING CONSULTATION MATERIALS

Survey

Introduction

Hello, my name is ***** from AFS/Insync Surveys. I am calling on behalf of Hunter Water Corporation, who has engaged Insync Surveys, an independent research provider, to assist them in measuring your perceptions regarding water pricing.

This research is not related to the long term water supply strategy, dams or recycled water, only prices from 1 July 2016.

Hunter Water's prices are set by an independent regulator (IPART) around every four years. Hunter Water is preparing its submission to IPART and needs your opinion on some key matters. Do you have about five minutes to share your opinions?

If agreed to interview: Thank you. Your views, both positive and negative will be helpful for Hunter

Water Corporation, so we appreciate you taking the time to have your say.

Hunter Water faces the challenge of providing its customers with reliable water and sewerage services at the lowest possible cost. Your views are important to Hunter Water and you are encouraged to provide honest and considered feedback in relation to a number of issues presented in the survey.

If necessary: This research is carried out in compliance with the Australia Market and Social Research Society (AMSRS) Privacy Principles and the information provided will only be used for research purposes. Your feedback will be kept strictly confidential. Results that may individually identify you will not be provided to Hunter Water or any other third party.

If declined interview: Thank you for your time.

Demographics

First we'll start with a few questions about you.

1. Please indicate the local government area you live in [read out if necessary]
    a. Cessnock
    b. Dungog
    c. Lake Macquarie
    d. Maitland
    e. Newcastle
    f. Port Stephens
    g. Singleton
    h. Other

2. Are you a concession card holder?
    a. Yes
    b. No

3. Do you:
    a. live in a house that you own
    b. live in a house that you rent
    c. live in a flat/unit that you own
    d. live in a flat/unit that you rent

4. Are you the primary bill payer in your household?
    a. Yes
    b. No

5. What is your age bracket?
    a. Less than 25
    b. 25-34
    c. 35-54
    d. 55 or more

Survey items

6. Did you know that Water Wise Rules were introduced on 1 July this year?
    Yes
7. If yes, do you know why they were introduced?
    a. Yes
    b. No (skip Q8)

8. If yes, can you name the 3 main Water Wise Rules? (do not prompt/read out)
    a. Hoses must have a trigger nozzle
    b. No watering the garden between 10am and 4pm
    c. No hosing hard surfaces
    d. Other (please note all)

Now let's talk about affordability.

9. Please rank the following bills according to their fairness. First, which is the fairest bill given the price charged for it? [Prompt for second and third etc]
    a. Water
    b. Electricity
    c. Gas
    d. Council rates [only read out if Q3 = a or c. If b or d please mark NA]

10. Do you think there is anything unfair about Hunter Water's pricing?
    a. Yes (go to Q10.1)
    b. No
    c. Don't know

10.1 [If yes] What is unfair about it?

[Open ended response - UNPROMPTED. ALLOW MULTIPLE ANSWERS]

11. Now imagine for a moment that you are experiencing financial difficulties that make it extremely hard for you to pay your Hunter Water bill. How would you find out what assistance is available, from the following options? Please pick the two options you would be most likely to use.

    [RANDOMISE ORDER]
    a. Neighbour or friend
    b. Hunter Water - website
    c. Hunter Water - phone
    d. Community organisation such as Lifeline, the Salvation Army or your Neighbourhood Centre
    e. CentreLink or the Family Assistance Office
    f. I wouldn't seek assistance if I was having trouble paying my bill

12. Are you aware that Hunter Water offers a range of programs to support customers if they are experiencing financial difficulty?
    a. Yes
    b. No

12.1 If yes, which programs are you aware of? [UNPROMPTED. ALLOW MULTIPLE ANSWERS]

a. Financial Counselling
b. Multiple prepayments
c. Payment assistance scheme (PAS)
d. Holding Interest
e. CentrePay
f. Payment Plans
g. Other [specify]

13. Hunter Water is considering offering additional water bill assistance to customers experiencing financial difficulty. If you were experiencing financial hardship, would any of the following assistance programs interest you? Please say yes or no for each program.

[RANDOMISE ORDER]

a. Bill smoothing – making regular weekly or monthly payments rather than having different bill amounts every four monthly cycle.
b. Payment incentive program – involving rewards for regular repayment of long standing overdue bills.
c. Outreach by appointment – Hunter Water visits your home to discuss options
d. Outreach at a community venue (e.g. library, neighbourhood centre)
e. appointment or drop-in on designated days
f. Hunter Water visiting your home to check for water leaks and help you save water
g. Other [Please note other comments]

14. Hunter Water owns a number of assets including a subsidiary company, buildings and land.

Owning these assets is not a core function of Hunter Water's business, which is to provide you with reliable and safe drinking water and sewer services. Selling these non-core assets may help limit any future increases to your water bill.

Should Hunter Water sell these non-core assets if it can assist limit future price increases?

a. Yes, (go to Q15)
b. No, (skip to Q16)
c. Don't know (skip to Q16)

15. If yes:

Hunter Water also owns assets and facilities that are part of its core business, such as sewer and water treatment plants. Selling these core assets, and contracting the operation of them, may help limit future increases in your water bills.

Should Hunter Water sell any of these core assets if it can assist limit future price increases?

a. Yes
b. No
c. Don't know

16. Now thinking overall, how do you rate Hunter Water's performance as a water utility in the Lower Hunter region? Please rate them on a scale of 1 to 5, where 1 is poor and 5 is excellent.
    1. Poor
    2. Fair
    3. Good
    4. Very good
    5. Excellent

17. Finally, would you like to be a member of Hunter Water's customer panel, and participate in occasional future research regarding Hunter Water?
    a. No
    b. Yes
    c. Already a member

[If yes] Please provide your email address: [Specify]

Closing: That is the end of the survey. Thank you for your time.

APPENDIX M

COST BASE FOR INDIVIDUAL MISCELLANEOUS CHARGES ($2015-16 TERMS)

Charges 11, 12 and 17 are no longer required.
Detailed information documenting the cost base for miscellaneous charges 21 to 66 is available on request.

1. Conveyancing certificate

Statement of outstanding rates and charges at a specific date that is issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.

a. Over the counter

CURRENT CHARGE = $32.85 PROPOSED CHARGE = $37.00

Process	Time
Open mail and stamp cheques includes records processing, remittances etc	3 min
Property identification	5 min
Computer entry (applicant details, queue procedure)	2 min
Banking procedures	7 min
Post printing procedures (collection, checking)	6 min
Mailing procedures (address envelopes, insert certificate)	3 min
Follow up telephone call to check balance on date of settlement	2 min
Average time for function	**28 min**

Cost component	Amount
Hunter Water costs	$36.30
Australia Post costs - A4 envelope	$0.70
Proposed Charge	**$37.00**

b. Electronic

CURRENT CHARGE = $10.15 PROPOSED CHARGE = $14.00

Process
Property and vendor details supplied electronically by solicitors, conveyancing companies or individuals to a Broker nominated by Hunter Water
Details electronically forwarded to Hunter Water
The appropriate Hunter Water customer account is automatically identified and the statement of rates and charges is electronically compiled and sent to the broker
Investigation of exceptions where electronic advice cannot be provided are handled manually
Free electronic update of charges on the date of settlement

2. Property sewerage diagram – up to and including A4 size (where available)

Issue a copy of a diagram showing the location of the house-service line, building and sewer for a property.

CURRENT CHARGE = $20.20 PROPOSED CHARGE = $24.00

Process	Time
Identify property on Hunter Water mapping system	3 min
Print plan	2 min
Raise relevant fee against customer account and receipt payment	5 min
Fax/mail copy of plan when required	3 min
Banking Procedures	5 min
Average time for function	**18 min**

Cost component	Amount
Hunter Water costs	$23.30
Australia Post costs- A4 document	$0.70
Proposed Charge	**$24.00**

3. Service location diagram

Plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewer main is available.

a. Over the counter

CURRENT CHARGE = $26.55 PROPOSED CHARGE = $26.65

Process	Time
Identify property on mapping system	2 min
Print out plan	2 min
Raise adjustment and manage payment in CIS	10 min
Provide receipt to customer	3 min
Mailing procedures (address envelopes, insert certificate)	3 min
Average time for function	**20 min**

Cost component	Amount
Hunter Water costs	$25.95
Australia Post costs - A4 envelope	$0.70
Proposed Charge	**$26.65**

b. Electronic

Broker or agent lodges an application via the Land Title Office interface and extracts property details, produces an electronic plan of Hunter Water's services and connection points in relation to a property's boundaries, or a statement that no sewer main is available.

CURRENT CHARGE = $15.90 PROPOSED CHARGE = $16.50

Process
Land parcel details are supplied electronically by solicitors, conveyancing companies or individuals to a broker nominated by Hunter Water.
The details are electronically forwarded to Hunter Water.
The appropriate land parcel for the details provided is automatically identified, compiled and sent electronically to the broker.
Investigation of exceptions where electronic advice cannot be provided are handled manually.
Provide large diagrams – locate, print, package and post.

Cost component	Amount
Hunter Water costs	$11.00
LPI Broker's Charge	$5.50
Proposed Charge	**$16.50**

4. Meter Reading - special reads and by appointment

Meter Reader required to attend customers property for the purpose of obtaining a special reading outside of the existing meter read schedule (inside business hours) or alternatively by appointment with the customer after business hours. This requirement could be for the purpose of dispute investigation, finalisation of account under property sale, inaccessible meter etc. If the meter is inaccessible, the customer's obligations and Hunter Water's rights regarding access to the water meter are outlined in Section 10.4 of the Customer Contract.

Process	Time
Arrange appointment with Customer / occupant	5 min
Log Field Activity requesting Contractor site visit	2 min
Action Field Activity and enter meter reading	3 min
Average time for function	**10 min**

a. During business hours

CURRENT CHARGE = $25.95 PROPOSED CHARGE = $26.50

Cost component	Amount
Hunter Water costs	$13.00
Contractor Costs to read meter during contract business hours	$13.50
Proposed Charge	**$26.50**

b. Outside business hours

CURRENT CHARGE = $106.00 PROPOSED CHARGE = $107.00

Cost component	Amount
Hunter Water costs	$13.00
Contractor Costs to read meter outside contract business hours	$94.00
Proposed Charge	**$107.00**

5. Billing record search statement

Provision of historical billing and consumption data for up to 5 years based on a customer request. Account details for the current and previous financial year are free of charge. Additional years of data need to be extracted via a search of Hunter Water's archived financial reports.

a. Individual property

This charge is applied for each property that the historical information has been requested.

CURRENT CHARGE = $64.50 PROPOSED CHARGE = $65.55

Process	Time
Receipt application	3 min
Identify property	2 min
Search/source data & copy records	30 min
Type summarised reply	10 min
Mailing procedures	5 min
Average time for function	**50 min**

Cost component	Amount
Hunter Water costs	$64.85
Australia Post costs - A4 envelope	$0.70
Proposed Charge	**$65.55**

b. Multiple properties

An hourly rate to prepare historical billing and consumption data for owners of multiple properties (such as Council, Dept Education etc).

CURRENT CHARGE = $93.25 PROPOSED CHARGE = $94.00

At times owners of multiple properties undertake reviews relating to water consumption to determine areas of potential water efficiency gains. Often property owners do not keep their own billing records and request Hunter Water to prepare extensive information regarding the consumption and expenditure at each property. This charge is designed to recoup the staff costs in servicing this type of customer request. The fee is an hourly charge and the customer is informed of the charge prior to Hunter Water proceeding with their request. This is a fairer and more reasonable approach to charging for these requests rather than imposing the Billing Record Search Statement (Charge 5a) for each property.

6. Building over or adjacent to sewer advice

Statement of Approval Status for Existing Building Over or Adjacent to Sewer applications.

CURRENT CHARGE = $75.55 PROPOSED CHARGE = $79.65

Process	Time
Receive application, identify property on customer services database and provide receipt for payment to customer/or agent	10 min
Search for relevant information on records management system	15 min
Prepare letter including a copy of existing conditions, or advising there was no previous application.	30 min
Mailing procedures	5 min
Average time for function	**60 min**

Cost component	Amount
Hunter Water costs	$78.95
Australia Post costs- A4 document	$0.70
Proposed Charge	**$79.65**

7. Water restriction and reconnection after restriction

a. Restriction

Restriction of water supply to a property for non-payment of account or other reason in accordance with clause 6 of the Customer Contract. Restriction of water supply for non-payment may occur if an account remains unpaid after the issuing of a Final Notice for payment in accordance with the Customer Contract. Written Notice of Water Restriction is provided to the customer at least 7 days prior to restriction being completed.

This new fee ensures that all fees associated with this debt recovery activity are recovered from the non-paying customer.

CURRENT CHARGE = $NA PROPOSED CHARGE = $72.30

Process	Time
Account Assistance Team review account, issue written Notice	10 min
Review for payment or contact if still remaining unpaid raise Field Activity for restriction	10 min
Average time for function	**20 min**

Cost component	Amount
Hunter Water costs	$25.95
Contractor costs to restrict water service (includes travel to/from site, removing inhibiting device and notifying Hunter Water)	$46.35
Proposed Charge	**$72.30**

b. Water reconnection after restriction – during business hours

Restoration of water supply during business hours (8am to 3pm on business days) to a property that has been restricted for non-payment of accounts.

CURRENT CHARGE = $114.00 PROPOSED CHARGE = $106.00

Process	Time
Customer advises customer service staff of payment or pay plan is emailed to credit management team.	10 min
Details of payment noted, field activity issued and phoned to contractor	15 min
Field Activity reviewed and finalised	5 min
Average time for function	**30 min**

Cost component	Amount
Hunter Water costs	$38.90
Contractor costs to restrict water service (includes travel to/from site, removing inhibiting device and notifying Hunter Water)	$66.95
Proposed Charge	**$106.00**

c. Water reconnection after restriction – outside business hours

Restoration of water supply during business hours (times other than those referred to in 7b) to a property that has been restricted for non-payment of accounts.

CURRENT CHARGE = $138.00 PROPOSED CHARGE = $126.00

Process	Time
Customer advises contact centre staff of payment of account and agrees to pay after hours fee	10 min
Field activity issued and phoned to contractor	15 min
Field activity reviewed and finalised	5 min
Average time for function	**30 min**

Cost component	Amount
Hunter Water costs	$38.90
Contractor costs to restrict water service (includes travel to/from site, removing inhibiting device and notifying Hunter Water)	$87.55
Proposed Charge	**$126.00**

8. Workshop flow rate test of meter

Test to determine the accuracy of a customer's mechanical water meter at the customer's request.

a. Without strip test

Removal, transportation and flow rate test of a mechanical water meter by an accredited organisation.

CURRENT CHARGE =		PROPOSED CHARGE =	
20 - 25 mm	$170.00	20 - 25 mm	$203.00
32mm	$239.00	32mm	$248.00
40mm	$243.00	40mm	$251.00
50mm light	$287.00	50mm light	$366.00
50mm heavy	$357.00	50mm heavy	$366.00
65mm	$359.00	65mm	$366.00
80mm	$419.00	80mm	$487.00
100mm	$500.00	100mm	$565.00
150mm	$567.00	150mm	$672.00

Process	Time
Identify property and receipt fees	5 min
Create a file in records management system and scan application	5 min
Log a field activity for removal and replacement of meter	5 min
Prepare fax to meter testing facility	2 min
Prepare meter for transportation	5 min
Assessment of results and preparation of reply to customer	15 min
Scan results sheet and letter into records management system	2 min
Average time for function	**39 min**

Meter size	Hunter Water costs	Freight (weight based)	Contractor (remove and replace meter)
20 - 25mm	$50.20	$13.00	$12.95
32mm	$50.20	$14.00	$12.95
40mm	$50.20	$15.00	$15.20
50mm light	$50.20	$16.00	$95.70
50mm heavy	$50.20	$16.00	$95.70
65mm	$50.20	$16.00	$95.70
80mm	$50.20	$19.00	$213.90
100mm	$50.20	$25.00	$219.50
150mm	$50.20	$25.00	$326.45

b. With strip test

Removal, transportation, flow rate and strip test of a mechanical water meter by an accredited organisation. The strip test component is only charged to the customer if the test is requested by them. If Hunter Water requests a meter strip test to investigate meter issues the cost will be paid by Hunter Water.

CURRENT CHARGE =		PROPOSED CHARGE =	
20 - 25 mm	$235.00	20 - 25 mm	$284.00
32mm	$304.00	32mm	$328.00
40mm	$304.00	40mm	$330.00
50mm light	$351.00	50mm light	$465.00
50mm heavy	$421.00	50mm heavy	$465.00
65mm	$423.00	65mm	$465.00
80mm	$484.00	80mm	$584.00
100mm	$564.00	100mm	$655.00
150mm	$621.00	150mm	$762.00

Process	**Time**
Identify property and receipt fees	5 min
Create a file in records management system and scan application	5 min
Log a field activity for removal and replacement of meter	5 min
Prepare fax to meter testing facility	2 min
Prepare meter for transportation	5 min
Assessment of results and preparation of reply to customer	15 min
Scan results sheet and letter into records management system	2 min
Average time for function	**39 min**

Meter size	**Hunter Water admin**	**Freight (weight based)**	**Contractor (remove and replace meter)**	**Test facility flow rate test costs**	**Test facility strip test report cost**
20 - 25mm	$50.20	$13.00	$12.95	$126.50	$93.50
32mm	$50.20	$14.00	$12.95	$170.50	$93.50
40mm	$50.20	$15.00	$15.20	$170.50	$93.50
50mm light	$50.20	$16.00	$95.70	$203.50	$115.50
50mm heavy	$50.20	$16.00	$95.70	$203.50	$115.50
65mm	$50.20	$16.00	$95.70	$203.50	$115.50
80mm	$50.20	$19.00	$213.90	$203.50	$115.50
100mm	$50.20	$25.00	$219.50	$269.50	$115.50
150mm	$50.20	$25.00	$326.45	$269.50	$115.50

9. Application for Water Disconnection

Charge applied to process applications to disconnect an existing water service or recycled water service.

a. Application for water disconnection (all sizes)

CURRENT CHARGE = $71.50 PROPOSED CHARGE = $114.00

Process	Time
Identify property on Hunter Water customer services database	2 min
Raise disconnection CASE on customer services database (including administration fees and inspection scheduling)	15 min
Receipt payment	5 min
Update property information on customer service database	15 min
Average time for function	**37 min**

Cost component	Amount
Hunter Water costs	$47.99
Plumbing inspection costs	$66.51
Proposed Charge	**$114.00**

b. Application for recycled water disconnection (all sizes)

CURRENT CHARGE = $143.00 PROPOSED CHARGE = $160.00

Process	Time
Identify property on Hunter Water customer services database	5 min
Raise disconnection CASE on customer services database (including administration fees and inspection scheduling)	15 min
Receipt payment	5 min
Update property information on customer service database	15 min
Average time for function	**40 min**

Cost component	Amount
Hunter Water costs	$52.00
Service requirement audit	$108.00
Proposed Charge	**$160.00**

10. Application for water service connection (all sizes)

Process applications to connect a new water service. This covers the administration fee only and contractor/inspection fees. There will be a separate charge payable to Hunter Water if it also performs the physical connection.

Note:

This charge replaces three separate charges related to water service connection size that are included on the list of 20 common miscellaneous charges for NSW metropolitan water agencies:

10. Application for water service connection (up to and including 25mm)

11. Application for water service connection (32-65mm)

12. Application for water service connection (80mm or greater)

CURRENT CHARGE = $77.80 PROPOSED CHARGE = $126.00

Process	Time
Identify property on Hunter Water customer services database	5 min
Identify property on plan to determine the size and type of main	8 min
Raise disconnection CASE on customer services database (including administration fees and inspection scheduling)	15 min
Receipt payment	3 min
Update property information on customer service database	15 min
Average time for function	**46 min**

Cost component	Amount
Hunter Water costs	$59.65
Plumbing inspection costs	$66.50
Proposed Charge	**$126.00**

13. Application to assess water main adjustment

Preliminary advice as to the feasibility of a water main adjustment and will result in either:

a. A rejection of the project - in which case the fee covers the associated investigation costs, or

b. Conditional approval - in which case the fee covers the administration costs associated with the investigation and record amendment.

CURRENT CHARGE = $366.00 PROPOSED CHARGE = $369.00

Process	Time
Register application	
Determine requirement for additional capacity	
Complete technical report	
Prepare advice	
Review advice	
Approve advice	
Issue advice	
Average time for function	**226 min**

Cost component	Amount
Hunter Water costs	$369.00
Proposed Charge	**$369.00**

14. Metered standpipe hire security bond

Payable by metered standpipe hirers and held in a public moneys account, refundable upon return of the standpipe in an undamaged state and upon payment of all outstanding hire and usage charges.

CURRENT CHARGE =		PROPOSED CHARGE =	
20 mm	$329.00	20 mm	$331.00
32mm low flow	$399.00	32mm low flow	$402.00
32mm high flow	$881.00	32mm high flow	$887.00
50mm	$881.00	50mm	$887.00

Cost component	**Amount**
Purchase price of replacement standpipe	As above
Proposed Charge	**As above**

15. Metered standpipe hire – triannual fees

Hire fees payable for the use of a portable metered standpipe owned by Hunter Water which is used to extract water from a water main.

CURRENT CHARGE =		PROPOSED CHARGE =	
20 mm	$34.30	20 mm	$53.60
32mm low flow	$35.60	32mm low flow	$54.60
32mm high flow	$44.45	32mm high flow	$62.75
50mm	$44.45	50mm	$62.75

Process	**Time**
Update reading on CIS	6 mins
Book inspection of standpipe with contractor	2 mins
Update records management system with details of inspection	2 mins
Average time for function	**10 min**

Cost component	**Amount**
Hunter Water costs	$12.95
Contractor Cost for Inspection	$36.05
Asset cost recovery[a]	
20mm standpipe	$4.60
32mm low flow standpipe	$5.60
32mm high flow standpipe	$13.75
50mm standpipe	$13.75

a) Monthly asset cost recovery based on current costs and asset life of 5 years (using an annuity factor of 0.02 at 6.5%)

16. Metered standpipe water usage fee

Charge per kilolitre of measured consumption on a metered standpipe.

CURRENT CHARGE = As per water usage tariff per kilolitre ($2.24/kL)	PROPOSED CHARGE = As per water usage tariff per kilolitre ($2.24/kL)

Cost component
Refer to chapters 5 and 6

18 Backflow prevention device fees

Hunter Water may require customers to install a backflow prevention device to the outlet of their water meter, as per the Customer Contract. Hunter Water's backflow compliance framework requires that customers demonstrate on an annual basis that their device has passed a functionality test.

Hunter Water takes a staged approach to addressing non-compliance, with escalation for continuing inaction due to the inherent risk to the quality of the drinking water supply.

A customer is sent a reminder notice 2 weeks after the due date for an annual test to be conducted has lapsed. If they fail to send a test result within 6 weeks, a second reminder notice is sent. If within 2 weeks they do not comply with the notice, the administration group contacts the customer to seek a preferred path to take at that time. Hunter Water may arrange a backflow test on behalf of the customer and seek reimbursement of costs (charge 18a – device test fee).

If the backflow prevention device passes the test, Hunter Water reminds the customer of their responsibility to undertake annual compliance tests and no further action is taken.

If the backflow prevention device fails the test, the customer is advised of the need to rectify any faults and provide evidence of a passed test. Hunter Water may disconnect the customer from mains drinking water supply if no action is taken to correct the faults (charge 18b – disconnection for noncompliance).

At the customer's request, Hunter Water will provide reconnection once the customer has arranged a functional backflow prevention device (charge 18c – reconnection after noncompliance).

a) Device test

CURRENT CHARGE = $336.00 PROPOSED CHARGE = $328.00

Process	
Issue Notice for initial/annual reports not received	
Consult with plumbers/owners and Hunter Water to investigate	
Issue final notice for reports not received	
Consult with plumbers/owners and Hunter Water to investigate	
Site inspection to confirm premise requires Notice of Entry	
Issue Notice of Entry for reports not received	
Consult with plumbers/owners on next step	
Issue Notice of testing to Contractor	
Create customer contact in CIS and Backflow database	
Contractor to perform test	
Total Time	**85 min**
Calculation and proposed charge	
Hunter Water Costs	**$108.00**
Test Fee *	**$220.00**
PROPOSED CHARGE =	$328.00

* Backflow test charge (at Hunter Water rates) = $191.36 per test (average cost of three external providers, performing a test only)

b) Disconnection for noncompliance

CURRENT CHARGE = $NA PROPOSED CHARGE = $332.00

Process	
Enter premises details once identified as a potential (data entry)	
Consultation with plumbers/owners and/or Hunter Water own investigation	
Consultation with tester/plumber	
Issue notice for potential requirement of Backflow	
Consultation with plumbers/owners and/or Hunter Water own investigation	
Issue Notice of Disconnection for no functioning backflow device/ Issue field activity	
Create customer contact on property CIS	
Enter field activity disconnection report into CIS and backflow database	
Total Time	**220 min**
Calculation and proposed charge	
Hunter Water Costs	**$286.00**
Contractor Costs to disconnect	**$46.00**
PROPOSED CHARGE =	$332.00

c) Reconnection after rectification of noncompliance

CURRENT CHARGE = $NA PROPOSED CHARGE = $175.00

Process	
Notification entered into backflow database that device is ready to be installed and tested	
Notify and engage contractor to arrange reconnection	
Notify and engage Civil Services to arrange reconnection	
Engage and manage contractors to perform reconnection	
Identify on CIS	
Enter reconnection report into CIS and Backflow database	
Consultation with plumbers/owners	
Total Time	**85 min**
Calculation and proposed charge	
Hunter Water Costs	**$108.00**
Contractor Costs	**$67.00**
PROPOSED CHARGE =	$175.00

19. Major works inspection fee

Charge for the inspection of sewer rising mains constructed by developers that are longer than 25 metres and/or greater than 2 metres in depth. This fee also includes Work-as-Executed (WAE) drawings.

CURRENT CHARGE = $10.35 per metre

PROPOSED CHARGE = $10.45 per metre

20. Statement of available pressure and flow

Water pressure report detailing relative pressures in Hunter Water's mains. The charge covers assessment of available pressures at three specific flow rates from a single connection point to Hunter Water's main. Additional points of connection and flow values can be assessed at additional cost at the technical services hourly rate (Charge No.52).

CURRENT CHARGE = $335.00
plus Technical services hourly rate (if required)

PROPOSED CHARGE = $336.00
plus Technical services hourly rate (if required)

Process	Time
Determine flow requirement	20 min
Model pressure levels within the water network	25 min
Receive Statement Of Available Pressure (SAP) response from Network Planning Group	25 min
Prepare SAP letter	95 min
Approve SAP letter	15 min
Forward SAP to consultant / applicant	15 min
Technical Services Hourly Rate (Charge No.52) if required	$108/hour
Average time for function	**195 min**

Cost component	Amount
Hunter Water costs	$336.00
Proposed Charge	**$336.00**

APPENDIX N

ACTIVITY AND REVENUE SUMMARY - MISCELLANEOUS CHARGES ($2015-16 TERMS)

Table N.1 Activity and Revenue Summary - Miscellaneous Charges

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
1	Conveyancing certificate	a) Over the counter Over the counter statement of outstanding rates and charges at a specific date which is issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.	$32.85	$37.00	1,269	$46,965
		b) Electronic Electronic statement of outstanding rates and charges at a specific date. Issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.	$10.15	$14.00	13,009	$182,131
2	Property sewerage diagram (up to A4)	Where available, issue a copy of a diagram showing the location of the house-service line, building and sewer for a property.	$20.20	$24.00	434	$10,416
3	Service location diagram	a) Over the counter Over the counter plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewer main is available.	$26.55	$26.65	2,033	$54,179
		b) Electronic Broker or agent lodges an application via the Land Title Office interface and extracts property details, produces an electronic plan of Hunter Water's services and connection points in relation to a property's boundaries, or a statement that no sewer main is available.	$15.90	$16.50	10,232	$168,823
4	Meter reading - special reads and by appointment	To provide a statement of account where customers request a special meter reading. Meter reader obtains a special reading outside of the existing read schedule:				
		a) During business hours	$25.95	$26.50	40	$1,060
		b) Outside of business hours (by appointment)	$106.00	$107.00	5	$535

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
5	Billing record search statement	Customer requested search of Hunter Water's archived financial reports providing account details for up to 5 years. Account details for the current and previous financial year are free of charge. This charge is applied for each property requiring a billing record search. a) Individual property b) Multiple proprties An hourly charge to prepare and provide billing and consumption data to owners of multiple properties.	$64.50 $93.25	$65.55 $94.00	20 3	$1,289 $282
6	Building over or adjacent to sewer advice	Providing conditional requirements, statement of approval status for existing building over or adjacent to sewer applications.	$75.55	$79.65	71	$5,655
7	Water restriction and reconnection after restriction	a) Restriction Restriction of water supply due to non-payment of water account b) Water reconnection after restriction - during business hours Restoration of water supply during business hours to a property restricted for non-payment of accounts when payment has been received, during normal business hours (8am to 3pm). c) Water reconnection after restriction - outside business hours Restoration of water supply outside business hours to a property restricted for non-payment of accounts during the hours of 3.00pm to 8.00am the following business day.	NA $114.00 $138.00	$72.30 $106.00 $126.00	1,560 1,320 100	$112,788 $139,920 $12,600

Service No	Function	Description	Current Charge (2015-16)		Proposed Charge 2016-17		Predicted Quantity	Predicted Income
8	Workshop flow rate test of a meter	Test to determine the accuracy of a customer's mechanical water meter at the customer's request.						
		a) Without strip test Removal, transportation and flow rate test of a mechanical water meter by an accredited organisation.	20-25mm 32mm 40mm 50mm L 50mm H 65mm 80mm 100mm 150mm	$170.00 $239.00 $243.00 $287.00 $357.00 $359.00 $419.00 $500.00 $567.00	20-25mm 32mm 40mm 50mm L 50mm H 65mm 80mm 100mm 150mm	$203.00 $248.00 $251.00 $366.00 $366.00 $366.00 $487.00 $565.00 $672.00	12 1 2 0 0 0 1 0 0	$2,368 $165 $502 $366 $0 $0 $487 $0 $0
		b) With strip test Removal, transportation, flow rate and strip test of a mechanical meter by an accredited organisation. The strip test component is only charged if the customer requests this test.	20-25mm 32mm 40mm 50mm L 50mm H 65mm 80mm 100mm 150mm	$235.00 $304.00 $304.00 $351.00 $421.00 $423.00 $484.00 $564.00 $621.00	20-25mm 32mm 40mm 50mm L 50mm H 65mm 80mm 100mm 150mm	$284.00 $328.00 $330.00 $465.00 $465.00 $465.00 $584.00 $655.00 $762.00	0	$0
9	Application for disconnection	a) Water (all sizes) Charge applied to process applications to disconnect an existing water service.	$71.50		$114.00		169	$19,228
		b) Recycled water (all sizes) Charge applied to process applications to disconnect an existing recycled water service.	$143.00		$160.00		20	$3,200
10	Application for water service connection – (all sizes)	Charge applied to process applications to connect a new water service.	$77.80		$126.00		268	$33,726
13	Application to assess a water main adjustment (Moving and fitting and / or adjusting a section of water main up to and including 25 metres in length)	Charge for preliminary advice as to the feasibility of a project and covers either: a) A rejection of the project - in which case the fee covers the associated investigation costs; or b) Conditional approval - in which case the fee covers the administration costs associated with the investigation and record amendment.	$366.00		$369.00		Included with Application Fee (no. 41)	Included with Application Fee (no. 41)

Service No	Function	Description	Current Charge (2015-16)		Proposed Charge 2016-17		Predicted Quantity	Predicted Income
14	Metered standpipe hire security bond	Moneys paid by standpipe hirers and held in a public moneys account, refundable upon return of the standpipe in an undamaged state and upon payment of all outstanding hire and usage charges. The bond is the actual purchase price of the standpipe.	20mm 32mm H 32mm L 50mm	$329.00 $881.00 $399.00 $881.00	20mm 32mm H 32mm L 50mm	$331.00 $887.00 $402.00 $887.00	60 0 0 0	$19,860 $0 $0 $0
15	Metered standpipe hire – triannual fees	Hire fees payable for the use of a portable metered standpipe owned by Hunter Water that is used to extract water from a water main.	20mm 32mm H 32mm L 50mm	$34.40 $44.45 $35.60 $44.45	20mm 32mm H 32mm L 50mm	$53.60 $62.75 $54.60 $62.75	267 0 468 486	$14,311 $0 $25,553 $30,497
16	Metered standpipe water usage fee	Charge per kilolitre of measured consumption on a standpipe.	As per water usage tariff per kilolitre		As per water usage tariff per kilolitre		-	-
18	Backflow prevention device fees	a) Device test Arrange to test a customer's backflow device as a result of them failing to arrange their own test as per the Customer Contract.	$336.00		$328.00		20	$6,560
		b) Disconnection for noncompliance Failure to rectify a noncompliance backflow prevention device.	$NA		$332.00		2	$664
		c) Reconnection after rectification of noncompliance	$NA		$175.00		2	$350
19	Major works inspection fee	Charge for the inspection of rising sewer mains constructed by developers that are longer than 25 metres and / or greater than 2 metres in depth.	$10.35/m		$10.45/m		1,863m	$19,450
20	Statement of available pressure and flow	Charge for water pressure report detailing relative pressures in Hunter Water's mains. The charge covers assessment of available pressure at three specific flow rates from a single connection point to Hunter Water's main.	$335.00		$336.00		200	$67,312
21	Application to connect/disconnect sewer service (or for special internal inspection permit)	Charge applied to process applications to connect a new sewer service or to disconnect an existing sewer service.	$77.80		$57.05		321	$18,294

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
22	Application to connect/ disconnect water and sewer services (combined application)	Charge applied to process combined application to connect a new water and sewer service, or to disconnect an existing water and sewer service.	$77.80	$58.35	2,000	$116,700
23	Irregular and dishonoured payments	Banking authority – cheque declined Fees relating to cheques returned by banking authorities as irregular or dishonoured.	$36.10	$35.95	23	$827
		Banking authority – direct debit declined Fees relating to Direct Debit payment declines.	$28.00	$28.45	981	$27,909
		Australia Post – cheque declined Fees relating to cheques dishonoured when paid at Australia Post agencies.	$41.45	$40.95	54	$2,225
24	Request for separate metering of units	Charge for the initial assessment of a request for separate sub-metering of individual units within a registered Strata Plan or Community Title. The charge is applied per plan, regardless of the number of units.	$32.25 per plan	$33.10 per plan	125	$4,138
25	Unauthorised connections	Charge applied to a customer account to recover costs and appropriate application fees where a connected service is located, but no application to connect has been lodged with Hunter Water.	$116.00	$164.00	20	$3,280
26	Building plan stamping	Approval of basic building/development plans certifying that the proposed construction does not adversely impact on Hunter Water's assets.	$12.65	$18.15	8,014	$145,460
27	Determining requirements for build over/ adjacent to sewer or easement	Attaching conditional requirements to Council approved building plans to safeguard Hunter Water assets.	$162.00	$186.00	326	$60,636

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
28	Hiring of a metered standpipe	a) Application to hire a metered standpipe Charge for processing applications for the hire of a portable metered standpipe. b) Breach of standpipe hire conditions Charges applied to a customer's account each time they fail to provide a standpipe meter reading as per the conditions of the Hire Agreement. The Agreement advises if three breaches occur the Agreement will be terminated. Due to processing times, each breach attracts its own charge.	$182.00 Breach 1 $19.60 Breach 2 $25.90 Breach 3 – Step 1 $32.25 Breach 3 – Step 2 $32.25	$179.00 Breach 1 $20.15 Breach 2 $26.65 Breach 3 – Step 1 $33.10 Breach 3 – Step 2 $33.10	50 60 20 10 2	$8,950 $1,209 $533 $331 $66
29	Meter affixtures/handling fee	Installation of a water meter to the water connection framework. Customers have two options, depending on the size of the water meter that is to be affixed: For meters up to 50mm light duty. For meters 50mm or larger.	$89.70 (up to 50mm light duty) $89.70	$50.60 (up to 50mm light duty) $79.90	2,341 6	$118,471 $479
30	Inspection of non-compliant meters	Reinspect a multi-occupancy development or stand alone property where a second inspection is required for separate metering, or meter installation, as meter assemblies were either non-compliant or not accessible at initial inspection.	$60.45	$55.50	323	$17,927
32	Connect to or building over / adjacent to a stormwater channel for a single residence	Process applications from customers connecting a single residence to a stormwater channel or erecting a single residence over / adjacent to a stormwater channel held by Hunter Water.	$97.20	$110.00	5	$550
33	Stormwater channel connection	New developments unable to drain to the street drainage system may be serviced by a Hunter Water stormwater channel (if available). This charge covers the cost of the technical assessment.	$347.00	$350.00	5	$1,750

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
34	Hydraulic design assessment *(previously Hydraulic Assessment Application – less than 80mm)*	This is the stand alone fee for assessment of water and sewer services for a development proposing to connect to Hunter Water's existing infrastructure network. The base fee includes assessment of the point of connection to a standard water main frontage and sewer connection point for the lot. Drawings must be formatted to comply with our Services Connection Policy.	1) Residential 25-40mm $243.00 2) Residential >40mm $291.00 3) Non-Residential 25-40mm $348.00 4) Non-Residential >40mm $381.00	1) Residential 25-40mm $244.00 2) Residential >40mm $292.00 3) Non-Residential 25-40mm $350.00 4) Non-Residential >40mm $382.00	43 43 197 66	$10,492 $12,556 $68,950 $25,212
35	Pump station design assessment	Charge for the auditing of water, recycled water and sewer pump station designs prepared by consultants to ensure compliance with Hunter Water standards.	Water: $4,678 Sewer: $5,152 Recycled water: $4,678	WPS: $4,713 SPS: $5,190 RW: $4,713	6 1 0	$28,278 $5,190 $0
36	Application to assess sewer main adjustment	Charge for preliminary advice as to the feasibility of a project and covers either: A rejection of the project in which case the fee covers the associated investigation costs, or Conditional approval in which case the fee covers the administration costs associated with the investigation and record amendment.	$477.00	$481.00	Included with Application Fee (no. 41)	Included with Application Fee (no. 41)
38	Revision of development assessment	Charge covers the cost of recalculating a developer charge and reviewing the design and construction requirements.	$396.00	$399.00	182	$72,618
39	Bond application	Charge covers the lodging and release of a bond (and an estimation of the cost of outstanding works), where a developer wishes to provide security in lieu of constructing works to facilitate early release of Hunter Water Section 50 Compliance Certificate.	$1,806.00	$1,819.00	3	$5,457
40	Bond variation	Charge covers Hunter Water's administration cost for adjustment of securities.	$261.00	$262.00	4	$1,048
41	Development assessment application (s.50) (previously application processing fee)	Charge covers the basic processing of each application to determine if there are any requirements (eg developer charges), or the design and/or construction of works.	$477.00	$481.00	1,245	$598,845

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
42	Application for water / sewer main extensions	Unserviced property owners can apply for approval to extend water and / or sewer mains. Hunter Water calculates appropriate developer charges and extension options based on system capacity and topographical constraints.	$477.00	$481.00	43	$20,683
45	Connection to existing water system	a) Major works (valve shutdown) Charge covers shutdown of water supply by Hunter Water using valves to allow connections to existing mains and recharging of the main.	$708.00	$710.00	76	$54,197
		b) Major works (non-valve shutdown) Charge applies to shutdown of water supply by the developer (or their contractor) using a non-valve method to allow connections to existing mains and recharging of the main.	$302.00	$302.00	6	$1,711
46	Insertion or removal of tee & valve	a) Valve shutdown and charge up Charge applied when the developer elects for Hunter Water to insert the connection to existing mains and where the shutdown is performed using valves.	$1,114.00	$1,118.00	14	$15,279
		b) Non-valve shutdown and charge up Charge applied when the developer elects for Hunter Water to insert the connection to existing mains and where the shutdown is performed by the developer (or their contractor) using a non-valve method.	$696.00	$698.00	7	$4,653
47	Application for additional sewer connection point	Existing developments requiring alternative sewer connection points must make an application to Hunter Water. Charge covers the review of options and assessment of drawings or designs.	$347.00	$350.00	26	$9,100
48	Tee & valve connection	Water services greater than 80mm diameter require special connection arrangements to Hunter Water's mains and are covered by an agreement and technical specification prepared on application.	$275.00	$276.00	72	$19,964

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
50	Major works inspection & WAE fee	Comprises inspection / audit of works constructed under major works contracts to ensure that specified quality is achieved. Work-as-executed comprises survey of the constructed work and modifying plans to detail the precise location of the work for inclusion in Hunter Water's GIS database.	Water - $6,494.00 Sewer -$8,796.00 Recycled water – $6,494.00	$6,542.00 $8,862.00 $6,542.00	5 1 0	$32,712 $8,862 $0
51	Application to assess encroachment on Hunter Water land, easement rights or assets	Charge for a first pass review of an application to allow Hunter Water to advise requirements to be met and a quote for additional, more detailed assessment.	$415.00	$416.00		$
52	Technical Services hourly rate	Charge provides an hourly rate for the time taken for additional technical work to be undertaken.	$108.00/ hour	$108.00/ hour	80	$8,640
53	Remote application fee	Charge covers applications made for a compliance certificate in an area remote from Hunter Water services and includes the basic processing of each application to issue a certificate.	$296.00	$298.00	23	$6,854
54	Preliminary servicing advice	Charge covers technical assessment of a proposed development and general advice on the level of developer servicing plan charges.	$451.00	$455.00	31	$14,105
55	Servicing strategy review	Major developments often require preparation of a servicing strategy for the whole development. Consulting engineers are engaged to prepare this strategy on behalf of a developer and Hunter Water reviews same, to ensure they provide optimal connection options and are consistent with current guidelines.	$1,158.00	$1,167.00	16	$18,672
56	Environmental assessment report review	Developments often require preparation of Environmental Assessment Reports in association with water and sewer design and construction activities. Consultants are engaged by the developer to prepare this report and Hunter Water reviews same, to ensure outcomes comply with relevant legislative and regulatory requirements.	$1,158.00	$1,167.00	9	$10,503

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
58	Reservoir construction inspection & WAE fee	Comprises inspection / audit of reservoir works constructed under major works contracts to ensure that specified quality is achieved. Work-as-executed comprises survey of the constructed work and modifying plans to detail the precise location of the work for inclusion in Hunter Water's GIS database.	Quote	Quote	Quote	Quote
59	Water cart tanker fees	a) Inspection Initial inspection (or annual inspection) of a new Water Cart Tanker to ensure the air gap and backflow prevention is sufficient to protect Hunter Water potable water supply. The inspection location is negotiated with the customer (ie at either a field location nominated by the Customer or at a Hunter Water depot. b) Reinspection after rectification of noncompliance Reinspect a water cart tanker if noncompliant at initial inspection. The purpose of the inspection is to ensure the air gap and backflow prevention is sufficient to protect Hunter Water potable water supply. This fee is charged each time the tanker requires a follow up inspection due to noncompliance.	$138.00 $125.00	$148.00 $135.00	33 1	$4,884 $135
61	Inaccessible meter – imputed charge for breach of meter reading agreement	Charge applied for water and sewer usage when a customer breaches their meter reading agreement with Hunter Water by failing to provide a meter reading within the specified time requested. This charge is in addition to water and sewer usage charges to be raised when an actual meter reading is obtained.	$18.95 + imputed usage as per calculation	$24.05+ imputed usage as per calculation	94	$2,253

Service No	Function	Description	Current Charge (2015-16)	Proposed Charge 2016-17	Predicted Quantity	Predicted Income
62	Damaged meter replacement	Charge for the replacement of meters that have been wilfully or accidentally damaged by a third party as noted in 10.2 of the Customer Contract. In this situation the customer is responsible for the replacement cost of the asset. This does not include normal wear and tear.	20mm $65.05 25mm $108.00 32mm $150.00 40mm $179.00 50mm L $382.00 50mm H $436.00 65mm $533.00 80mm $669.00 100mm $696.00 150mm $1,191.00 250mm $4,379.00 300mm $5,454.00	20mm $57.80 25mm $105.00 32mm $175.00 40mm $217.00 50mm L $570.00 50mm H $445.00 65mm $360.00 80mm $502.00 100mm $548.00 150mm $1,470.00 250mm $4,037.00 300mm $5,010.00	131	$7,553
63	Affix a separate meter to a Unit	Affix a meter to a unit where the meter frame is compliant with requirements. This fee will be applied for each meter that is affixed.	$60.45	$55.50	74	$4,126
64	Recycled water meter affix fee	Costs associated with affixing a meter to a recycled water service at a customer's property.	$38.95	$49.25	20	$985
66	Application for recycled water connection - domestic	This charge recoups the costs associated processing of applications and mandatory inspections for recycled water service connections.	$50.55 (pre-laid connections) $149.00 (redevelopment)	$50.60 (pre-laid connections) $159.00 (redevelopment)	20 -	$1,015 $0

Source: Hunter Water.

APPENDIX O

2012 REVIEW FOLLOW-UP

Summary of Hunter Water responses to 2012 price review comments

IPART engaged WS Atkins International in association with Cardno, to review Hunter Water's operating and capital expenditure for the 2012 price review. Atkins/Cardno's review covered the investment planning and asset management process, as well as assessment of potential expenditure efficiencies. Hunter Water's response to the proposals in Atkins/Cardno's report are summarised in Table O.1.

Table O.1 Response to opex/capex reviewer proposals

Topic	Issue / Action Proposed	Hunter Water Response
Business systems and processes	Use a more rigorous approach to, and greater penetration of, activity based costing drive further efficiencies.[13]	A new Chart of Accounts (CoA) has been rolled out within the business to better allocate our direct and overhead costs to our operational activities. Under the old CoA an allocation rate of 50/50 direct costs and overhead costs respectively was achieved. This has now been improved to 70/30 direct costs to overhead costs. The greater visibility of direct costs allows HW to better understand what is driving increased cost categories by product.
Long term investment planning	Further develop assessment of capex and opex trade-offs as part of medium and long term planning.[14]	An economic decision making guide has been developed and implemented. A governance manual has been adopted for minor asset renewals, rehabilitations and improvements (known as "price path provisions").
Risk and mitigation	Further develop, trial and continually refine contingency plans (with a focus on high consequence asset failures).[15]	HW has progressed in its development of the business resilience framework. This consists of three integrated functions: Incident & Emergency Management; Organisational Security and Business Continuity Management. Each of these are supported by policies, plans and standards with the focus on the high consequence assets.
Asset management	Finalise Asset Management Policy and associated documentation (e.g. Asset Management Plans).[16]	IPART's 2013-14 Operational Audit found that Hunter Water *"has finalised draft documents where appropriate and has a clear plan for undertaking gap analysis and further updating its asset management documentation as it moves towards ISO 55001 compliance"*.[17]
	Increase asset condition coverage of critical valves as part of the risk mitigation measures for interruptions to customers (currently 10%).[18]	Asset condition program revised based on critical asset assessment

[13] p.27 and 105
[14] p.34
[15] p.39
[16] p.41
[17] IPART, 2014(d), Appendix C, p.28
[18] p.49

Topic	Issue / Action Proposed	Hunter Water Response
	Increase asset condition coverage of both water (20%) and wastewater (10%) pumping stations and treatment works (30%).[19]	Asset condition program revised based on critical asset assessment
	Model likely risk profiles of various asset classes based on investment level (e.g. water mains, pumping stations).[20]	Hunter Water is revising risk profiles for wastewater pump stations, water mains, wastewater rising mains and wastewater gravity mains.
Capital delivery processes	Continue to refine cost estimating processes (e.g. program level contingency, business case and pre-tender estimating stages).[21]	The capital projects estimating guide has been revised and released based on its biennial review.
	Convert the five year whole of portfolio procurement strategy into a rolling program.[22]	The five year procurement strategy has been revised and will be updated annually.
Operating Expenditure	Identify an environmentally acceptable, least cost solution to WTP sludge management and disposal. (e.g. thickening prior to disposal).[23]	Disposal of water treatment residuals across all WTPs has been market tested as part of the treatment operations contract. The contract includes cost efficiency incentives.
	Identify cost effective and sustainable options for sludge (biosolids) disposal.[24]	The Burwood Beach Stage 3 Upgrade Strategy, completed in July 2014, determined the most sustainable and cost effective option for disposal of biosolids is to continue the current practice of discharging to ocean. This accounts for about 40 per cent of Hunter Water's biosolids. The EPA agreed to this strategy in March 2015. Biosolids disposal across all other WWTPs has been market tested as part of the treatment operations contract. Veolia is investigating options for long-term biosolids reuse. Upgrades to some WWTP are planned so that biosolids are suitable for reuse (rather than landfill. (E.g. Dora Creek, Edgeworth)
	Seek further efficiencies through a focus on the procurement strategy and implementation.[25]	A senior management team known as the Expenditure Review Committee (ERC) now has oversight on the procurement process tasked with driving efficiencies through our operational and capital expenditure, aligning this expenditure with our strategic initiatives and ensuring a transparent governance framework is maintained.

[19] p.49
[20] p.69
[21] p.73
[22] p.77
[23] p.89 and 98
[24] p.90
[25] p.98

Topic	Issue / Action Proposed	Hunter Water Response
	Transparently allocate capitalised labour costs.[26]	Two layers of review in processing the allocation of our capitalised labour. Finance will also review the outcomes against expectations in the budget.
	Improve allocation of corporate costs across products.[27]	A new Chart of Accounts (CoA) has been rolled out within the business to better allocate our direct and overhead costs (see above) Corporate costs are allocated based on a proportion of the total direct costs. Given our allocation of total direct costs have improved (from 50% to 70%) the proportion allocation of corporate costs has also improved as a result.
	Identify minimum total cost solutions for spoil management.[28]	Initial testing indicated that spoil is classified as general solid waste and therefore continues to need to be disposed at a licenced waste facility. Recent regulatory changes will necessitate an upgrade of North Lambton Depot to achieve a transfer site licence.
	Market test the wastewater treatment operations costs.[29]	A competitive, multi-stage procurement process, overseen by independent procurement specialists, was undertaken in 2013-14. The contract with successful tenderer, Veolia Water Australia, commenced in October 2014.
	Implement a more balanced approach to planned and reactive maintenance.[30]	Hunter Water's endeavours in this regard will be enhanced with the implementation of the Civil Assets & Mobility Project in November 2015. This will provide centralised allocation of maintenance jobs with real-time job updates in the field via mobile devices. This project will be support by the upgrade of Ellipse business system.
	Consider optimisation of water treatment processes to address the new turbidity standard before any major expenditure.[31]	The capability of each water treatment plant to meet the turbidity requirements of the revised Australian Drinking Water Guidelines has been assessed. NSW Health has been advised of the outcome.
	Use a portion of capital efficiency savings towards studies to identify operating expenditure reductions (e.g. energy optimisation and on-site generation, water treatment residuals thickening and disposal and biosolids disposal).[32]	Not adopted. IPART's 2013 price determination did not allow for this expenditure.

[26] p.98
[27] p.100
[28] p.102
[29] p.102
[30] p.102
[31] p.103
[32] p.103

Topic	Issue / Action Proposed	Hunter Water Response
	Implement upgraded business systems such as Ellipse.[33]	Completed and ongoing works include: upgrade of desktop fleet Windows SOE from XP to 8; Ellipse upgrade from v5.3 to 8.4, decommissioning of AOMS and migration to Ellipse; implementation of Centre Pay; telemetry upgrades; CIS billing upgrades; meter management system implementation; digitisation of hard copy records; reporting platform upgrade; upgrade of Trim to HP records manager; and, date centre renewal.
Capital expenditure	Complete Hunter River Tunnel Replacement by June 2015.[34]	Not adopted. IPART's 2013 price determination did not allow for bringing forward this expenditure.
	Allow for $0.9m per year for stormwater drainage in 2016-17 and 2017-18 to address potential bank stabilisation problems in Muninbung Creek and minimise customer complaints.[35]	Construction is scheduled to commence in 2017-18, which is as soon as possible while allowing for community consultation and investigation.
	Continue to develop the relationship between renewal expenditure and performance against operating licence standards.[36]	A portfolio risk tracking framework has been developed to better understand and inform decision makers on risks to licence compliance from capital prioritisation decisions. The framework is continually refined to integrate with annual risk reviews for water systems and wastewater systems.
	Enhance risk assessment and management in response to constrained capital expenditure (e.g. risks to compliance and performance).[37]	
	Review the potential to scale back or defer projects without unduly jeopardising risk and performance.[38]	Annual risk reviews for water systems and wastewater systems identify projects for potential deferral. The value management process is used to identify projects to scale back.
	Continually improve procurement practices (e.g. consider risk sharing practices and bundling of contracts).[39]	The rolling five year procurement strategy includes establishing panels where applicable, group restructure to manage risks and risk workshops on all projects to either clearly control risks or allocate where applicable. Bundling opportunities will be considered and term contracts will be utilised subject to ongoing performance.

[33] p.105
[34] p.116
[35] p.129
[36] p.137
[37] p.139 and 147
[38] p.141
[39] p.142

Topic	Issue / Action Proposed	Hunter Water Response
	Develop some projects to a level that enables a quick response to favourable construction market conditions.[40]	Hunter Water's capital works program always includes a diverse range of civil construction works, which inherently mitigates fluctuations in the cost of input materials (e.g. concrete, steel, etc). A compliance-driven capital expenditure plan for the price period means there is little scope to bring forward projects other than in response to regulatory requirements to do so. Furthermore, ABS Engineering Construction Activity data shows a relatively stable market 2011-13.

Source: WS Atkins (2012) and Hunter Water.

[40] p.142

APPENDIX P

SUBMISSION INFORMATION REQUIREMENTS CHECKLIST

This appendix presents IPART's submission requirements, based on its November 2014 submission guidelines checklist, and provides a guide to where the relevant requirement of question is addressed in the submission.

Table P.1 IPART Submission Guidelines Checklist

IPART Requirement	Submission reference
An Executive Summary has been included	Executive Summary
A separate plain English summary document has been provided	Plain English Summary
Role and functions of the agency have been explained	Chapter 2
Performance over current determination period	
• Service levels	Chapter 3
• Historic Revenue. Data presented in nominal $.	Chapter 3 and Appendix A
• Totals or comparison done in real $ of last year of current determination period.	Chapters 3,5 and 6
• Sales volumes and customer connections	Chapter 3 and Appendix A
• Historic operating expenditure. Data presented in nominal $. Totals or comparison done in real $ of last year of current determination period.	Chapter 5
• Historic capital expenditure. Data presented in nominal $. Totals or comparison done in real $ of last year of current determination period.	Chapter 6
• Implementation of current determination under s.18(5) IPART Act	Chapter 2
Standards of service	
• Explained service levels (quantity, quality and scope) for next determination period	Chapters 2 and 3
Forecast Operating Expenditure	
• 5 years of future operating costs by service are provided	Chapter 5
• Operating costs are in real $ of last year of current determination period	Chapter 5
• Drivers, justification and services levels are explained	Chapter 5
• A robust business case for proposed operating expenditure is presented	Chapter 5
• Explained key assumptions underlying forecasts and identified risks	Chapter 5
• Explained potential efficiency gains	Chapter 5
Forecast capital expenditure	
• 5 years of capital expenditure by service is provided	Chapter 6
• Long term investment plan is provided (at least 10 years)	Chapter 6 and Appendix D
• Capital expenditure is in real $ of last year of current determination period	Chapter 6 and Appendices C to E
• Drivers, justification and service levels explained	Chapter 6 and Appendices C to E

IPART Requirement	Submission reference
• A robust business case for proposed capital expenditure is presented	Chapter 6
• Explained key assumptions underlying forecasts and identified risks	Chapter 6 and Appendix D
• Explained potential efficiency gains	Chapter 6
Recycled Water	
• Information has been provided as per IPART's 2006 recycled water pricing guidelines and IPART's 2011 recycled water avoided costs guidelines	Chapter 9
Elements of Regulatory Framework	
• Length of determination period	Chapter 7
• Other issues eg, form of regulation, measures to mitigate demand risk, prices charged between agencies	Chapter 9
Proposed WACC, Depreciation and Asset Lives	
• Proposed WACC, WACC components and supporting analysis	Chapter 7 and Appendix G
• Outline of proposed depreciation method	Chapter 7
• Proposed asset lives	Chapter 7
Tax Allowance	
• Forecast tax depreciation and cash and asset contributions that contribute to regulated activities	Chapter 7
Sales Volumes	
• Sales volumes and methodology used to forecast sales	Chapter 4
Customer Numbers	
• Connection numbers by year and service (metropolitan water utilities)	Chapter 4
Outstanding Issues from the Previous Determination	
• Explanation of how outstanding issues have progressed with a summary of analysis in appendix	Appendix P
Proposed Prices	
• Proposed tariffs for each service over the next 5 years (real $ of last year of current determination period)	Chapters 9, 10, 11, 14 and 15
• Estimate of LRMC and SRMC of water supply (metropolitan water utilities)	Appendix I
• Estimate(s) of SRMC of sewerage services (metropolitan water utilities)	Appendix I
Impacts of Proposed Prices	
• Indicative bill impacts in nominal $ over the next 5 years (can also provide both real $ and nominal $ in executive summary)	Chapter 10
• Transitional arrangements to manage or mitigate price changes	Chapter 12
• Rebates and other measures to mitigate price impacts	Chapter 12

• Other impacts, environment, section 15 etc	Section 15, subsection: iii) Rate of return – Chapter 7 v) Efficiency – Chapters 5 and 6 vi) Environment – Chapters 2, 3, 5, 6 vii) Financial impacts – Chapter 8 ix) Competition – Chapter 2 x) Demand management – Lower Hunter Water Plan (Chapters 2, 4, 5, 6) xi) Social impacts – Chapter 12 xii) Service quality - Chapters 2, 3, 5, 6
• Analysis of affordability	Chapter 12
• Financial impacts on the agency	Chapter 8
Quality Assurance Requirements	
• QA check has been performed	Chapter 1 and Appendix Q
• CEO's Declaration has been provided and signed	Appendix R

APPENDIX Q

QUALITY ASSURANCE LETTER

Hunter Water Corporation

Quality assurance review of 2015 Pricing Submission

Danu Consulting Pty Ltd has been engaged by Hunter Water Corporation to undertake quality assurance of the financial information included in its submission to Independent Pricing and Regulatory Tribunal for the 2016 pricing determination. The terms of reference for the review were:

> The check should reconcile all figures included in the submission with those in the AIR, SIR, financial accounts, output measures, and pricing model. The check should also ensure that the submission figures are correctly sourced and review the accuracy of the calculations.
>
> More specifically, the quality assurance process needs to independently confirm whether:
>
> 1. The information in the submission is consistent with that in the information return, the agency's financial accounts, and reports against output measures, as relevant. Where there are variations in figures, these need to be explained.
> 2. Figures in the submission are accurate and correctly sourced. The figures sum correctly and are in the same terms (i.e., all figures are in nominal or real dollars). The use of nominal or real dollars should also be explained in clear and simple terms so that stakeholders can follow the logic of their use.
> 3. All the issues IPART has requested information on are addressed in the submission.
> 4. The submission includes proposed prices for all monopoly services of the water agency along with justification for the price movement.

Danu Consulting Pty Ltd confirms that the following has been completed:

- As appropriate financial costs or revenue included in the submission as provided (**Master v2 30Jun15.pdf** and - **Master Appendix v2 30Jun15.pdf**) have been agreed to:
  - Annual and Special information return (**Master AIR – Final for IPART 30Jun15.xlsx**)
  - Support information prepared or used by Hunter Water Corporation to support the pricing submission.
  - Financial Statements
- The financial information in the pricing submission is correctly notated as being in real or nominal dollars.
- The pricing submission has addressed all information requested by IPART
- The pricing submission proposes prices for all monopoly services together with appropriate support.

In undertaking the quality assurance review reliance has been placed upon information provided by Hunter Water Corporation. Hunter Water Corporation advises that the non-financial data included in the Annual Information Return e.g. volumes of product, customer numbers has been sourced mainly from its operational systems; this data has not been validated; however where such data has been used in the pricing submission it has been verified that it is consistent with that included in the Annual Information Return.

The review has not considered the scope or appropriateness of information presented by Hunter Water Corporation in its pricing submission.

The quality assurance review cannot be considered as an audit of either the pricing submission or its supporting data.

Ian Burrows
Director
Danu Consulting Pty Ltd
18 Clement Close
Pennant Hills
ABN 88 114 237 23

12 June 2015

APPENDIX R

CHIEF EXECUTIVE OFFICER'S DECLARATION

Chief Executive Officer's Declaration

In accordance with the Guidelines for Water Agency Pricing Submissions, November 2014 (the Guide), of the Independent Pricing and Regulatory Tribunal of New South Wales, I declare that:

a) the information provided in our pricing proposal submitted on 30 June 2014 is the best available information of the financial and operational affairs of Hunter Water and has been checked in accordance with section 2.17 of the Guide; and

b) there are no circumstances of which I am aware that would render any particulars included in the information provided to be misleading or inaccurate.

Certified by the Chief Executive Officer:

KIM WOOD, Managing Director	26 June 2015 Dated