IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Review of Central Coast Council's prices for water, sewerage and related services

From 1 July 2019

Issues Paper
Water

June 2018

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Tribunal Members

The Tribunal members for this review are:

Dr Peter J Boxall AO, Chair

Mr Ed Willett

Ms Deborah Cope

Enquiries regarding this document should be directed to a staff member:

Anthony Rush (02) 9113 7790

Elina Gilbourd (02) 9113 7788

Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

Submissions from Central Coast Council and Hunter Water Corporation are due by 7 September 2018. Submissions from all other stakeholders are due by 12 October 2018.

We would prefer to receive them electronically via our online submission form <www.ipart.nsw.gov.au/Home/Consumer_Information/Lodge_a_submission>.

You can also send comments by mail to:

Central Coast Council price review 2019
Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop NSW 1240

Late submissions may not be accepted at the discretion of the Tribunal. Our normal practice is to make submissions publicly available on our website <www.ipart.nsw.gov.au> as soon as possible after the closing date for submissions. If you wish to view copies of submissions but do not have access to the website, you can make alternative arrangements by telephoning one of the staff members listed on the previous page.

We may choose not to publish a submission - for example, if it contains confidential or commercially sensitive information. If your submission contains information that you do not wish to be publicly disclosed, please indicate this clearly at the time of making the submission. However, it could be disclosed under the *Government Information (Public Access) Act 2009* (NSW) or the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW), or where otherwise required by law.

If you would like further information on making a submission, IPART's submission policy is available on our website.

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1 Introduction

The Independent Pricing and Regulatory Tribunal of NSW (IPART or we) has begun reviewing the maximum prices the Central Coast Council[1] (the Council) can charge its customers for water and sewerage services. As part of this review, we will determine maximum prices for:

- the Council's water, sewerage and stormwater drainage services
- the Council's trade waste services and a range of its miscellaneous and ancillary services, and
- the transfer of bulk water between Hunter Water and the Council (in both directions).

In addition, we will decide whether to determine maximum prices for recycled water services and services supplied to WICA licensees, as part of this review.

We last set maximum prices for the former Gosford City Council and the former Wyong Shire Council in June 2013. These prices were set for the period from 1 July 2013 to 30 June 2017. We were due to begin reviewing the Council's prices in 2016. But due to uncertainty resulting from the merger of these former Councils, we agreed to defer the price review to enable the new Council to prepare a comprehensive pricing proposal. This proposal will reflect the Council's decisions on how it will deliver water and sewerage services to customers in the Gosford and Wyong areas. The maximum water, sewerage and stormwater prices we set for 2016-17 apply until we make a new determination. Appendix A outlines typical customer bills under the 2013 Determinations.[2] Throughout this Issues Paper, the 'current determination period' refers to the period from 1 July 2013 to 30 June 2019.

In this review, we will determine maximum prices for a period of up to five years starting 1 July 2019 (the 2019 determination period).[3]

1.1 Our role in the review

We are the principal economic regulator in NSW. Our main functions are set out in the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW) (IPART Act).[4] Among other responsibilities, we determine the maximum prices for declared government monopoly

1 The Central Coast Council was formed on 12 May 2016 when the former Gosford City Council and the former Wyong Shire Council merged.

2 The Council has two separate 2013 Determinations for the former Gosford and Wyong Councils: IPART, *Gosford City Council prices - 1 July 2013 to 30 June 2017*, Determination No. 2, 2013; and, IPART, *Wyong Shire Council prices – 1 July 2013 to 30 June 2017*, Determination No. 3, 2013.

3 All dollar figures quoted in this Issues Paper are in $2018-19, unless stated otherwise.

4 The Minister for Local Government has also delegated powers to IPART (under the *Local Government Act 1993* (NSW)) to set the maximum amount NSW councils can collect in general revenue through an annual 'rate peg' and assess special variation applications from councils to set rates above the rate peg.

services provided by water utilities, such as Sydney Water Corporation (Sydney Water), Hunter Water Corporation (Hunter Water) and the Central Coast Council.[5,6]

We aim to set cost-reflective prices that provide utilities with sufficient revenue to recover the costs of efficiently supplying water and sewerage services. Cost-reflective prices signal to consumers the costs of their consumption decisions and encourage the efficient use and allocation of resources.

Before setting maximum prices, we will examine: the Council's proposed costs of undertaking water and sewerage functions; regulatory requirements; and the level of revenue needed to support the efficient delivery of its services.

In determining maximum prices, we will consider the matters under section 15 of the IPART Act (included at Appendix B). Section 15 requires us to balance the needs and interests of stakeholders, including the costs of providing the services, customer affordability, environmental impact and service standards.

1.2 Purpose of this Issues Paper

This Issues Paper explains the process we will follow while conducting the review, the approach we will use to make our pricing decisions, and the key issues we will consider in making those decisions. It also sets out our preliminary views on some of these issues (where we have them). We invite all interested parties to lodge submissions in response to this Issues Paper.

In January 2018, we wrote to the Council asking it to submit a pricing proposal to this review.[7] The Council's submission will need to include information about its past performance and proposed future prices (and the basis for these prices). The Council will also need to respond to questions in this paper and any other issues it considers important to this review.

We have also asked Hunter Water to submit a proposal in relation to prices for the transfer of bulk water between Hunter Water and the Central Coast (in both directions).

The Council's and Hunter Water's pricing submissions are due by **7 September 2018** and will be published on our website.

We invite other interested stakeholders to respond to the questions in this Issues Paper and the utilities' submissions, as well as any other issues they consider important to this review. Stakeholder submissions are due by **12 October 2018**. We also invite all stakeholders to express their views at a public hearing on **27 November 2018**.

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5 Under s 11(1) of the IPART Act, we investigate and report on each declared monopoly service provided by these utilities that falls within the scope of the *Independent Pricing and Regulatory Tribunal (Water Sewerage and Drainage Services) Order 1997* (NSW).

6 We are also currently reviewing prices for Essential Energy's water and sewerage services to customers in Broken Hill. Information on that review is available on our website: https://www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Metro-Pricing/Prices-for-Essential-Energy%E2%80%99s-water-and-sewerage-services-in-Broken-Hill-from-1-July-2019.

7 To provide guidance to the Council, we included our *Guidelines for Water Agency Pricing Submissions*, available at this link: https://www.ipart.nsw.gov.au/Home/Industries/Water/Public-water-utilities-we-regulate/Link-documents/Guidelines-for-Water-Agency-Pricing-Submissions-April-2018

1.3 Key issues for this review

A key issue for this review is the merger of the former Gosford and Wyong Councils, which will have implications for the efficient costs of delivering water, sewerage and other related services, and the prices that customers pay.

To determine the Council's efficient costs, we will commission expert expenditure consultants to assist us in assessing the prudent and efficient capital and operating costs of delivering the Council's monopoly water, sewerage and related services. A key consideration will be any additional costs or cost savings associated with the merger of the former Councils.

Once we have established the Council's efficient costs, we will consider how it should recover the costs through prices. This will involve deciding how the total efficient revenue required to deliver the Council's monopoly services is collected:

- from different types of customers, and
- through fixed service prices and usage prices.

Currently, fixed service prices for water, sewerage and stormwater services differ substantially between the former Gosford and Wyong Council areas. As part of this review, we will consider whether this remains appropriate. Other potential options could include setting common service prices across the Council's area of operations, or setting service prices based on a different geographical basis (such as catchment area).

We have also identified some other pricing issues for consideration as part of this review, including:

- whether water and sewerage service prices should be set on a common basis for residential and non-residential customers, and
- whether stormwater prices should be based on the area of a customer's property.

We aim to set prices that reflect the efficient costs of providing services to customers. We recognise that we may need to phase in any changes to prices over a transition period to minimise impacts on customers.

1.4 Process for this review

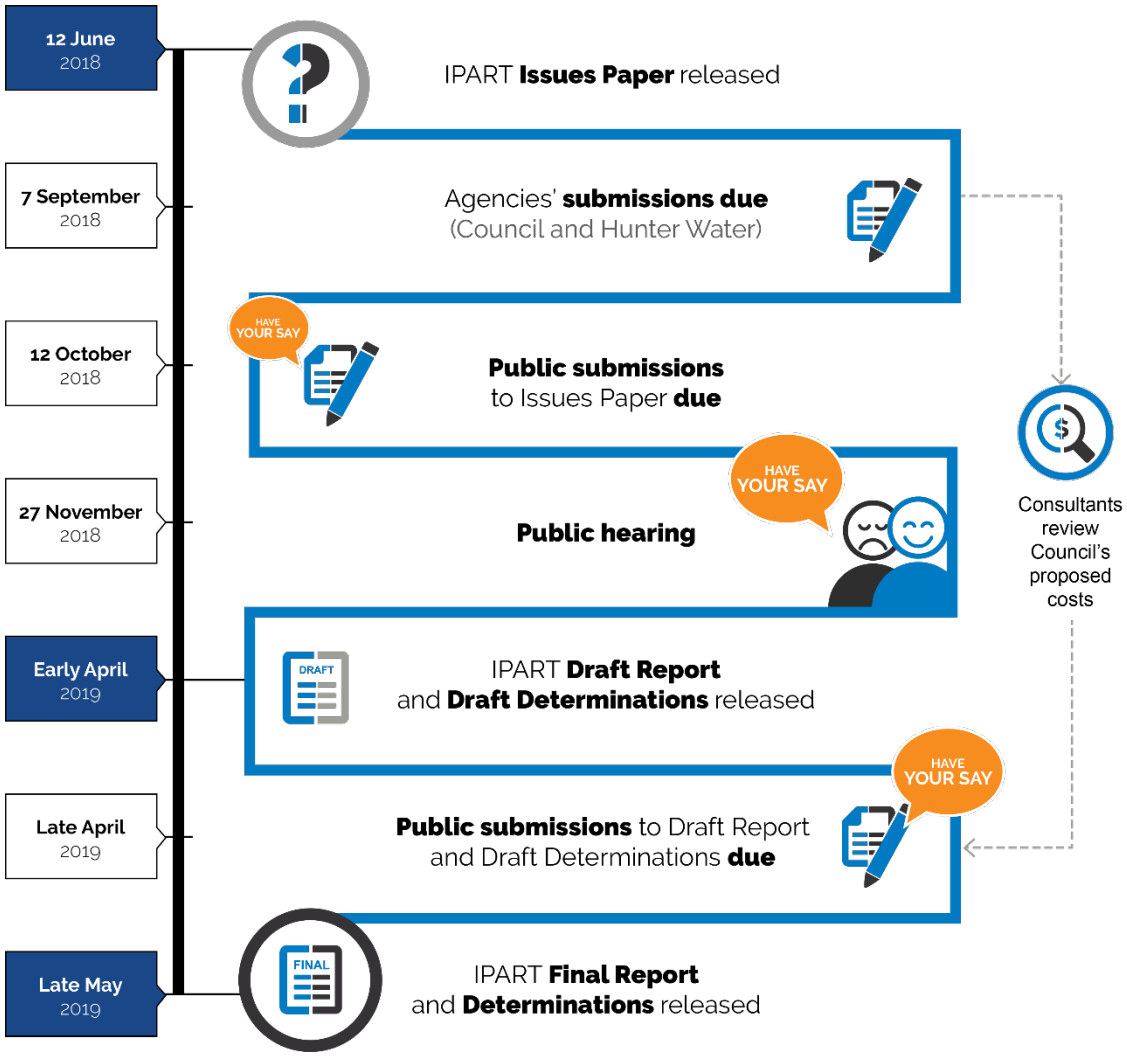
This Issues Paper will help us identify and understand the key issues for the review and gather stakeholders' views. We raise questions throughout the paper, which are listed in Section 1.6. Details about how to make a submission are included at page iii above.

Stakeholders will have multiple opportunities to express their views during this review, including by:

- making a submission in response to this Issues Paper and the utilities' submissions
- attending the public hearing, and
- making a submission in response to our Draft Report.

We will consider the comments of all stakeholders before making draft and final decisions. Figure 1.1 sets out an indicative timetable for the review. We may provide an updated timetable on our website as the review progresses.

Figure 1.1 Indicative timeline for this review



Note: These dates are indicative and may change.

1.5 Structure of this Issues Paper

The Issues Paper is structured as follows:

- Chapter 2 outlines the Council's role in providing water and sewerage services, the regulatory framework it operates in, and its performance during the 2013 determination period.
- Chapter 3 discusses the decisions we will need to make before we can set prices, including how long we should set prices for, the form of regulation to apply, and how much revenue the Council needs to provide its services efficiently.
- Chapter 4 outlines our overarching principles for setting water and sewerage prices. It also considers the pricing implications of the Council's merger.

- Chapter 5 discusses the Council's water and sewerage prices.
- Chapter 6 discusses the prices for the Council's other related services, including stormwater, trade waste and miscellaneous services.

1.6 Issues for stakeholder comment

The following chapters include questions that we seek stakeholder feedback on. These questions have been split into questions relating to this Issues Paper and questions about the utilities' pricing submissions (due in September 2018). For convenience, these questions are also listed below. Stakeholders are also welcome to comment or provide input on any other issues they consider relevant to our review.

IPART seeks comment on the following

IPART seeks comment on the pricing submissions due in September 2018

2 The Council's role and regulatory framework

2.1 The Council merger

On 12 May 2016, the *Local Government (Council Amalgamations) Proclamation 2016* was made, dissolving the former Gosford City Council and the former Wyong Shire Council, and constituting the new Central Coast Council. Fifteen new Councillors were elected on 9 September 2017.

The NSW Government provided up to $10 million to newly merged Councils to fund the upfront costs of merging and stated that existing rate paths for newly merged councils would not be changed for four years.[8]

Before the merger, the former Councils were operating a joint water supply for capturing, storing, transporting and treating bulk water. During our 2013 price review, the Councils had been working towards operating as a single entity for delivering water and sewerage services (the Central Coast Water Corporation) by 1 July 2017.[9] However, this entity was not established.

2.2 The role of the Council

The Council is responsible for supplying water, sewerage and related services to residents on the Central Coast. The Council has the third largest urban water supply system in NSW.[10]

Unlike Sydney Water and Hunter Water, the Council does not have an operating licence that sets performance standards, outlines compliance requirements and establishes a customer contract. Instead, the Council is subject to legislation, including:

- as a council-owned water utility it is subject to the *Local Government Act 1993* (NSW) (LG Act), and
- as a water supply authority it is subject to the *Water Management Act 2000* (NSW) (WM Act).

In particular, this means that the Council is required to undertake strategic planning for all its activities, including water and sewerage services.[11]

8 NSW Government, *Stronger councils for Sydney and regional NSW*, Media Release, 18 December 2015, https://www.nsw.gov.au/your-government/the-premier/media-releases-from-the-premier/stronger-councils-for-sydney-and-regional-nsw/ [accessed: 10 April 2018]

9 IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, Final Report, May 2013, p 30.

10 Central Coast Council, Water Supply System, https://www.wyong.nsw.gov.au/my-property/water/water-supply-system [accessed: 20 March 2018]

11 Under Chapter 13, Part 2 of the LG Act.

Figure 2.1 shows the Council's water supply system, which serves a population of around 335,000 people, delivering water to about 142,000 homes and businesses. The Council's water supply system incorporates three dams, three weirs, three water treatment plants, more than 50 reservoirs and over 2,000 kilometres of pipelines.

Figure 2.1 Central Coast Council area of operations

Source: Map supplied by Central Coast Council.

The Council also has a water supply arrangement with Hunter Water, which allows either party to supply potable (drinking) water to the other under an agreement developed in 2006, when the Central Coast experienced a severe drought.[12]

2.3 The Council's regulatory framework

The Council's water and sewerage functions are subject to legislative requirements overseen by a number of regulators, including:

Natural resource water management and performance:

- The Department of Industry – Natural Resource Access Regulator (NRAR) regulates the Council's water extractions, which includes monitoring the Council's compliance with the conditions of its water access licence and water sharing plan rules. NRAR also assesses and issues works approvals under the WM Act and the *Water Act 1912* (NSW) for infrastructure works used for taking and storing water.[13]
- Department of Industry – Water (DoI Water) administers Ministerial approval to construct, extend or modify works for water and sewage treatment, and for reusing effluent and biosolids.[14] This approval process aims to provide assurance that the infrastructure is fit for purpose; protects public health and safety, and the environment; and provides a robust, cost-effective solution that meets community needs.[15]
- The Environment Protection Authority (EPA) monitors and regulates sewage discharges from the Council's sewerage systems. The EPA issues environment protection licences for sewage transportation and treatment systems. These licences stipulate quantity and quality conditions for discharge from each sewage treatment works and specify reporting requirements and operational controls for pipe networks and pumping stations.
- As a water supply authority under the WM Act, the Council must comply with DoI Water's *NSW Best-Practice Management (BPM) of Water Supply and Sewerage Guidelines* to be eligible for the payment of an 'efficiency dividend' from the surplus of its water and sewerage business.[16] The *BPM Framework* requires the Council to undertake water services planning through an Integrated Water Cycle Management (IWCM) Strategy and Strategic Business Plan.[17] This water planning is aimed at providing safe, secure, sustainable and affordable water services to customers. An IWCM Strategy, developed

12 NSW Metropolitan Water Directorate, *Lower Hunter Water Plan*, January 2014, p 17.

13 Additionally, the Dam Safety Committee within NRAR administers Ministerial approval to construct or extend dams and monitors on-going safety under the *Dam Safety Act 1978* and the *Dam Safety Act 2015* (yet to commence).

14 Under s 292 of *Water Management Act 2000* (also refer to clause 116 of the *Water Management General Regulation 2011*) or s 60 of the LG Act.

15 DoI Water also has a concurrence role to local water utility approvals of medium and high risk liquid trade waste applications and associated council policy for achieving sound liquid trade waste regulation and addressing the potential risks to public health and safety and the environment from liquid trade waste discharges. It performs this role under clause 142 of the *Water Management General Regulation 2011* and s 90 of the LG Act.

16 Department of Industry – Water, Best Practice Management, https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt [accessed: 10 April 2018]

17 Every eight years on a rotation where one plan is updated every four years.

in consultation with the community, identifies the best value-for-money solution (on a triple bottom line basis[18]) for delivering services to customers over the next 30 years.

- DoI Water publishes an annual *NSW Water Supply and Sewerage Performance Monitoring Report*. This 'report card' allows each council to benchmark its performance against similar utilities to facilitate performance improvement.[19] In addition, DoI water provides utilities an annual two-page triple bottom line performance report to enable each utility to prepare an annual 'Action Plan to Council' to identify and address any emerging issues or areas of underperformance.[20]

Pricing:

- We set the maximum prices the Council can charge for its monopoly water and sewerage services.
- In addition, the Council is subject to requirements under the LG Act and the WM Act, including annual Ministerial approval of water and sewerage service prices.[21]
- The *BPM Framework* includes best-practice pricing principles (including full cost recovery and strong pricing signals).

Public health: NSW Health regulates the quality and safety of the Council's drinking water.

Work health and safety: SafeWork NSW regulates the safety of the Council's infrastructure and premises and the work practices of employees, visitors and contractors.

Planning: The Council is subject to planning approvals and regulatory requirements relating to its proposed developments under the *Environmental Planning and Assessment Act 1979* (NSW) and associated regulations and policies.

2.4 Performance over the 2013 determination period

We set maximum prices for the Councils in 2013 to recover the prudent and efficient costs of supplying water, sewerage and related services over the determination period. The Final Report for that review also outlined the expected impact of the prices on customers' bills and the outputs expected from the revenue generated by our determined prices. To track performance against the cost forecasts we used to set prices, we asked the Councils to report on expenditure, revenue and other information annually.

The figures below present the expenditure and revenue over the 2013 determination period compared to the revenue we allowed when setting prices. Due to the merger of the former Councils in May 2016, information reported for 2015-16 covers the 10.5 month period from 1 July 2015 to 12 May 2016, and information reported for 2016-17 covers the 13.5 month period from 13 May 2016 to 30 June 2017.[22] This means that, for the final two years of the

18 A triple bottom line accounting framework measures a business' social, environmental and financial performance.

19 DoI Water's performance reports are available at this link: https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt/performance-monitoring

20 Further information is available at this link: https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt/performance-monitoring

21 Under s 315 of the *Water Management Act 2000* (NSW).

22 These periods align with the Council's audited financial requirements under the *Local Government (Council Amalgamations) Proclamation 2016* (NSW).

determination period, allowances and reported actuals are not directly comparable but provide an indication of the Council's performance against forecasts.

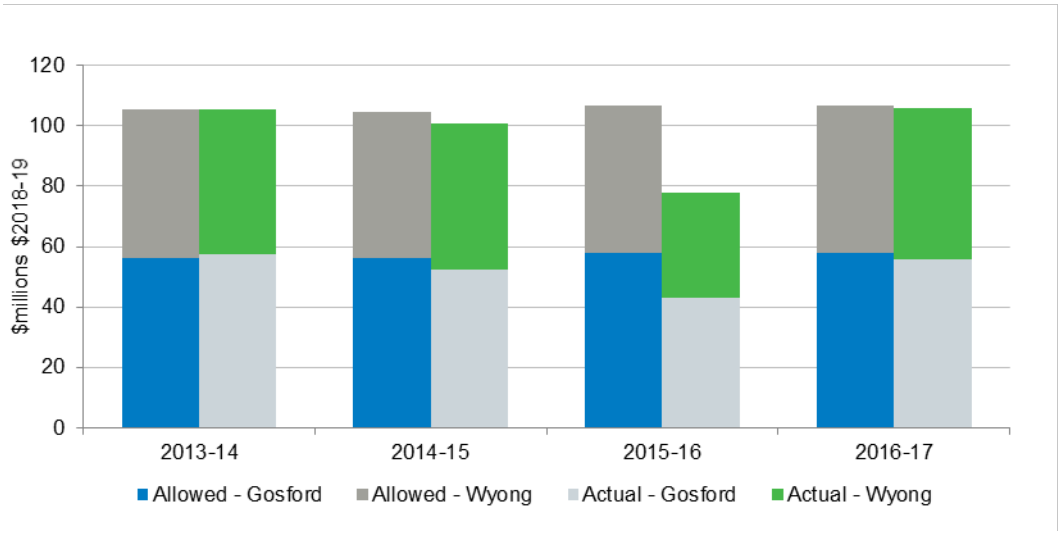
Figure 2.2 and Figure 2.3 show the Council's operating and capital expenditure[23] over the 2013 determination period.

The former Councils both spent less than the operating expenditure allowances used to set prices. The former Gosford Council spent $20.0 million (9%) less than its allowance over the four-year determination period, and the former Wyong Council spent $13.6 million (7%) less. For both former Councils, the majority of the underspend was for 2015-16 (the year information was reported for only 10.5 months). However, the newly merged Council did not catch up on this expenditure in 2016-17.

The former Councils also both underspent on the capital programs allowed over the 2013 determination period. The former Gosford Council spent $13.0 million (8%) less than its allowance; the Council underspent in the first two years of the determination, and partially made up for this in the last two years. Overall, the former Wyong Council spent $44.0 million (31%) less than its allowance.

In our submission guidelines, we have asked the Council to outline the reasons for any deviations between the allowed and actual expenditure and revenue.[24] We will also commission expenditure consultants to review the Council's proposed expenditure over the upcoming determination period (which we discuss further in Chapter 3).

Figure 2.2 Operating expenditure over the determination period ($millions, $2018-19)



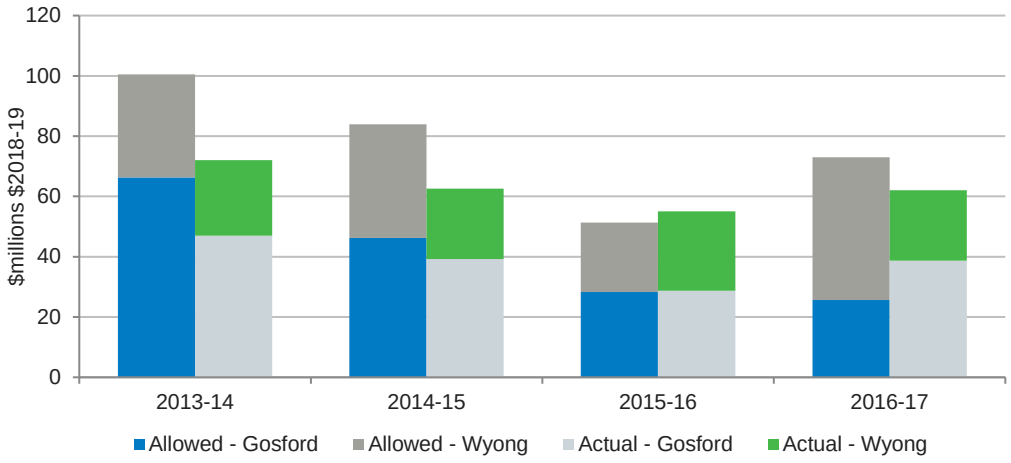
Note: Due to the merger of the former Gosford City Council and the former Wyong Shire Council, the 2015-16 reported actuals cover the period from 1 July 2015 to 12 May 2016 and the 2016-17 reported actuals cover the period from 13 May 2016 to 30 June 2017.

Data source: Central Coast Council Annual Information Return 2016-17.

23 Operating expenditure is the cost of running the business day to day. For example, it includes the costs of labour, service contractors, energy and materials. Capital expenditure is the cost of acquiring, building or maintaining the assets needed to run the business (such as land, buildings and equipment).

24 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, pp 6-7.

Figure 2.3 Capital expenditure over the determination period ($millions, $2018-19)

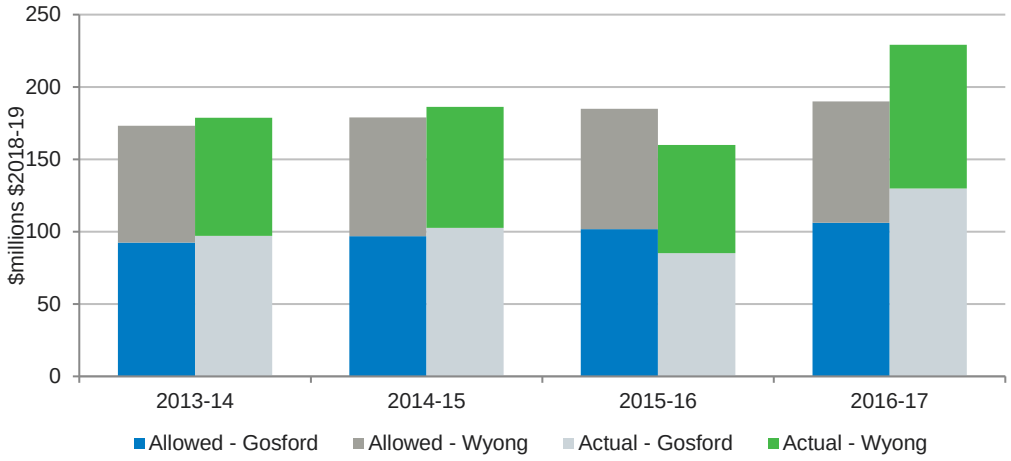


Note: Due to the merger of the former Gosford City Council and the former Wyong Shire Council, the 2015-16 reported actuals cover the period from 1 July 2015 to 12 May 2016 and the 2016-17 reported actuals cover the period from 13 May 2016 to 30 June 2017.

Data source: Central Coast Council Annual Information Return 2016-17.

Figure 2.4 shows the Council's actual revenue compared to the revenue we forecast or allowed for ('allowed revenue') when setting prices over the 2013 determination period. Overall, the Councils recovered slightly more revenue than forecast: $17.6 million (4%) for the former Gosford Council, and $9.5 million (3%) for the former Wyong Council. This is due to water sales exceeding forecast volumes in both Gosford and Wyong (which we discuss in Chapter 3).

Figure 2.4 Revenue performance over the determination period ($millions, $2018-19)



Note: Due to the merger of the former Gosford City Council and the former Wyong Shire Council, the 2015-16 reported actuals cover the period from 1 July 2015 to 12 May 2016 and the 2016-17 reported actuals cover the period from 13 May 2016 to 30 June 2017.

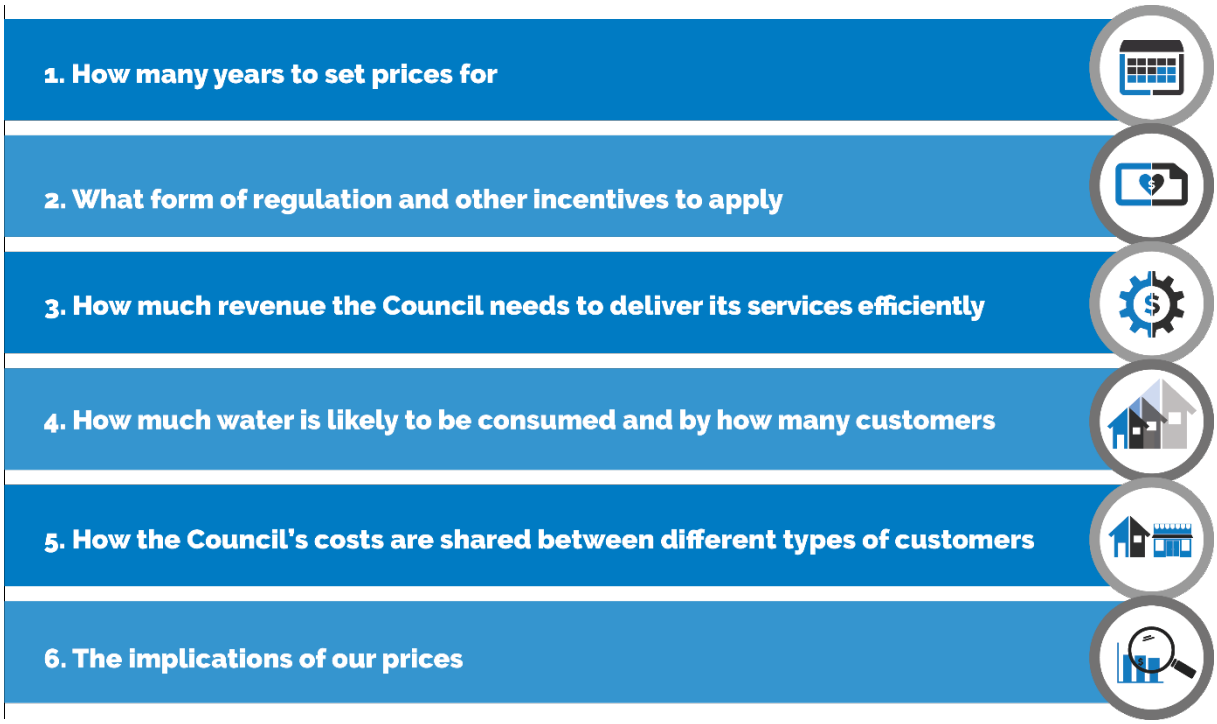
Data source: Central Coast Council Annual Information Return 2016-17.

3 Decisions we will make before setting prices

The rest of this Issues Paper outlines the decisions we will make as part of this review to set the Council's maximum prices (outlined in Figure 3.1).

This chapter considers issues we will need to resolve before setting prices, including how long we should set prices for, what form of regulation to apply, and how much revenue the Council needs to provide its water and sewerage services efficiently.

Figure 3.1 Key decisions in a price review



3.1 How long should we set prices for?

For each water pricing review, we decide how long to set prices for (the length of the determination period). In general, the determination period can be between one and five years, depending on the circumstances.

In recent years, we have favoured 4-year determination periods; for example, in our 2016 determinations for Sydney Water and Hunter Water.[25] For those reviews, we considered

25 IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016 – Determination*, June 2016; and IPART, *Hunter Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016 – Determination*, June 2016.

that a 4-year price path struck an appropriate balance between providing certainty to the regulated business and limiting delays in customers benefitting from any efficiency gains.

We consider several factors when deciding the length of the determination period (Box 3.1).

Box 3.1 Factors we consider in deciding the length of a determination

In general, the factors we consider when deciding the length of a determination period are:

- the confidence we have in the utility's forecasts
- the risk of structural changes in the industry
- the need for price flexibility and incentives to increase efficiency
- the need for regulatory certainty and financial stability
- the timing of other relevant reviews, and
- stakeholders' views.

Longer determination periods have several advantages over shorter periods. For example, a longer period: provides greater stability and predictability (which may lower a utility's business risk and assist investment decision making); creates strong incentives for a utility to increase efficiency; and reduces regulatory costs.

However, longer determination periods also have disadvantages. These include: increased risk associated with using inaccurate data to set prices; possible delays in customers benefitting from any efficiency gains; and the risk that changes in the industry will impact the effectiveness of the determination.

The following key factors apply to the Council:

- The recent Council merger may create uncertainty about forecast costs for later years, when operational restrictions placed on the Council for three years after its merger no longer apply.[26] We will carefully review cost forecasts and ensure that we only set prices for years where forecasts are likely to be reasonably accurate.
- As the Council's price review was deferred for two years, the 2019 Determination will lag Sydney Water's and Hunter Water's current 2016 Determinations by three years. There may be merit in more closely aligning these Determinations to facilitate consistent regulatory treatment of the three major water utilities in NSW.

Based on these factors, a determination of less than four years may be appropriate. We will consider stakeholders' views on an appropriate period before making a decision.

IPART seeks comments on the following

1 How long should we set prices for in the 2019 Determination?

3.2 Should we change the form of regulation and other incentives?

The 'form of regulation' we adopt is the set of methods we use to regulate prices for monopoly services. These methods include how costs are assessed, whether prices are

26 For example, the NSW Government's announcement made provisions for maintaining staffing arrangements for three years. Source: https://www.strongercouncils.nsw.gov.au/frequently-asked-questions/

directly or indirectly controlled, and how performance gains (or efficiencies) of the utility are incentivised.

Currently, we control prices directly by setting maximum prices for each service for each year of the determination, using the building-block approach (discussed below).

The Council or other stakeholders may propose changing the form of regulation we apply. We will assess these proposals based on whether the potential benefits are likely to outweigh the associated risk and costs. Specifically, we will consider the following:

- **Potential benefits**: whether the proposed change promotes outcomes that are more consistent with competitive market outcomes (including allocative, productive and dynamic efficiency); the efficient allocation of risk between the business and customers; and responsiveness to customer preferences.
- **Potential limitations and risks:** whether the proposed change may lead to unintended consequences.
- **Potential costs**: whether the proposed change could lead to a more complex and administratively burdensome regulatory environment.

As part of our 2016 price reviews for Sydney Water and Hunter Water, we made some changes to the form of regulation. These changes, which are outlined in the section below, aim to encourage these businesses to become more efficient and provides them some flexibility to better respond to customers' preferences.

As we aim to treat water utilities consistently (where appropriate), we will consider extending the two form of regulation changes we applied to Sydney Water and Hunter Water to the Council. Specifically:

- pricing flexibility, by allowing unregulated pricing agreements with large non-residential customers, and
- improving the Council's incentives to implement operating cost savings at any time during a determination period via an efficiency carryover mechanism (ECM).[27]

3.2.1 Pricing flexibility – unregulated pricing agreements for large non-residential customers

Our current form of regulation involves setting maximum prices for regulated services that apply to all customers for each year of the determination period.

We support introducing pricing flexibility where it is likely to lead to more efficient prices and/or deliver value to customers.

In our 2016 reviews of Sydney Water's and Hunter Water's prices, we decided to allow the utilities to enter into unregulated pricing agreements with large non-residential customers. Under this approach, we continue to set maximum prices for each utility's monopoly services. However, if the utility and a large non-residential customer enter into a pricing

27 An ECM allows utilities to keep efficiency savings for a specified period (eg, 4 years) before they are passed on to customers through lower prices. This removes any potential incentive for businesses to delay making savings and means that savings can be passed on to customers sooner.

agreement, that customer would not be subject to our determined prices (for water supply and sewerage services only).

Unregulated pricing agreements would be optional and only entered into if both parties agree (as they both benefit). To ensure that customers are able to assess whether an unregulated pricing agreement benefits them, for Sydney Water and Hunter Water, we limited coverage to large non-residential customers. This covered a small proportion of non-residential customers, but applied to a large share of non-residential water usage and sewerage volumes.[28]

Box 3.2 How we defined large non-residential customers for Sydney Water and Hunter Water

We defined large non-residential customers as non-residential customers:

- that are standalone water or water and sewerage customers (ie, not customers that share a connection with other customers), and
- that have annualised metered water consumption greater than 7.3 megalitres (ie, water consumption greater than 20 kilolitres per day on average).

Large non-residential customers would need to meet this definition in order to enter into an unregulated pricing agreement with Sydney Water or Hunter Water.

Previously, the Council has successfully negotiated prices for recycled water it supplies to golf courses, as we do not set these prices.[29]

Pricing flexibility has the potential to benefit both customers and the Council. And provides incentives for the Council and customers to engage with each other to develop mutually beneficial agreements. We consider that, if we introduced unregulated pricing agreements, these incentives would be maintained over time if any gains generated through unregulated pricing agreements were retained by the parties involved.

To ensure that the regulated cost base and regulated prices continue to reflect the efficient costs of providing regulated services in the future, the Council would need to 'ring-fence' any changes in costs resulting from unregulated pricing agreements. This information would be assessed and factored into resetting expenditure allowances at the next price review.

Our preliminary view is to allow the Council to enter into unregulated pricing agreements with large non-residential customers. This form of pricing flexibility would allow the Council to search for opportunities to uncover value for its customers by tailoring prices, and potentially services, to better meet individual preferences, just like in a competitive market. This would encourage the Council to engage with its customers to develop mutually beneficial price offers, specifically targeted to individual customers' preferences.

28 IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016 – Determination*, June 2016, p 49, Figure 3.1; and IPART, *Hunter Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016 – Determination*, June 2016, p 27, Figure 2.1.

29 Central Coast Council, submission to Discussion Paper for IPART Review of Wholesale Prices for Sydney Water and Hunter Water, May 2016, p 1.

We are interested in stakeholders' views about whether the Council should be allowed to enter into unregulated pricing agreements, and the appropriate restrictions on such agreements.

IPART seeks comments on the following

2 Should we allow unregulated pricing agreements between the Council and its large non-residential customers? Why or why not?

   – If we do allow unregulated pricing agreements, how should we define large non-residential customers? Should there be any other restrictions on these agreements?

3.2.2 Encouraging the Council to implement efficiencies at any time during the determination period – efficiency carryover mechanism

We set maximum prices that reflect our best estimate of the efficient costs required to deliver regulated services over the determination period. Our current approach allows businesses to keep profits resulting from cost savings made during a determination period. This is referred to as 'incentive regulation', because the business has a financial incentive to achieve cost savings during the determination period. If these cost savings are permanent, they are then passed onto customers through lower prices (reflecting lower costs) at the next price determination.

However, a shortcoming of the current approach is that the financial reward for achieving savings reduces over the determination period, as we get closer to the next price determination (when costs are re-assessed and prices are set to reflect the latest estimate of efficient costs). This means the Council has an incentive to delay savings from the latter years of one determination period to the beginning of the next.

An efficiency carryover mechanism (ECM) can address this issue by allowing efficiency gains (ie, cost **decreases**) to be held by the utility for a specified period (eg, four years) before they are passed on to customers, regardless of when they are achieved within a determination period. This equalises the incentive to make permanent efficiency savings over a determination period.

In our 2016 and 2017 pricing determinations for Sydney Water, Hunter Water and WaterNSW, we established **operating expenditure** ECMs to improve efficiency incentives. Our ECM is asymmetric in the sense that while it equalises the incentive to achieve permanent efficiency savings over time, it preserves all other features of the current form of regulation. That is:

- Permanent cost **increases** are held by the business until the next price review, when we assess them and, if we determine them to be efficient, pass them on to customers (through higher prices due to a larger operating expenditure allowance). This provides an incentive for the business to avoid inefficient increases in costs.
- Temporary over and under spends are retained by the business. This provides an incentive for the business to manage costs within its budget.

We did not introduce an ECM for **capital expenditure** in our 2016 and 2017 determinations of Sydney Water, Hunter Water and WaterNSW's prices. This was due to the additional

complexity of introducing an ECM for capital expenditure, the risk of unintended consequences (ie, incentivising the business to over-forecast and inefficiently defer capital expenditure), and the limited opportunities for efficient trade-offs between operating and capital expenditure. However, we did acknowledge the potential value in encouraging efficient trade-offs between operating and capital expenditure, and that this issue could be explored further in the future.[30]

In our view, there would be merit in applying an ECM to the Council as it removes the current incentive to delay cost savings from the end of one determination period to the beginning of the next. While the benefits of this are limited to accelerating the delivery of savings that would have occurred anyway, we consider this is still an improvement on the current regulatory framework and is in the long-term interests of the Council's customers. Before making a decision, we will take into account stakeholders' views and incentives for the Council to pursue efficiency gains.

IPART seeks comments on the following

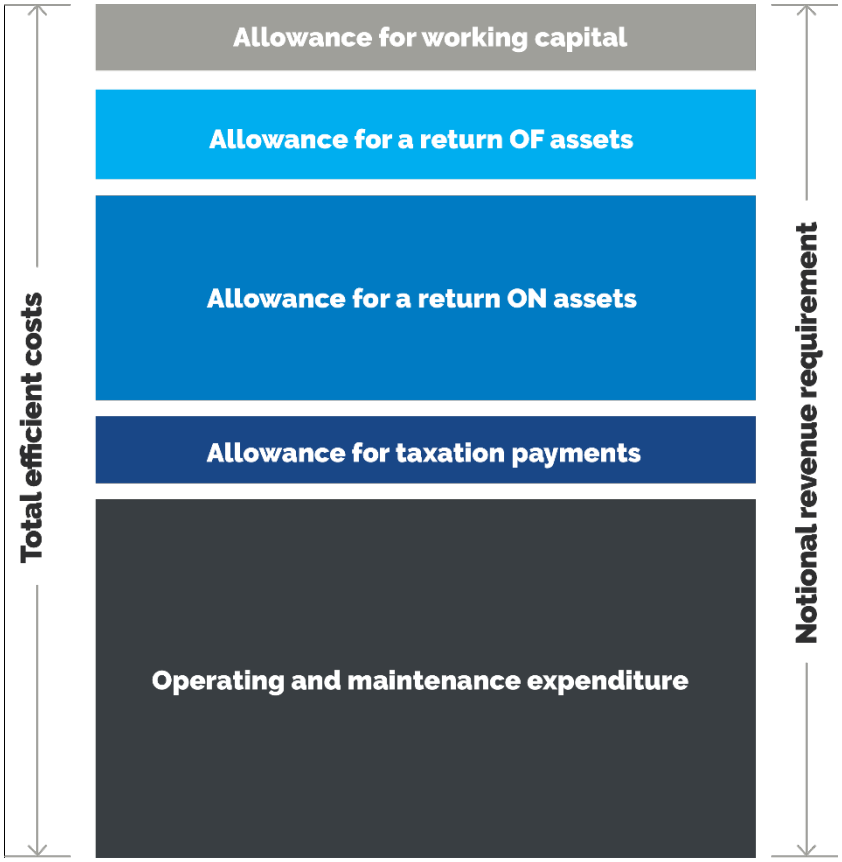
3 Should we apply an efficiency carryover mechanism to the Council's operating expenditure?

3.3 How much revenue does the Council need to deliver its services efficiently?

Our first step in determining prices is to calculate the notional revenue requirement (NRR), which represents our view of the total efficient costs of providing the Council's regulated services in each year of the determination period (Figure 3.2). In general, we set prices to recover this amount of revenue.

30 Further information on the ECM we established is available in Chapter 3 and Appendix E in the 2016 Final Report of our determination of Sydney Water's prices. IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016.

Figure 3.2 Building-block approach to calculating the notional revenue requirement



Note: Proportions are illustrative only.

As for previous reviews, we will use a 'building-block' approach to calculate the Council's NRR. This method involves determining, for each year of the determination period, an allowance for:

- **Operating expenditure**, which represents our estimate of the efficient level of the Council's forecast operating, maintenance and administration costs.
- A **return on assets** the Council uses to provide its services. This is our assessment of the opportunity cost of the capital the Council invests[31], and ensures that the Council can continue to make efficient capital investments in the future. To calculate this amount, we decide on the prudent and efficient levels of the Council's past and forecast capital expenditure, the value of the Council's regulatory asset base (RAB)[32], and the appropriate weighted average cost of capital (WACC) to apply to the RAB.
- A **return of those assets** (regulatory depreciation). This allowance recognises that, through the provision of services to customers, the Council's capital infrastructure wears out over time, and revenue must recover the cost of maintaining the RAB. To calculate this allowance, we need to decide on the appropriate asset lives and depreciation method. We propose to continue to use the straight-line depreciation method, which means the total value of an asset is recovered evenly over its assumed life.

31 The opportunity cost of using capital for one purpose is the expected revenue forgone from investing that capital in its best alternative use.

32 The regulatory asset base is our estimate of the economic value of a water utility's assets needed to deliver the regulated services.

- An **allowance for meeting tax obligations** which reflects the forecast tax liability for a comparable commercial business. The regulatory tax allowance is not intended to match a utility's actual tax liability, as our building block approach aims to set prices that reflect the full efficient costs a utility would incur if it were operating in a competitive market. This includes recovering a tax allowance, so that the Council does not have any advantage over an equivalent private business.[33]
- An **allowance for working capital**, which represents the holding cost of net current assets.

The sum of these allowances is the NRR.[34] In determining the Council's NRR, we will commission expert expenditure consultants to assist us in determining prudent and efficient capital and operating costs of delivering the Council's monopoly water and sewerage services. This will include an assessment of the efficiency gains the Council can reasonably achieve over the determination period.

Once we have determined the NRR, we will decide on the approach we should use to convert this amount into prices. This involves deciding on the 'target revenue' for each year of the determination period, that is, the actual revenue we expect the Council to generate from prices for that year. To make this decision, we consider a range of factors, including:

- the implications of the NRR for price levels, and the rate and way in which prices would change, and
- the impact of this on the Council and its customers.

Depending on how we set prices, the target revenue will not necessarily match the NRR from year to year. Where there are significant jumps or drops in the NRR from one year to the next, we may set prices to ensure a smoother transition over the determination period. This provides steadier change for both customers and the Council and eases potential price or revenue shocks.

While prices may be set so that target revenue does not necessarily equate to the NRR in each year of the determination period, our usual practice has been to set prices so that the present value of target revenue over the determination period equals the present value of the NRR (ie, efficient costs) over this period.

To inform our decisions on the NRR, we are interested in stakeholders' views on the Council's past and proposed expenditure.

IPART seeks comments on the following

4 Has the Council's expenditure over the current determination period delivered appropriate levels of service?

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33 This approach to pricing monopoly services is consistent with the principle of 'competitive neutrality'. Through the Competition Principles Agreement (1995), the Australian and all State and Territory Governments have agreed to implement competitive neutrality policies as part of the National Competition Policy reform package. 'The objective of competitive neutrality policy is the elimination of resource allocation distortions arising out of the public ownership of entities engaged in significant business activities: Government businesses should not enjoy any net competitive advantage simply as a result of their public sector ownership.' Source: *Competition Principles Agreement – 11 April 1995 (As amended to 13 April 2007, section 3a)*, available at: https://www.coag.gov.au/about-coag/agreements/competition-principles-agreement).

34 Each of the components is outlined in more detail in Appendix D.

IPART seeks comment on the Council's pricing submission (due in September 2018)

1 Is the Council's proposed expenditure for the next determination period reasonable?

– Do you have any comments on the reasons outlined by the Council for the proposed expenditure (including any major projects proposed by the Council)?

3.3.1 What service quality standards will the Council provide its customers?

In determining the Council's water and sewerage prices, we will also consider the standards of service the Council intends to meet. Under section 15 of the IPART Act, we must consider standards of quality, reliability and safety of the monopoly services in setting prices. Those standards may be specified by legislation, agreement or otherwise.

In our submission guidelines, we asked the Council to explain in its submission its forecast service standards, including the quantity, quality and scope of activities and/or services it plans to deliver.[35] Our expert expenditure consultants will provide advice on whether the key assumptions driving proposed expenditure (including, for example, environmental requirements and licensing standards) are reasonable. The expenditure consultants will also assess whether the expenditure allowed in the current determination period delivered the anticipated service standards and outcomes. This will inform our assessment of the expenditure to allow in the next determination period when setting prices.

We have also asked the Council to link its forecast service standards to its customer engagement. We consider that water utilities are responsible for engaging with customers to understand their views, priorities and needs, which should inform the pricing submission. The Council will also need to explain how its proposed expenditure would meet its regulatory and other obligations at least cost.

The Council should provide evidence of any customer consultation it has undertaken in developing its pricing proposal, and outline the mechanisms used for customer consultation, as relevant.

The Council should also support any proposal for discretionary expenditure with evidence of customers' willingness to pay for this expenditure. Discretionary expenditure is spending on projects that provide services or achieve outcomes that are not mandated or that go beyond service standards stipulated in any regulatory instruments or requirements that apply to the Council.

In the 2013 price review, we specified output measures based on the former Councils' proposed expenditure programs and capital projects (see Appendix G). We set output measures for the water agencies we regulate to inform us and stakeholders whether they are delivering on their planned capital expenditure. This is important because we set prices to enable them to recover the forecast costs of those plans. Moreover, a utility's continuing inability to meet output measure targets could indicate that it is not meeting the required levels of service to which we have linked our prices, and there is a deficiency in the planning and delivery of capital projects.

35 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 8.

While output measures provide an indication of activity, conclusions about the Council's performance should not be based solely on whether or not it has met these targets. There may be reasonable explanations for why it has not met these targets or measures. In fact, as circumstances evolve over a determination period, deviating from an output measure may result in a better outcome for customers. In such cases, the output measures can provide a reference point for articulating changes in priorities.

Appendix G lists the Council's activities in relation to output measures and capital programs for 2016-17. We plan to set new output measures for the upcoming determination period.

IPART seeks comments on the following

5 Do you have any comments about the Council's performance against the output measures in Appendix G? What output measures should we use for the upcoming determination period?

3.4 How much water is the Council forecast to sell to its customers?

Once we have determined the revenue the Council needs to fund its water and sewerage services (the NRR), we need to decide on the Council's forecast water sales, customer numbers and chargeable sewerage volumes.[36]

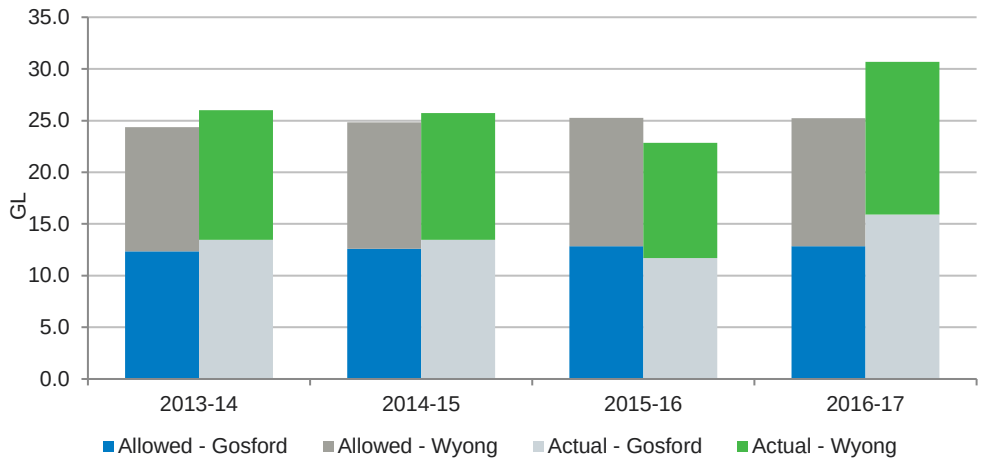
It is important that the forecasts are reasonable, because we use these forecasts to calculate the water and sewerage price levels that would recover the required revenue. If the Council's actual water sales, customer numbers and chargeable sewerage volumes over the determination period differ markedly from the forecasts, the Council would significantly over- or under- recover its required revenue. If the forecasts are lower than actual sales, customers will pay too much. If they are higher than actual sales, the Council may not earn sufficient revenue to recover its efficient costs.

3.4.1 The Council's water demand over the 2013 determination period

In the 2013 Determinations, we accepted the Councils' proposed demand forecasts and used them to set prices. Figure 3.3 compares forecast and actual water sales over the 2013 determination period. Overall, water sales exceeded forecast volumes in Gosford by 7.7% and in Wyong by 3.3%.

36 Non-residential properties pay sewerage usage charges, if the volume of sewage they discharge is above a discharge allowance (currently 150 kL). The volume above the allowance is called the 'chargeable sewerage volume'. It is calculated by multiplying the metered water consumption by a property-specific discharge factor. The 'discharge factor' is the estimated percentage of metered water used by a property that is discharged to the sewer.

Figure 3.3 Comparing forecast and actual water consumption over the 2013 determination period (gigalitres (GL))



Note: Due to the merger of the former Gosford City Council and the former Wyong Shire Council, the 2015-16 reported actuals cover the period from 1 July 2015 to 12 May 2016 and the 2016-17 reported actuals cover the period from 13 May 2016 to 30 June 2017.

Source: Central Coast Council Annual Information Return 2016-17.

3.4.2 Should we continue to provide a demand volatility adjustment mechanism?

We recognise that there is some risk in setting prices based on water sales forecasts. Actual water sales will depend on a number of factors that can vary unexpectedly, including weather patterns and population growth. In the 2013 price review, we included a mechanism to adjust the Councils' revenue in subsequent determination periods if actual water sales were 10% higher or lower than forecast (ie, a demand volatility adjustment).[37]

The Council's actual water sales were within the 10% (+ or -) band established in our 2013 price review.

As the Council's actual demand was within the band established for the 2013 determination period, we will not apply a demand volatility adjustment to the Council's revenue in this review. However, we will consider the appropriate mechanism for managing the uncertainty associated with demand forecasts.

In our 2016 reviews for Sydney Water and Hunter Water we adjusted the band from 10% to 5% (+ or –) because:

- this band was consistent with normal historical variation that the utilities would be able to manage
- the utilities considered the 10% band was too wide, and
- it balanced upside and downside risks.

37 IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, May 2013, p 45.

Under this approach, we would consider a demand volatility adjustment to revenue at the next price determination to account for any over- or under- recovery of revenue of more than 5% over the determination period.[38] While we cannot bind a future Tribunal, this demand volatility adjustment could be implemented by adjusting the revenue requirement or the RAB for the next determination period as decided by the Tribunal at that next price review. The Tribunal would consult at the next price review on the demand volatility adjustment mechanism.

Our preliminary view is that there would be merit in continuing to provide a demand volatility adjustment mechanism for the Council. The mechanism is important for protecting customers from over-paying (when sales are materially above the forecasts) and the Council from under-recovery. We also consider that it may be appropriate to narrow the band, as we did for Sydney Water and Hunter Water. We are interested in stakeholders' views on the appropriate mechanism for managing the uncertainty associated with demand forecasts.

IPART seeks comments on the following

6 Should we continue to provide a demand volatility adjustment mechanism for the Council?

- Should we reduce the volatility band in which we do not apply a demand volatility adjustment? If so, what is an appropriate band?

3.4.3 How should we treat pensioner rebates and exempt properties?

When forecasting customer numbers, we need to decide whether to include customers whose prices are either partially or fully offset by a Community Service Obligation (CSO). The two main CSOs for water utilities are pensioner rebates[39] and exempt properties (such as schools, hospitals, churches and Crown land, which are exempt from service prices).

State owned corporations, such as Sydney Water and Hunter Water, can seek full NSW Government funding for CSOs through the state budget process. NSW Treasury has a Commercial Policy Framework, which provides for this.[40] However, for council water utilities, the Government provides funding for only 50% of the cost of pensioner rebates and does not provide any funding for exempt properties.[41]

In 2013, we set the Councils' maximum prices so that the water customer base funded any shortfall between the cost of pensioner rebates and the NSW Government's funding for these rebates (ie, 50% of the cost of pensioner rebates). However, we did not include the shortfall in revenue relating to exempt properties.[42]

38 Only the level of over- or under- recovery that exceeds 5% would be considered for adjustment (eg, if the over-recovery were 7%, we would consider an adjustment for only 2%).

39 Eligible pensioners serviced by the Council are entitled to a rebate of 50% of their water and sewerage charges, up to a maximum of $175 per year ($87.50 for water and $87.50 for sewerage). Source: Central Coast Council, *Pensioner Rebates*, http://www.gosford.nsw.gov.au/about-council/general-information-rates/rates-and-water-billing/pensioner-rebates [accessed: 16 April 2018]

40 NSW Treasury, *Financial Distribution Policy for Government Businesses*, Policy & Guidelines Paper, TPP 16-04, August 2016, p 6.

41 Section 581 of the *Local Government Act 1993* provides that the Minister, 'out of money provided by Parliament', is to fund half of councils' pensioner rebates. There are no legislative provisions for Government funding for exempt properties.

42 Section 312 of the *Water Management Act 2000* provides that certain properties are exempt from water and sewerage service charges (including Crown land, hospitals and churches).

In principle, we consider that the NSW Government should fund social policies, rather than other customers doing so through prices.[43]

However, existing legislative arrangements leave the Council with a revenue shortfall relating to CSOs. In practice, without Government funding, the Council has limited ability to fund the shortfall in costs relating to CSOs except through water prices or rates.

Therefore, our preliminary position is to incorporate into prices any shortfall in funding due to pensioner rebates and exempt properties.[44] In the 2013 Determinations, only pensioner rebates were funded through other water customers' prices. Adding the shortfall from exempt properties should have a negligible effect on customer bills as they account for a very small share (less than 0.03% in 2016-17)[45] of all properties the Council supplies.

IPART seeks comments on the following

7 Should the notional revenue requirement for water and sewerage prices include the costs of providing pensioner rebates and not charging exempt properties that are not funded by the NSW Government?

3.5 The implications of the Council's prices

Finally, before setting prices we will consider the impacts of any price changes on customers and the Council. In our submission guidelines, we have asked the Council to outline the impact of its proposed prices on its customers and its business, and the details of any proposed transitional arrangements for managing price changes.[46]

We are interested in stakeholders' views about the impacts of the Council's proposed prices.

IPART seeks comment on the Council's pricing submission (due in September 2018)

2 Are the Council's proposed price changes reasonable? Would they have any undue impact on any customer groups?

43 We also considered this issue in relation to rate rebates as part of our 2016 review of the *Local Government Rating System*. We delivered our final report to the Minister for Local Government in December 2016.
44 This would be included in other water customers' fixed service charges.
45 Central Coast Council, Annual Information Return, 2016-17.
46 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 19.

4 Overview of price structures and price levels

This chapter outlines our pricing principles for this review, and discusses the current water, sewerage and stormwater prices under the 2013 Determinations. We consider both **price structures** and **price levels**. The term 'price structures' refers to how the total efficient revenue required to deliver the Council's services is divided:

- among different **types of customers** (eg, residential and non-residential customers), and
- between **types of prices** (ie, fixed service prices that are levied per meter or dwelling; and usage prices that are levied per kilolitre (kL) of water usage or sewerage discharge).

Price structures affect the way the costs of providing water and sewerage services are shared between different types of customers (ie, who is charged a particular price). Under the 2013 Determinations, price structures for water and sewerage services are the same between the Gosford and Wyong areas. However, stormwater prices are structured differently.

In terms of the level of prices, water usage and sewerage usage prices are aligned for all Council customers. However, service price levels differ between the Gosford and Wyong areas, in some cases significantly.

This chapter outlines current price structures and levels, and considers whether price levels should be aligned between the Gosford and Wyong areas.

Chapter 5 considers issues relating to prices for water and sewerage services. Chapter 6 discusses prices for the Council's other related services.

4.1 Our pricing principles for this review

In setting maximum prices, our overarching principle is that prices should be **cost-reflective**, which means that:

- Prices only recover sufficient revenue to cover the prudent and efficient costs of delivering the monopoly services.
  - This includes that water prices reflect the efficient costs of delivering water services, and sewerage prices reflect the efficient costs of delivering sewerage services (and so on for other types of services).
- Price structures match cost structures, whereby:
  - usage prices reference an appropriate estimate of marginal cost (ie, the additional cost of supplying an additional unit of water or sewerage services), and
  - fixed service prices recover the remaining costs.

An implication of cost-reflective pricing is that customers imposing similar costs on the system should pay similar prices.

Through the signals they send, cost-reflective prices promote the efficient use and allocation of resources, which ultimately benefits the whole community. The sum of the fixed and usage prices customers pay reflects the total cost of the services provided. By reflecting the revenue needed to efficiently provide the services, cost-reflective prices also ensure efficient investment in water infrastructure and service provision.

In addition to the principle of cost-reflectivity, other factors we consider when deciding on price structures include:

- whether to phase in changes to price structures over a transition period to minimise impacts on customers
- whether prices are sufficiently transparent, and easy for customers to understand and for the Council to administer, and
- customer preferences.

There can be a tension between these objectives. For example, the Council's costs of providing water and sewerage services are largely fixed, at least in the short term. This means that the costs of maintaining infrastructure such as dams, pipe networks and treatment plants often do not vary significantly with the volume of water supplied to customers in the short-term. However, customers have often expressed a preference for a higher proportion of their bill to be tied to their usage (ie, a higher usage charge, and a lower fixed charge), to allow greater control of their bills.[47]

4.2 The Council's prices under the 2013 Determinations

Box 4.1 summarises the current components of the Council's water, sewerage and stormwater bills for residential and non-residential customers.

Price structures for water and sewerage services are aligned in the Gosford and Wyong areas. This means that similar types of customers in the two areas face the same price structures. For example, residential and small business customers pay the same service prices for water and sewerage services (regardless of their meter size), while non-residential customers' service prices increase with their meter size.

However, price structures vary for stormwater drainage services. All customers in the Gosford area pay a standard price, while customers in the Wyong area pay different prices, depending on the type of property (house or multi-premises) for residential customers and the meter size for non-residential customers.

47 For example: IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, May 2013, p 127; and IPART, *Review of prices for Sydney Water Corporation, From 1 July 2016 to 30 June 2020 Final Report*, p 162.

Box 4.1 Components of a customer's bill

Under the 2013 Determinations, a customer's bill would typically comprise:

1. A **water service price**, which is:
   - standard for all residential and small business[a] customers, and
   - based on meter size for other non-residential customers.
2. A **water usage price** per kilolitre of water used.
3. A **sewerage service price**, structured in the same way as the water service price above.
   - This price includes an assumed discharge of 150 kL for all customers.
4. A **sewerage usage price** per kilolitre discharged over 150 kL for non-residential customers.[b]
5. A **stormwater drainage service price**, which is standard for all customers in Gosford, but varies according to the type of property and meter size in Wyong.
6. Other prices such as:
   - **Trade waste prices**, which are levied on non-residential customers for discharges above domestic-strength effluent.
   - **Miscellaneous and ancillary prices**, which are one-off prices for specific services.
   - **Recycled water prices**.

a Non-residential customers with a single 20 mm meter.

b Sewerage discharge is calculated based on metered water usage discounted by the relevant discharge factor. The discharge factor is the percentage of metered water consumption that is estimated to be discharged to the sewerage system. The Council sets discharge factors.

4.2.1 Usage prices are aligned but service prices differ between the Gosford and Wyong areas

Water and sewerage **usage prices** are currently the same for all customers across the Gosford and Wyong areas. Water usage prices have been aligned (currently at $2.29 per kL) since 2003 because the Councils operated a joint water supply. Sewerage usage prices paid by non-residential customers were aligned over the 2013 determination period (currently at $0.83 per kL).

However, water and sewerage **service prices** are currently higher in the Gosford area.[48] Table 4.1 compares water and sewerage service prices in the two areas. Compared to the Wyong area, the prices in the Gosford area are:

- just over 20% higher for water services for both residential and non-residential customers, and
- 39% higher for sewerage services for residential customers and 247% higher for non-residential customers.[49]

48 Under the 2013 Determinations, the prices for the final year of that determination (2016-17) are maintained until a new determination is made.

49 Retirement villages are the only exception, as the Council resolved to align retirement village service charges between the Gosford and Wyong areas by waiving 53% of service charges in the Gosford area (for 2016-17 and 2017-18) after complaints from retirement village residents in Gosford**.** Savings from the Council merger were expected to offset the reduced revenue. Source: https://www.centralcoast.nsw.gov.au/highlights-28-september-council-meeting/ [accessed 5 April 2018]

Table 4.1 Current water and sewerage service prices in Gosford and Wyong ($2018-19)

Annual prices	Water service prices			Sewerage service prices[a]		
	Gosford	Wyong	*Difference*	Gosford	Wyong	*Difference*
Residential (per property)	197.72	164.63	*20%*	672.42	483.28	*39%*
Non-residential						
25mm meter	275.94	228.15	*21%*	1,541.80	443.99	*247%*
40mm meter	706.42	584.09	*21%*	3,947.02	1,136.61	*247%*
50mm meter	1,103.80	912.63	*21%*	6,167.22	1,775.95	*247%*
80mm meter	2,825.74	2,336.34	*21%*	15,788.10	4,546.43	*247%*
100mm meter	4,415.22	3,650.54	*21%*	24,668.90	7,103.80	*247%*
150mm meter	9,934.26	8,213.70	*21%*	55,505.04	15,983.55	*247%*
200mm meter	17,660.92	14,602.14	*21%*	98,675.64	28,415.20	*247%*

[a] The sewerage service price faced by customers is the service price discounted by the relevant discharge factor.

Source: IPART, Gosford City Council prices - 1 July 2013 to 30 June 2017, Determination No. 2, 2013; and, IPART, Wyong Shire Council prices – 1 July 2013 to 30 June 2017, Determination No. 3, 2013.

The differences in service price levels between the two former Councils were partly caused by the underlying cost structures. The primary differences were due to the former Gosford City Council's greater costs relating to:

- sludge management (due to the location of suitable disposal sites and the increased costs of complying with its sewerage system licence), and
- a large capital program delivered in the lead-up to the 2013 Determination, which focused on sewerage infrastructure (resulting in a greater allowance for return on, and of, capital expenditure).

In our last review, we carefully investigated the causes of the increases, and concluded that the expenditure was prudent and efficient.

Conversely, stormwater service prices are generally higher in the Wyong area. All Gosford customers pay a single uniform price (currently $124.64 annually), while customers in the Wyong area pay different prices, depending on their property type (residential) and meter size (non-residential) (Table 4.2).

Table 4.2 Current annual stormwater drainage prices ($2018-19)

Property type	Stormwater price ($ per year)
Gosford	
All customers	124.64
Wyong	
Residential	
Standalone dwellings (eg, house, terrace or townhouse)	128.32
Multi premises	96.24
Non-residential	
25mm meter	200.50
40mm meter	513.28
50mm meter	802.00
80mm meter	2,053.14
100mm meter	3,208.03
150mm meter	7,218.05
200mm meter	12,832.09

Source: IPART, Gosford City Council prices - 1 July 2013 to 30 June 2017, Determination No. 2, 2013; and, IPART, Wyong Shire Council prices – 1 July 2013 to 30 June 2017, Determination No. 3, 2013.

4.3 Should we align prices across the Gosford and Wyong areas?

As outlined previously, under the 2013 Determinations, service prices differ substantially between the Gosford and Wyong areas.

As part of this review, we will consider whether it is appropriate to:

1. maintain the current approach where customers pay different service prices based on the former Councils' boundaries
2. set different service prices based on another geographical cost driver (such as catchment area), or
3. set (or transition to) common service prices across the Council's area of operations.

We will assess the Council's proposal taking into account our key principle of **cost-reflectivity**. It may be appropriate to maintain different prices if the Council can provide evidence that the costs of servicing the two areas are not the same. For example, if the two areas are serviced by sewerage treatment plants with differing technologies and costs, different sewerage service prices may be justified. On the other hand, common prices may be appropriate if the network is largely integrated and costs do not differ materially across specific geographic areas.

We will also consider customer views and preferences, and potential impacts on customers.

IPART seeks comments on the following

8 Should water and/or sewerage service prices be aligned across the Council's area? Why or why not?

9 Should stormwater drainage prices be aligned across the Council's area? Why or why not?

5 Prices for water and sewerage services

This chapter discusses questions and issues that apply:

- to both water and sewerage **service prices** (Section 5.1)
- specifically to sewerage service prices, which are based on a fixed component and a **deemed discharge** component (Section 5.2), and
- to water and sewerage **usage prices** (Section 5.3).

In particular, we have identified several issues with the Council's water and sewerage service (fixed) prices through our 2016 Sydney Water and Hunter Water price reviews and via direct enquiries from the Council's customers. We will seek to address these issues as part of this review.

5.1 Issues with the Council's water and sewerage service prices

We currently set service prices to recover the difference between the Council's NRR (efficient costs) and the revenue it is forecast to receive via usage prices. To ensure that it recovers its costs, it is appropriate the Council levies fixed service prices, because a large proportion of its costs are fixed, at least in the short-term. That is, if customers use less water or discharge less sewerage, the Council's costs of maintaining infrastructure such as dams, pipes and treatment plants do not decrease.

Setting service prices is an exercise in cost allocation — sharing the fixed costs of supplying water and sewerage services that are not recovered from usage prices. These prices should be set in a way that reflect each customer's contribution to the need for the Council to incur fixed costs in supplying water and sewerage services (ie, each customer's share of the system's capacity requirements).

Under the 2013 Determinations, water and sewerage service prices vary between different types of customers. Broadly, all residential and small business customers pay the same service price. In particular, individual dwellings in an apartment building or dual occupancy each pay the same service prices as a house. The service price for other non-residential customers depends on their meter size. Appendix E provides more detail on how the share of the Council's efficient revenue requirement is allocated to different customers' service prices.

In the following section, we outline three issues we have identified with the approach in the 2013 Determinations that may result in similar types of customers paying different service prices. We also seek stakeholder feedback on the potential options we outline for addressing these issues.

Service prices for small businesses differ from other non-residential customers

Under the 2013 Determinations, small businesses (ie, non-residential customers with a standalone 20mm meter) pay the standard residential service price, but all other non-residential customers, including non-residential customers with multiple 20mm meters, pay service prices based on their actual meter size.

As a result, compared to non-residential customers with multiple 20mm meters, small businesses pay (per meter):

- water service prices that are **12-13**% higher in Gosford and Wyong, and
- sewerage service prices that are **32**% **lower** in Gosford and **70**% **higher** in Wyong.

Table 5.1 shows the 2017-18 water and sewerage service prices for non-residential customers under the 2013 Determinations.

Table 5.1 2017-18 service prices for Gosford and Wyong ($/year, $2017-18)

Customer type	Gosford ($)	Wyong ($)
Water		
Small business (standalone 20mm meter)	197.72	164.63
Non-residential (multiple 20mm meters, $ per meter)	176.60	146.02
Percentage difference (between small business and non-residential, per meter)	*12%*	*13%*
Sewerage		
Small business (standalone 20mm meter)	672.42	483.28
Non-residential (multiple 20mm meters, $ per meter)	986.75	284.15
Percentage difference (between small business and non-residential, per meter)	*-32%*	*70%*

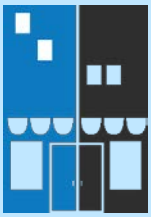
Note: The prices (per meter) for non-residential customers with multiple 20mm meters are calculated using the formula set out in the 2013 Determinations.

Residential and non-residential multi-premises pay different service prices

Under the 2013 Determinations, customers in a residential multi-premises or mixed development building each pay the standard residential service price, while customers in a non-residential multi-premises building each pay a share of the common meter.

Under this price structure, a residential customer in a multi-premises building is potentially paying substantially more than a non-residential customer in a multi-premises building for similar water and sewerage services (depending on their metering arrangements). Table 5.2 provides an indicative example, comparing a commercial multi-premises building with a residential block, where both multi-premises have 10 properties and a 40 mm meter. Under the 2013 Determinations, compared to a non-residential property, each residential unit is paying around $444 more in Gosford and $487 more in Wyong in annual service prices.

Table 5.2 Indicative difference between non-residential and residential multi-premises service prices

		
Description	Commercial multi-premises	Residential block
Units	10 businesses	10 apartments
Meter connection	40mm	40mm
Discharge factor	90%	90%
Service price basis	Meter size (ie, one common meter price)	Number of dwellings (ie, 10 times the standard residential price)
Total annual water and sewerage service prices (for 10 properties)		
Gosford	4,258.74	$8,701.40 ($4,442.66 more)
Wyong	1,607.04	$6,479.10 ($4,872.06 more)

Source: IPART analysis.

Retirement villages are billed as non-residential customers

In our 2013 review, we deferred our decision on changing the service price structure for retirement villages.[50] This means that under the 2013 Determinations, retirement villages are charged on a similar basis to non-residential properties. That is, each village pays service prices according to its number and size of water meters.

Similar to the example in Table 5.2, this results in retirement villages being likely to pay less than residential multi-premises that are levied service prices per dwelling. However, we note that the bills for specific retirement villages depend on their metering arrangements and number of units.

We will consider whether retirement villages serviced by the Council should be classified as residential or non-residential customers as part of this review. This decision will depend on how we decide to set service prices for residential and non-residential customers more broadly, which we discuss below.

5.1.2 How should water and sewerage service prices be calculated going forward?

The cost-reflectivity of service prices could be improved if the prices for residential and non-residential customers were set on a common basis, instead of basing residential prices on the number of dwellings and non-residential prices on meter size. Setting prices on a common basis would also ameliorate the disparities between small businesses and other non-residential customers and the significant difference in service prices between residential and non-residential multi-premises.

50 We considered that it was not appropriate to restructure prices within the existing pensioner concession policy. Source: IPART, *Gosford City Council and Wyong Shire Council: Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, Final Report, May 2013, p 16.

We consider that there would be merit in setting all service prices with reference to meter sizes. Typically, a water or sewerage network is sized to be able to meet peak demand. A customer's water meter provides a proxy for that customer's share of the system's capacity requirements. Put another way, each customer's meter size indicates their potential draw on the system, and therefore their contribution to the costs of the system. In the absence of sewerage meters, sewerage service prices could be based on a customer's water meter size multiplied by a discharge factor. This factor is an estimate of the percentage of metered water that is discharged to the sewerage system.

The advantages of meter-based prices are that they:

- are simple to understand
- are based on readily available information, and
- provide a reasonable indication of peak usage and therefore a customer's share of the maximum network capacity (and, hence, fixed costs).

That said, there are some issues associated with implementing meter-based pricing. We acknowledge that meter-based pricing only reflects *potential* maximum usage and, without time-of-use metering, may not reflect a customer's actual usage at times of peak demand. However, we consider that meters provide a reasonable proxy for the fixed costs a customer imposes on the water system.

We have identified two potential options for setting service prices with reference to meter size:

1. Rebasing all service prices to a 20mm meter scale (rather than the current 25mm meter scale) and deeming all residential customers (houses and apartments) to have a 20mm meter so that all customers' prices are set on the basis of meter size, but all residential customers pay the same 20mm meter fixed service price.
2. Adopting pure meter-based prices so that both residential and non-residential customers pay service prices based on the size of their actual meter (or their share of a common meter for multi-premises).

Box 5.1 summarises these options, which are outlined in more detail in Appendix E.

Box 5.1 Options for setting residential and non-residential service prices on a common basis

Under the 2013 Determinations, residential and small business customers pay standard water and sewerage service prices that do not reference their meter size. Other non-residential customers pay service prices based on a '25mm meter equivalent', meaning that, to calculate prices:

1. all non-residential meters are converted to the number of 25mm meters they represent so that the revenue to be recovered from non-residential service prices can be divided according to a common unit, and
2. prices are set according to customers' actual meter sizes (for more detail see Appendix E).

Option 1: Rebasing service prices to a 20mm meter scale

This option would involve:

- changing the basis for non-residential meter-based prices from a 25mm meter to a 20mm meter (the smallest available meter size), and
- deeming all residential properties (regardless of type) to have a 20mm meter.

Rebasing service prices would mean that the Council's service prices would be calculated based on meter size, but that, in doing so residential standalone houses and apartments would continue to pay the same standard price as each other (ie, all residential customers would be charged the same).[a] All non-residential customers, including small businesses, would pay water and sewerage service prices according to their actual meter size (or, for multi-premises, share of common meter size).[b]

Under this option we would also need to consider whether retirement villages should be charged based on their meters, or by deeming each retirement village unit to have a 20mm meter.

Option 2: Adopting pure meter-based prices

Rather than basing prices on a deemed 20mm meter (Option 1), residential apartments would be charged according to the common meter servicing the apartment block (or other multi-premises) divided by the number of apartments in that block. This is equivalent to the basis for service prices for non-residential customers and retirement villages under the 2013 Determination. Under this option, all types of multi-premises would pay a share of the common meter price.

We note that while most residential standalone houses serviced by the Council are likely to have a single 20mm meter, a small number have larger meters or multiple meters and moving to meter-based charging could have a substantial impact on these customers. If we adopted this option, we would consider which option would be the more appropriate basis for pricing for these customers: meter size or deeming that they have a 20mm meter.

a Mixed multi-premises customers would also be deemed to have a 20mm meter.

b Accordingly, the Council would have to set discharge factors for small businesses, as it does currently for all other non-residential customers.

In our 2016 reviews for Sydney Water and Hunter Water, we adopted Option 1. This means that the new service prices for all customers reference a 20mm meter and all residential customers — including houses and apartments — pay the same 20mm service price.

Arguably, residential apartments should pay a lower service price than houses. If apartments use less water and discharge less sewage than houses, the costs they impose on the overall water and sewerage system are lower. Average water usage is significantly less for apartments than for houses (see Figure 5.1).

This suggests that adopting pure meter-based service prices could be more cost-reflective and transparent. Under this approach, customers living in apartments would pay a service price based on their share of the common meter price, meaning they would pay less than those living in houses. However, we acknowledge that reducing the share of costs paid by apartments may lead to a substantial impact on other customers' bills.

Regardless of the approach we adopt for calculating service prices, we would carefully consider whether an interim step is required to manage the impacts on customers.

We are seeking stakeholder views on the merits of the above options, or any other options (including, for example, maintaining the existing price structures). We have also asked the Council to explain proposed prices in its pricing submission, with reference to how its proposed prices reflect its costs and customers' preferences.[51]

IPART seeks comments on the following

10 Should all of the Council's water and sewerage service prices be set on a 20mm meter basis?

11 Should residential service prices be lower for apartments than for houses? Why or why not?

- Should we deem individual apartments to have a 20mm meter (for the purpose of setting service prices) or should apartments pay water and sewerage prices based on their actual common meter size?

12 Should retirement villages continue to be charged service prices on the basis of their meters?

IPART seeks comment on the Council's pricing submission (due in September 2018)

3 Are the Council's proposed water service prices reasonable?

4 Are the Council's proposed sewerage service prices reasonable?

5.2 Issues with the Council's deemed sewerage discharge allowance

This section highlights some specific issues we have identified with how the sewerage service price is set. In the 2013 Determinations:

- For residential customers, sewerage service prices include the cost of a deemed discharge volume (or 'discharge allowance') of 150 kL per annum.
- For non-residential customers, the 'base' 25 mm meter price also includes a discharge allowance of 150 kL. For customers with larger meters, this base charge is scaled up according to the size of their meter.
- The sewerage **usage price** ($ per kL) only applies to non-residential customers, for discharges above 150 kL per annum (regardless of their meter size). This is discussed in Section 5.3.

51 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 17.

We have identified that embedding a deemed usage component (discharge allowance) in the sewerage service price leads to two disparities in which some customers cross-subsidise others. We outline these issues below, and potential options for addressing them.

Residential customers, on average, are cross-subsidising non-residential customers

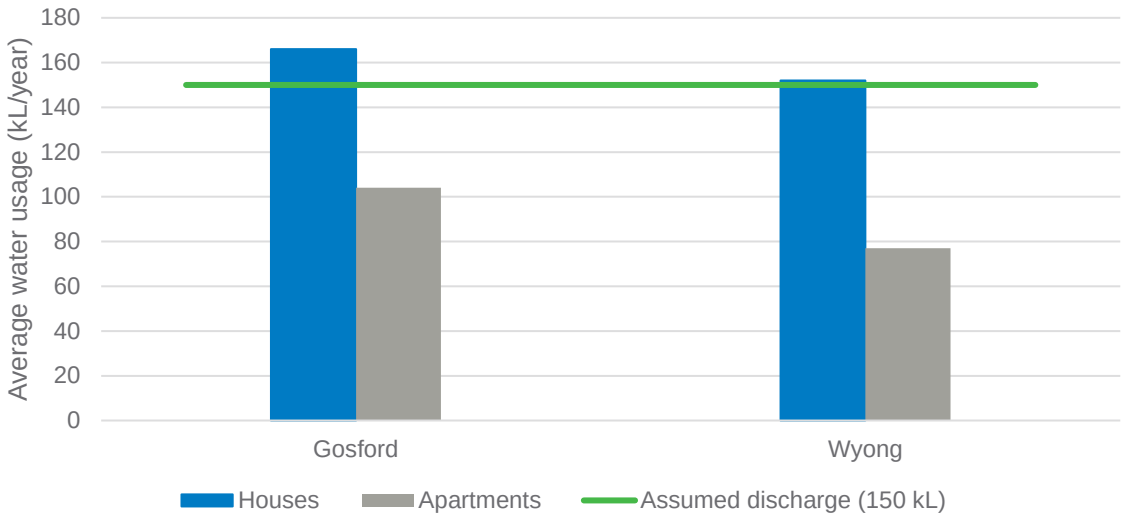
Figure 5.1 shows average water usage compared with the assumed discharge allowance in the Central Coast area. On average, over the last few years, compared to the assumed sewerage discharge of 150 kL:

- houses used marginally more water, and
- apartments used, on average, 30% to 50% *less* water.

In practice, household's sewerage discharge is typically less than its water usage as some water is used outdoors and does not go to the sewerage system.

This suggests that a 150 kL deemed discharge is likely to be too high for both houses and apartments, on average.

Figure 5.1 Average water usage compared to assumed discharge (kL/year)



Note: 2013-16 average of actual water usage.

Data source: Gosford City Council Annual Information Return 2015-16, Wyong Shire Council Annual Information Return 2015-16 and IPART analysis.

Non-residential customers with large meters are cross-subsidising other customers

Under the 2013 Determinations, the method of scaling up the base 25mm meter service price to reflect the actual size of a customer's meter means that non-residential customers with larger meters pay more than the deemed discharge of 150 kL, through their service prices. This means that non-residential customers with larger meters are subsidising customers with smaller meters and the larger a customer's meter size, the more they pay for their

sewerage discharges.[52] Box 5.2 shows why the current method of calculating sewerage service prices results in a disparity between prices.

Box 5.2 Implicit discharge component included in non-residential sewerage service prices – worked example

The base level 25 mm sewerage service price includes the costs of a deemed discharge volume of 150 kL per year. This base charge is scaled up according to each non-residential customer's meter size. The following equation provides a high-level illustration of how this scaling affects the 150 kL deemed discharge component of the service charge.

$$Deemed\ discharge\ component\ of\ service\ charge = discharge\ factor \times \left(\frac{meter\ size}{25}\right)^2 \times 150\ kL \times sewerage\ usage\ charge$$

As the service price is scaled up to account for actual meter size, so is the embedded deemed discharge volume of 150 kL. This can result in non-residential customers with larger meters paying for discharges greater than 150 kL per annum in their service charges, plus for discharges greater than 150 kL per annum through their sewerage usage prices.

Below we outline two worked examples for two customers with different meter sizes, assuming both customers have the same discharge factor of 80%. The customer with the 40 mm meter pays for 307.2 kL of sewerage discharge through the sewerage service price. While the customer with the 80 mm meter pays for four times this amount (1228.8 kL) as part of their sewerage service price. Each of these non-residential customers would then also pay for a usage price ($ per kL) for usage above the deemed amount of 150 kL.

Business with 40 mm meter

$$Deemed\ discharge\ component = 80\% \times \left(\frac{40}{25}\right)^2 \times 150\ kL \times sewerage\ usage\ charge$$

$$= 307.2\ kL \times sewerage\ usage\ charge$$

Business with 80 mm meter

$$Deemed\ discharge\ component = 80\% \times \left(\frac{80}{25}\right)^2 \times 150\ kL \times sewerage\ usage\ charge$$

$$= 1228.8\ kL \times sewerage\ usage\ charge$$

If the sewerage service price continues to include a deemed usage component, our preliminary view is that the deemed usage component should be added separately to the service price. That is, the cost associated with deemed sewerage usage would be explicitly added to the sewerage service prices as the final step in calculating these prices, rather than being scaled up from the 25 mm meter charge. This would remove the anomaly in usage charging where non-residential customers with large meters pay too much for sewerage discharge, as a result of the multiplication of the sewerage service price per meter.

52 For more details and an example, see IPART, *Review of prices for Sydney Water Corporation, From 1 July 2016 to 30 June 2020 Final Report*, pp 164-165.

5.2.1 Is 150 kL an appropriate deemed discharge for all customers?

The Council's residential service prices currently assume that residential customers discharge 150 kL annually into the sewerage system. However, based on water usage data (Figure 5.1 above), we consider that 150 kL is likely to be too high. Not all water used by a property is discharged into the sewerage network and, on average, houses only consume marginally more water than the deemed sewerage discharge volume and apartments discharge less.

In the Sydney Water and Hunter Water 2016 price reviews, we set the deemed discharge volume in the service price by multiplying average residential water usage by a discharge factor of 75%.[53] This resulted in service prices for both residential and non-residential customers including the costs of a deemed sewerage discharge volume of:

- 150 kL per annum for Sydney Water, and
- 120 kL per annum for Hunter Water.[54]

Non-residential customers are then subject to sewerage **usage prices** for discharges above the deemed amount.

Applying the 75% discharge factor to the Council would result in a lower deemed discharge (discharge allowance) than the 2013 Determinations. We consider that there may also be merit in setting a different deemed discharge for houses and apartments because average water usage differs between residential property types – on average, houses use substantially more water than apartments, implying a higher sewerage discharge per year.

We are seeking stakeholder views on an appropriate deemed discharge volume to include in sewerage **service prices**. For non-residential customers, the sewerage **usage price** would then only apply for sewerage usage (discharges) beyond the deemed discharge ('discharge allowance') included in their sewerage service prices.

IPART seeks comments on the following

13 What is the appropriate deemed sewerage discharge volume to include in sewerage service prices? Should the deemed discharge volume be different for houses and apartments?

5.3 Water and sewerage usage prices

Following the above discussion on **service** prices, this section considers sewerage and water **usage** prices.

53 IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016, p 166; IPART, *Hunter Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016, p 114.

54 As outlined in Section 5.2, we also separated the connection and deemed usage components of the sewerage service prices, to avoid the problems previously associated with 'scaling-up' the base level meter price to reflect a customer's actual meter size.

5.3.1 Sewerage usage prices

As discussed in Section 5.2, sewerage usage prices only apply for non-residential customers that discharge more than the deemed discharge allowance of 150 kL per annum. In the previous section we also discussed whether 150 kL is the appropriate discharge allowance. In this section we discuss:

- if residential customers should also pay a sewerage usage price, and
- whether sewerage usage prices should be set on the basis of the short run or long run marginal cost of supplying the sewerage services.

Should we introduce residential sewerage usage prices and remove the deemed usage component from service prices?

Under the 2013 Determination, all customers pay a deemed sewerage discharge volume in service charges and non-residential customers also pay sewerage usage prices for discharge above 150 kL. As an alternative, all customers could be charged separately for usage. Under this approach, all customers would pay an explicit sewerage usage price per kilolitre. This usage price would be based on the percentage of their metered water consumption estimated to be discharged into the sewerage system (ie, based on 'discharge factors').

Introducing a residential sewerage usage price would mean that residential customers pay for their sewerage usage in proportion to their actual metered water consumption (as opposed to a deemed discharge volume that is the same for all residential customers). In the absence of sewerage meters, this option may provide a limited price signal to customers as sewerage discharge is based on water usage multiplied by a discharge factor.[55] The Council would need to set discharge factors for residential customers, as it currently does for non-residential customers. Various factors can influence the relationship between water usage and sewerage discharge. For example, for customers that use water from a rainwater tank in addition to water purchased from the Council, multiplying metered water usage by a standard discharge factor may not accurately reflect sewerage discharge.

In our recent reviews for Sydney Water and Hunter Water, we decided not to introduce an explicit residential sewerage usage price. This reflected feedback that implementing such a price would require further consideration, given discharges are not metered, as well as appropriate community consultation.[56]

We are interested in stakeholder views on whether sewerage usage prices should be based on the percentage of metered water estimated to be discharged to the sewerage system, rather than deeming a discharge allowance.

IPART seeks comments on the following

14 Rather than including a discharge allowance in service prices, should sewerage usage be billed separately for all customers? Why or why not?

55 The utilities are required to use discharge factors to estimate discharge volumes because, unlike water, sewerage discharges are not separately metered.

56 IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016, p 162.

How should we set sewerage usage prices?

This section is concerned with how the **level** of the sewerage usage price is set.

The Council's sewerage usage price for non-residential customers is currently $0.83 per kilolitre. The price is set with reference to the short run marginal cost (SRMC) of supplying sewerage services — ie, the cost ($ per kilolitre) of treating, transporting and disposing of one additional kilolitre of domestic-strength sewage.

An alternative would be to set the price of sewerage discharges ($ per kilolitre) with reference to estimates of the long run marginal cost (LRMC) of treating, transporting and disposing of one additional kilolitre of domestic-strength sewage. The LRMC of supply reflects the costs of supplying services over the longer-term, including any future costs of augmenting distribution networks and treatment plants that may be required to meet demand. LRMC can be particularly important in sending price signals to promote the efficient use and allocation of resources where a supply system will approach or meet its capacity over the longer-term (eg, over 30 years). In addition, by sending accurate price signals, pricing based on LRMC can help to facilitate competition.

We have historically set the sewerage usage price based on the SRMC of supply. We have done this because, unlike water, estimating a single LRMC of supplying sewerage services across a water utility's area of operations can be problematic. Issues can arise because the LRMC of supplying sewerage services can vary significantly by sewerage catchment within a utility's area of operations and over time. The Council has multiple catchment areas in its sewerage supply system that are largely disconnected. Due to this, a single usage price based on a single estimate of the LRMC of supplying sewerage services would not necessarily send appropriate price signals. That is, a single usage price may over-estimate the LRMC of sewerage discharges in one catchment, but under-estimate it in another – which would compromise the effectiveness of the price signals.

Alternatively, if a separate sewerage usage price applied for each catchment, these prices could be set based on estimates of the LRMC of supplying sewerage services in each catchment. This approach would provide more accurate price signals to customers.

We have asked the Council to provide an estimate of the SRMC of supplying its sewerage services (and an explanation of how it was calculated) and outline how its proposed sewerage usage price relates to (or differs from) the SRMC estimate. Or, if the Council proposes sewerage usage charges based on the LRMC of supplying sewerage services, we expect it to provide estimates of the LRMC of supply (and how it was calculated).[57]

We will decide on the price after conducting further analysis and taking into account stakeholder feedback.

IPART seeks comments on the following

15 On what basis should we set sewerage usage prices?

IPART seeks comment on the Council's pricing submission (due in September 2018)

5 Is the Council's proposed sewerage usage price (or prices) reasonable?

57 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 18.

5.3.2 Water usage prices

The Council's water usage price is currently $2.29 per kilolitre in both the Gosford and Wyong areas. This price has been aligned since 2003, as the former Councils operated a joint water supply.[58]

The price is based on an estimate of the Council's long-run marginal cost (LRMC) of water supply, which was calculated as part of the 2009 Determination, using the Mardi to Mangrove pipeline as the next augmentation of the water supply system. The LRMC is the additional cost to the Council of permanently increasing the supply of water by one unit.

We have generally favoured setting water usage prices for metropolitan water utilities with reference to the best available estimate of the LRMC of water supply, to encourage efficient water consumption. We consider LRMC is an important benchmark for setting the water usage price, as it generally sends an appropriate signal about the cost of meeting sustained increases in water demand over the long term.

This approach is also consistent with customers' preference for a higher usage component in their bills.[59] By reflecting long-run costs, the Council recovers some of its fixed costs through the usage price.

We will seek to derive updated estimates of the LRMC of water supply based on best available information, to inform our decision on the water usage price. Our preliminary view is to set the water usage price with reference to an updated estimate of the LRMC of water supply, using the broad approach that we applied to calculate Sydney Water's LRMC in 2016. We briefly outline this approach in Appendix F.

Updating the LRMC estimate would ensure that the water usage price accurately reflects the costs of the next efficient increment of supply augmentation and other relevant fixed costs.

We have asked the Council to set out its estimates of the LRMC of water supply (and its approach to calculating the LRMC), and estimates of the cost of securing short-term water needs (ie, the short-run marginal cost (SRMC) of water supply) and how this can change under various scenarios. We have also asked the Council to explain how its proposed water usage prices relate to (or differ from) its estimates of the LRMC and SRMC of water supply, and justify its proposed prices.[60]

If we were to lower the current water usage price, based on an updated LRMC that was lower than the current estimate, then, holding all else constant, this would result in higher water service prices. This is because the Council's costs of supply not recovered from usage price revenue would need to be recovered from water service price revenue. Conversely, if the updated LRMC estimate was higher than the current estimate, and we set a higher usage price, water service prices would be lower (all else being equal). Our decision relating to the

58 IPART, *Prices for water supply, wastewater and stormwater services, Gosford City Council, Prices from 1 July 2003 to 30 June 2005, May 2003*, p 37; IPART, *Prices for water supply, wastewater and stormwater services, Wyong Shire Council, Prices from 1 July 2003 to 30 June 2005, May 2003*, p 36.

59 For example: IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, Final Report, May 2013, p 127; IPART, *Review of prices for Sydney Water Corporation, From 1 July 2016 to 30 June 2020*, Final Report, p 162.

60 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 18.

water usage price will be informed not only by any available LRMC estimates but also by other factors such as price stability, customer impacts and customer views.

We will consider the Council's proposed water usage price with reference to the LRMC and SRMC estimates and make a decision after further analysing and taking into account stakeholder views.

IPART seeks comments on the following

16 On what basis should we set water usage prices?

IPART seeks comment on the Council's pricing submission (due in September 2018)

6 Is the Council's proposed water usage price (or prices) reasonable?

5.4 Water prices for unmetered properties

Some properties serviced by the Council may be temporarily without water meters. Under our 2013 Determinations:

- For Gosford Council, all unmetered customers pay an unmetered water price, consisting of the standard residential water service price plus a water usage price based on the property's previous two meter-reading periods.
- For Wyong Council, all unmetered customers pay an unmetered water price, consisting of the standard residential water service price plus a water usage price for a deemed consumption of 180 kL per annum.

The Council has not reported billing any unmetered water consumption over the 2013 determination period.

In our 2013 review, we adopted the above approach in the Gosford area as the former Gosford Council argued that properties were required to be metered and would only be unmetered for a short time, and that 180 kL per annum was inappropriate.[61]

The former Wyong Council did not comment, so we applied our general approach to unmetered properties. In the 2012 Sydney Water Determination, we adopted a deemed usage of 180 kL per annum for unmetered properties, based on the average level of unmetered consumption provided by Sydney Water.[62] Therefore, for simplicity, ease of administration and consistency, at the time we considered this to be the appropriate benchmark to apply to the water utilities we regulate, unless information was provided that justified a different approach.

Given the low prevalence of unmetered properties in the Council's area, and that they are only likely to be unmetered temporarily, we consider that for administrative simplicity the Council should treat all unmetered properties in its area in the same way. We are interested in stakeholder views on the appropriate prices for unmetered properties.

61 IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, Final Report, May 2013, p 116.

62 We maintained this approach in Sydney Water's 2016 Determination. Source: IPART, *Review of prices for Sydney Water Corporation, From 1 July 2016 to 30 June 2020*, Final Report, p 177.

IPART seeks comments on the following

17 What prices would be appropriate for unmetered properties?

- Should they be charged for usage based on the property's previous two meter-reading periods (as in the former Gosford Council's area) or based on a deemed amount (as in the former Wyong Council's area)?

6 Prices for other services

In addition to its main water, sewerage and stormwater services, the Council provides a range of other water and sewerage related services. These include:

- stormwater drainage services
- non-residential trade waste services
- miscellaneous and ancillary services, and
- bulk water transfer to and from Hunter Water Corporation.

We discuss each of these services in this chapter. As part of this review, we will also consider whether we need to set the Council's prices for:

- recycled water services, and
- services to *Water Industry Competition Act 2006* (NSW) (WICA) utilities.

6.1 Stormwater drainage prices

The Council provides services to remove water run-off (stormwater) from its area of operations. Under the 2013 Determinations:

- all customers in the Gosford area pay a standard price for stormwater services, and
- customers in the Wyong area pay different prices depending on the type of property (house or multi-premises) for residential customers, and meter size for non-residential customers.

These prices are listed in Chapter 4.

6.1.1 Should stormwater prices be based on property area?

As with water and sewerage service prices, there may be benefits in aligning the Council's stormwater prices across the Gosford and Wyong areas, particularly if the costs of the Council providing stormwater services do not vary between those areas. As outlined in Chapter 4, our key principle when considering price structures and levels is cost-reflectivity.

For Sydney Water and Hunter Water, stormwater prices vary according to the area of a property. For residential customers, those living in apartments pay a lower stormwater price than those in houses. Non-residential customers pay based on their property area category, ranging from small (less than 1,000m^2) to very large (greater than 45,000m^2).

We consider that some form of charging that relates to property area is the most cost-reflective approach for stormwater services. Generally, the size (and capacity) of stormwater infrastructure, and therefore capital costs, is driven by the amount of run-off to be drained during major storms, rather than day-to-day rainfall. A property's area is a

reasonable and readily available indicator of its contribution to stormwater costs, that is, customers with larger property areas are likely to impose higher costs on the Council's stormwater network than customers with smaller areas.

During our 2013 price review, we proposed introducing area-based stormwater prices. However, we did not implement this at that time as the former Gosford Council argued that it did not have data in an appropriate format to calculate area-based prices. The former Wyong Council requested that area-based stormwater prices not be implemented until the Central Coast Water Corporation was formed.[63]

Our preliminary view is that area-based stormwater prices would be appropriate, as this form of charging would make the Council's stormwater prices more cost-reflective. We will also consider stakeholder views and customer bill impacts, including whether there is a need to transition to area-based prices to manage the impact on customers. In Chapter 4, we also sought views about whether prices should be aligned between the Gosford and Wyong areas.

IPART seeks comments on the following

18 Should the Council's stormwater prices be based on the area of a customer's property? Why or why not?

IPART seeks comment on the Council's pricing submission (due in September 2018)

7 Are the Council's proposed stormwater drainage prices reasonable?

6.1.2 Should there be a stormwater price for customers that have a low impact on stormwater drainage costs?

While we consider area to be the best available proxy for allocating stormwater costs, some properties may not have heavy run-off during major storms. For example, properties that have installed significant retention infrastructure[64] may capture a large proportion of rainfall during heavy storms. Doing so means these properties have a lower impact on peak stormwater flows, and make a smaller contribution to the costs of managing the stormwater system.

To reflect this, for Sydney Water and Hunter Water, we provided for 'low impact' stormwater prices.[65] For non-residential customers, the low impact price equals that for houses. For residential customers, the low impact price is set to the standard stormwater price for apartments (that is, the multi-premises price).[66]

63 Gosford City Council submission to IPART 2013 Issues Paper, September 2012, p 59; and Wyong Shire Council submission to IPART 2013 Issues Paper, September 2012, p 47.

64 Infrastructure that stores and re-uses stormwater (eg, in toilets and washing machines), so that it does not leave a property during major storm events.

65 We introduced a low impact customer category for non-residential customers as part of our 2012 and 2013 Determinations for Sydney Water and Hunter Water, respectively. We also introduced a low impact customer category for residential customers in our 2016 Determinations.

66 IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016, pp 183-184; IPART, *Hunter Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016, pp 126-127.

In allowing for a low impact discount, it would be important that the Council did not experience unduly burdensome administration costs, and that customers were able to access the low impact price. Sydney Water has included a straightforward explanation and process on its website. The Council could adopt a similar process.

Our preliminary view is that customers should have the opportunity to receive a low impact price where they have reduced the cost of removing stormwater from their property.

IPART seeks comments on the following

19 Should there be a low impact customer category for stormwater drainage prices? If so:

- Should a low impact customer price be available to both residential and non-residential customers?
- What should the low impact price be compared to other stormwater prices?

6.2 Trade waste, miscellaneous and ancillary prices

We set maximum prices for any trade waste, miscellaneous and ancillary services that are government monopoly services. Where the Council supplies a service that customers can also purchase from a private service provider, we would not set a maximum price.

We aim to set these prices to reflect the efficient cost of providing each service. We also subtract the forecast revenue from trade waste, miscellaneous and ancillary services from the notional revenue requirement (discussed in Chapter 3), to ensure that prices for water, sewerage and stormwater drainage services only recover the costs of providing those services.

In our 2013 price review, we flagged a more detailed review of trade waste, miscellaneous and ancillary prices as part of the next determination. As such, we intend to engage expert consultants to review whether the costs underlying each of the Council's proposed prices are appropriate.

6.2.1 Trade waste prices

Trade waste is wastewater from commercial and industrial customers that has concentrations of pollutants that exceed a domestic equivalent.[67] Trade waste customers pay for trade waste based on the mass of pollutants discharged to the sewer that are above domestic equivalents. They also pay application and agreement fees. Trade waste costs can have several components, including transportation costs, treatment plant operating and capital costs, administration costs and licensing fees.

Box 6.1 outlines our trade waste pricing principles.

67 A 'domestic equivalent' is a concentration or level that is the same as would be found in household wastewater for example, from a washbasin, shower, bath or toilet. Trade waste also excludes stormwater and unpolluted water.

Box 6.1 Our trade waste pricing principles

Applying appropriate pricing principles to trade waste requires that:

- Standards for acceptance should be based on the capacity of current systems to transport, treat and dispose of the waste, having regard to the health and safety of wastewater workers.
- Trade waste prices should cover the efficient costs to the water supplier of handling the waste, including an allocation for corporate overheads.
- Prices should vary to reflect differences in the cost of treating waste to the required standards at particular locations.
- Water suppliers should set prices and standards in a manner that is transparent and accurate. The method of measurement should be reliable and the basis for setting prices should reflect costs incurred, as far as possible.

Where environmental reasons are made for variations from the above pricing principles then sufficient evidence needs to be available to justify these variations. The basis for calculating greater-than-cost prices where environmental justifications exist should also be justified.

Over the 2013 determination period, some trade waste prices were aligned between the Gosford and Wyong areas.[68] The Council has indicated its intention to align trade waste prices as part of this price review.[69] In principle, we would support this approach if it reflects trade waste costs across the Council's area of operations and is consistent with the principles in Box 6.1. We will consider whether any price changes should be phased in to minimise potential impacts on customers.

IPART seeks comment on the Council's pricing submission (due in September 2018)

8 Are the Council's proposed trade waste prices reasonable?

6.2.2 Miscellaneous and ancillary prices

We set miscellaneous and ancillary prices for a range of services that the Council provides, including special meter readings, statements of available pressure and flow, and applications for water service connections. Miscellaneous prices are one-off prices levied on a small number of customers. They form a very small proportion of the Council's total revenue. However, they can be significant for the customers paying them. Our miscellaneous prices methodology requires that the prices recover the full costs of providing the services, including:

- direct labour (hourly), including on-costs
- corporate overheads, and
- materials.

Given the Council merger, we anticipate that miscellaneous prices will be aligned between the Gosford and Wyong areas. We will consider whether price changes need to be phased in to minimise the impact on customers. If the Council proposes setting different prices for the

68 IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, Final Report, May 2013, p 10.

69 Central Coast Council, Liquid Trade Waste, https://www.wyong.nsw.gov.au/for-business/liquid-trade-waste [accessed 4 May 2018]

Gosford and Wyong areas for any miscellaneous services, we expect it to provide clear reasons for doing so. Given the Council merger, we expect at the very least that corporate overheads would be consistent across the two areas, but there may be reasons why other costs vary.

IPART seeks comment on the Council's pricing submission (due in September 2018)

9 Are the Council's proposed miscellaneous and ancillary prices reasonable?

6.3 Recycled water prices

The Council currently supplies more than 500 ML of recycled water annually for direct sale, via recycled water schemes at Bateau Bay, Gwandalan, Kincumber, Toukley and Woy Woy. The recycled water is supplied to customers who connect to recycled water schemes at their own discretion, entering into a private agreement with the Council.

We have not previously set prices for any of the Council's recycled water schemes. In our *Pricing arrangements for recycled water and sewer mining* (2006 Guidelines), we decided that we would not regulate prices for voluntary recycled water schemes because 'users have alternative options to recycled water'.[70] However, we have reconsidered this position as recycled water services are government monopoly services.

This means that under our legislative framework, we are required to determine maximum prices for all the Council's recycled water services. However, under the IPART Act, we have discretion as to the timing of our determinations, subject to limits. As a result, we can defer our determination for the Council's recycled water prices if we have a reasonable basis for doing so.[71]

We intend to conduct a full review of our approach to regulating recycled water prices of water utilities concurrent to this review. Our review of pricing arrangements for recycled water services will cover all metropolitan water utilities we regulate, including the Council. It is the most appropriate forum to reconsider our approach to recycled water pricing and will ensure we address any stakeholder concerns.

Therefore, our preliminary position is not to set maximum recycled water prices for the Council as part of this price review. Rather, we would seek to apply the outcomes of our 2018-19 review of our approach to regulating recycled water prices at the next review of the Council's prices. However, we will consider stakeholders' views before deciding whether to set recycled water prices in this review.

IPART seeks comments on the following

20 Should we set maximum prices for the Council's recycled water services now, as part of this review? If so, why?

70 IPART, *Pricing arrangements for recycled water and sewer mining – Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council – Final Report*, September 2006, p 63.

71 In addition, s 13(6) of the IPART Act enables us to limit our determination of the price for a government monopoly service to a part or category of that service.

6.4 Prices for services to WICA licensees

Two WICA licensees currently purchase (or plan to purchase) water services from the Council:

- Catherine Hill Bay Water Utility Pty Ltd (CHBWU), and
- Narara Ecovillage Co-operative Ltd (NEV).

Both these schemes include recycled water plants and supply (or plan to supply) recycled water, drinking water and sewerage services to their end-use customers.

We understand that NEV plans to receive a temporary water service from the Council while it constructs a permanent potable (drinking) water system.[72]

CHBWU receives a water service from the Council, and supplies a water service to its end-use customers, which are in Hunter Water's area of operations (rather than the Council's). CHBWU's operator, Solo Water, has asked IPART to determine the price that the Council charges for this water service.[73]

In June 2017, we completed a review of prices for water and sewerage services supplied by Sydney Water and Hunter Water to WICA licensees.[74] This was our first review of the prices for these services, as competition in the NSW water market is relatively recent.

We decided that **retail-minus prices** were appropriate for on-selling. That is, where a WICA licensee (as a wholesale customer) purchases a water and sewerage service from Sydney Water or Hunter Water (the wholesale service providers) to on-sell to a market where the wholesale service provider itself (Sydney Water or Hunter Water) is constrained by regulated retail prices. We defined 'on-selling water and sewerage services' as services sold by Sydney Water (or Hunter Water) to a wholesale customer that are then on-sold by the wholesale customer within Sydney Water's (or Hunter Water's) area of operations. We note that CHBWU supplies end-use customers that are not located in the Council's area of operations.

Retail-minus prices ensure that the wholesale service provider and wholesale customer are competing on the basis of their respective costs of supplying the contestable services[75], rather than on the basis of any regulatory pricing restrictions placed on the wholesale service provider.

Sydney Water and Hunter Water also supply other services to WICA licensees that do not involve on-selling.[76] We decided that **non-residential retail prices** are appropriate for the supply of water and sewerage services that are not on-sold.

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72 IPART, Assessment of Narara Ecovillage Co-operative Ltd's network operator's licence application, Report to the Minister for Energy and Utilities, April 2017, p 1.

73 Email to IPART, Brad Irwin, Solo Water, 5 June 2018.

74 IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017.

75 The contestable service is the service the wholesale customer provides to retail customers 'upstream' or 'downstream' of the wholesale services it purchases from the wholesale service provider. That is, the service(s) between the wholesale connection point and the end-use (retail) customers. They often include local reticulation and retail services.

76 Such as supplying drinking water to top up a recycled water plant and disposal of waste from a recycled water plant, where the WICA licensee does not on-sell this drinking water and only supplies a recycled water service to its end-use customers.

We also allowed for prices to WICA licensees to reflect the additional costs (positive facilitation costs) or cost savings (negative facilitation costs) that Sydney Water or Hunter Water may realise as a result of the activities of the WICA licensee. For example, a cost saving (negative facilitation cost) to Sydney Water may arise if a WICA licensee produces recycled water that allows Sydney Water to defer its next scheduled water supply or sewage treatment augmentation. An identified cost saving (negative facilitation cost) would result in a lower price to the WICA licensee, all else being equal.

We also established a three-part regulatory framework:

- We determined maximum system-wide prices for **on-selling** water and sewerage services for new wholesale arrangements where there is no recycled water plant.[77] We restricted the determination in this way because:
  - we did not seek to replace any agreed prices, and
  - we concluded that we could not set average system-wide prices for schemes that include a recycled water plant to a reasonable degree of accuracy (as net facilitation costs are likely to be scheme-specific).
- We allowed for scheme-specific price reviews and determinations on request from any wholesale customer or wholesale service provider (Sydney Water or Hunter Water).
- We made provision for wholesale customers and wholesale service providers to enter unregulated pricing agreements.

To set prices for the water services the Council supplies to WICA licensees, we would first need to determine the appropriate pricing approach. One factor we would consider is whether the WICA licensee is competing with the Council to supply water and sewerage services to end-users. We would aim to set prices that allow new entry to the market for end-use water and sewerage services where this is efficient over time, to promote competition that benefits consumers.

IPART seeks comments on the following

21 Should we set maximum prices for the services the Council supplies to WICA licensees now, as part of this review? If so, why should we set these prices? And, what is the appropriate price (or prices)?

6.5 Bulk water transfer price between the Council and Hunter Water

The Council has a water trading arrangement (developed in 2006) with Hunter Water, under which either party can supply potable water to the other under a water supply contract. The water supply systems are connected by a pipeline linking reservoirs at Morisset and Kanwal.[78] The agreement was prompted when the Central Coast experienced a severe drought while the lower Hunter region had relatively full water storages due to significant rain.[79] Under the agreement, the daily transfer rates depend on the storage levels in each region.

77 These will apply from 1 January 2018 to 30 June 2021, with 'new schemes' defined as those with no connection or agreement in place for the wholesale service before 1 January 2018.

78 The transfers do not move between dams, as it is more efficient to simply transfer water between the two drinking water supply systems. Source: NSW Metropolitan Water Directorate, *Lower Hunter Water Plan*, January 2014, p 20.

79 NSW Metropolitan Water Directorate, *Lower Hunter Water Plan*, January 2014, pp 17-19.

In our 2016 review of Hunter Water's prices, we maintained the price pending this review of the Council's prices.[80] As such, in this review we will set the maximum bulk water prices for transfer both ways between the Council and Hunter Water. This will facilitate a consistent pricing approach between the two regions.

For the 2013 Determinations for Hunter Water and the former Councils, we decided that the bulk water transfer price should recover only the marginal costs of water supply for each utility. For simplicity, we based the price on the higher of Hunter Water's or the former Councils' short-run marginal cost (SRMC) of supplying water, to ensure it covered marginal costs for both parties to the agreement.[81] The fixed costs (return on, and of, capital invested in the pipeline) were to be recovered through general prices. We set the price in line with the former Councils' estimated SRMC of $0.60/kL ($2012-13), maintained in real terms over the 2013 determination period.[82]

We adopted this marginal cost pricing approach because the former Councils and Hunter Water each contributed to the capital costs of the pipeline. Additionally, there was significant uncertainty about the volumes to be transferred over the determination period, as the pipeline acted as an insurance policy. As such, we concluded that Hunter Water's customers should pay for Hunter Water's investment and the Council's customers should pay for the Council's investment.

6.5.1 What is the appropriate basis for the bulk water transfer price?

Bulk water transfers should be priced in a way that suitably reflects the cost of these transfers:

- to ensure the optimal distribution of water between the Council and Hunter Water, and
- to promote the efficient use of such transfers relative to alternative water supply and demand management options.

Options for pricing bulk water transfers include:

1. The current approach – ie, the higher of the Council's and Hunter Water's short run marginal cost (SRMC) of water supply.
2. Each utility's respective SRMC of water supply (ie, a different price in each direction).
3. Option 2 above, plus a fixed charge to reflect each utility's fixed costs of the pipeline.
4. Each utility's retail water price, less an estimate of avoided retail costs, plus any additional transfer costs.
5. Each utility's LRMC of water supply.

80 *Hunter Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016*, Final Report, June 2016, p 139.

81 The former Councils operated a joint water supply.

82 IPART, *Hunter Water Corporation's water, sewerage, stormwater drainage and other services – Review of prices from 1 July 2013 to 30 June 2017 – Final Report*, June 2013, pp 123-125; IPART, *Gosford City Council and Wyong Shire Council Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017 – Final Report*, May 2013, p 47.

Setting the price at each utility's respective SRMC of supply would encourage a regional approach to water resource management and encourage the use of existing infrastructure. It can also avoid any under or over recovery associated with forecasting errors.

On the other hand, there may be an argument for the Council to treat Hunter Water like any other customer (and vice-versa) and charge at its retail price or LRMC of supply (potentially subject to some adjustments).

In determining an appropriate basis for this price, we will consider a number of factors including: the nature of the service provided (including whether it is a drought response measure or regular supply source), the costs incurred, the impacts on each utility and their customers, and the potential effects of different pricing approaches on investment and consumption decisions.

In their submissions, we have asked the Council and Hunter Water to propose bulk water transfer prices and the basis for their proposed prices. We are also seeking other stakeholders' views.

IPART seeks comments on the following

22 What is the appropriate basis for setting the bulk water transfer price between Hunter Water and the Council?

- Should the price be the same in both directions?

IPART seeks comment on the Council's and Hunter Water's pricing submissions (due in September 2018)

10 Are the Council's and Hunter Water's proposed prices for bulk water transfers between the two regions reasonable?

Appendices

A Typical customer bills in the 2013 Determinations

The tables below show typical customer bills under the 2013 Determinations for Gosford and Wyong.

Table A.1 Typical annual bill for residential customers in Gosford ($nominal)

	Residential unit	Residential house
Assumptions		
Annual metered water usage (kL)	150	200
Components of bill		
Water service price	197.72	197.72
Water usage = $2.29 × kL used per year	343.50	458.00
Sewerage service price	672.42	672.42
Sewerage usage price	0.00	0.00
Stormwater drainage price	124.64	124.64
Total bill	**1,338.28**	**1,452.78**

Source: IPART analysis.

Table A.2 Typical annual bill for residential customers in Wyong ($nominal)

	Residential unit	Residential house
Assumptions		
Annual metered water usage (kL)	150	200
Components of bill ($)		
Water service price	164.63	164.63
Water usage = $2.29 × kL used per year	343.50	458.00
Sewerage service price	483.28	483.28
Sewerage usage price	0.00	0.00
Stormwater drainage price	96.24	128.32
Total bill	**1,087.65**	**1,234.23**

Source: IPART analysis.

Table A.3 Typical annual bill for non-residential customers in Gosford ($nominal)

	25mm meter	40mm meter	50mm meter
Assumptions			
Annual metered water usage (kL)	300	800	1,250
Discharge factor (%)[a]	90	90	90
Components of bill ($)			
Water service price	275.94	706.42	1,103.80
Water usage = $2.29 × kL used per year	687.00	1,832.00	2,862.50
Sewerage service price	1,387.62	3,552.32	5,550.50
Sewerage usage = $0.83 × discharge above 150 kL	99.60	473.10	809.25
Stormwater drainage price	124.64	124.64	124.64
Total bill	**2,574.80**	**6,688.48**	**10,450.69**

[a] Sewerage discharge is calculated based on metered water usage discounted by the relevant discharge factor. The discharge factor is the percentage of metered water consumption that is estimated to be discharged to the sewerage system. The Council sets discharge factors.

Source: IPART analysis.

Table A.4 Typical annual bill for non-residential customers in Wyong ($nominal)

	25mm meter	40mm meter	50mm meter
Assumptions			
Annual water usage (kL)	300	800	1,250
Discharge factor (%)[a]	90	90	90
Components of bill ($)			
Water service price	228.15	584.09	912.63
Water usage = $2.29 × kL per year	687.00	1,832.00	2,862.50
Sewerage usage = $0.83 × discharge above 150 kL	399.59	1,022.95	1,598.36
Sewerage usage (for discharge above 150 kL)	99.60	473.10	809.25
Stormwater drainage price	200.50	513.28	802.00
Total bill	**1,614.84**	**4,425.42**	**6,984.74**

[a] Sewerage discharge is calculated based on metered water usage discounted by the relevant discharge factor. The discharge factor is the percentage of metered water consumption that is estimated to be discharged to the sewerage system. The Council sets discharge factors.

Source: IPART analysis.

B Matters to be considered by IPART under section 15 of the IPART Act

In making determinations, IPART is required under section 15 of the IPART Act to have regard to the following matters (in addition to any other matters IPART considers relevant):

a) the cost of providing the services concerned,

b) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services,

c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales,

d) the effect on general price inflation over the medium term,

e) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers,

f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environment Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment,

g) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets,

h) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body,

i) the need to promote competition in the supply of the services concerned,

j) considerations of demand management (including levels of demand) and least cost planning,

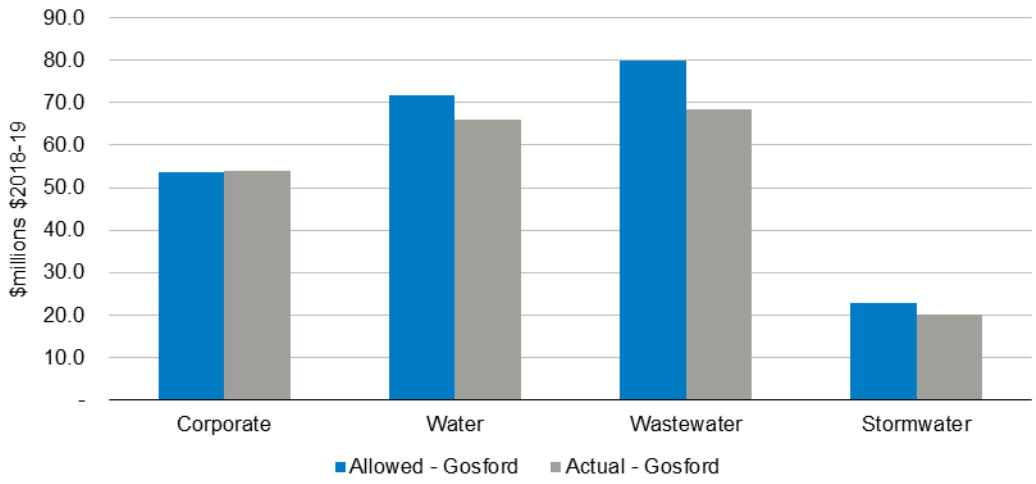
k) the social impact of the determinations and recommendations,

l) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

C Performance over the 2013 Determination

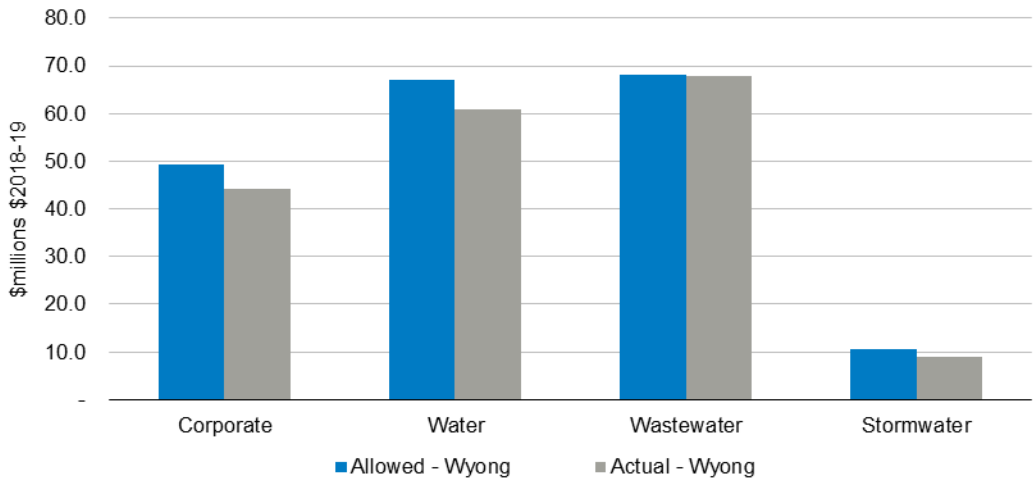
Figure C.1 to Figure C.4 show the Council's operating and capital expenditure over the 2013 determination period by area of business, compared to the expenditure levels we allowed for when setting prices.

Figure C.1 Former Gosford Council total operating expenditure by business ($millions, $2018-19)



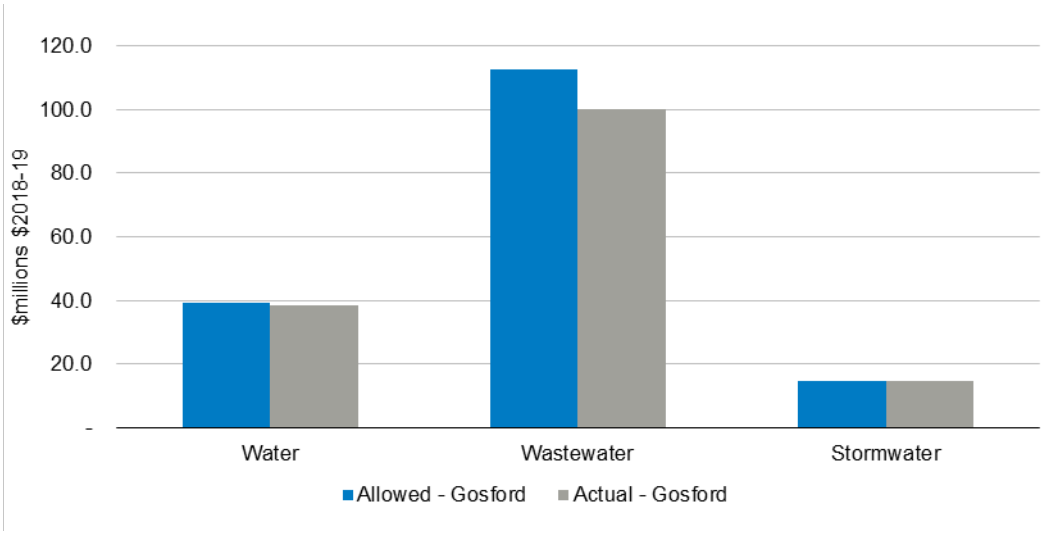
Note: Total over 2013 determination period, from 2013-14 to 2016-17.
Data source: Central Coast Council Annual Information Return 2016-17.

Figure C.2 Former Wyong Council total operating expenditure by business ($millions, $2018-19)



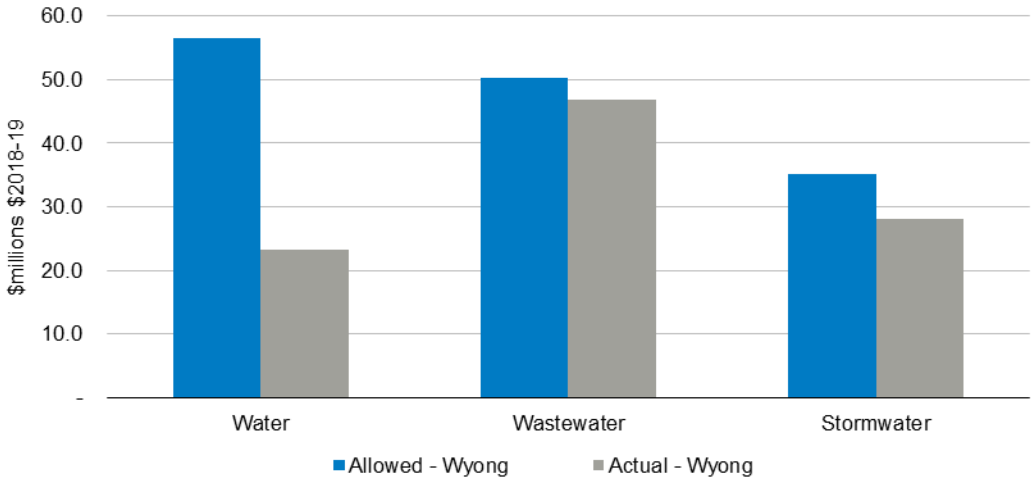
Note: Total over 2013 determination period, from 2013-14 to 2016-17.
Data source: Central Coast Council Annual Information Return 2016-17.

Figure C.3 Former Gosford Council total capital expenditure by business ($millions, $2018-19)



Note: Total over 2013 determination period, from 2013-14 to 2016-17.
Data source: Central Coast Council Annual Information Return 2016-17.

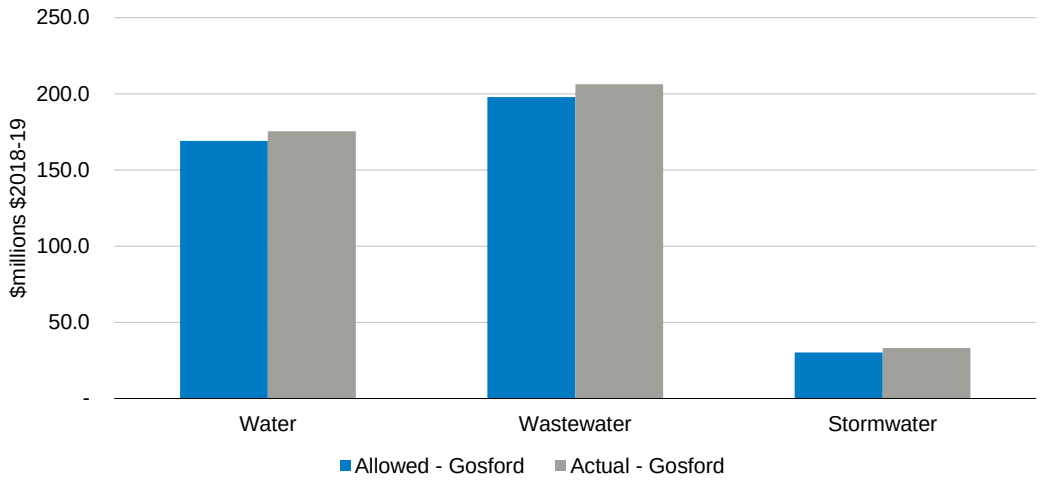
Figure C.4 Former Wyong Council total capital expenditure by business ($millions, $2018-19)



Note: Total over 2013 determination period, from 2013-14 to 2016-17.
Data source: Central Coast Council Annual Information Return 2016-17.

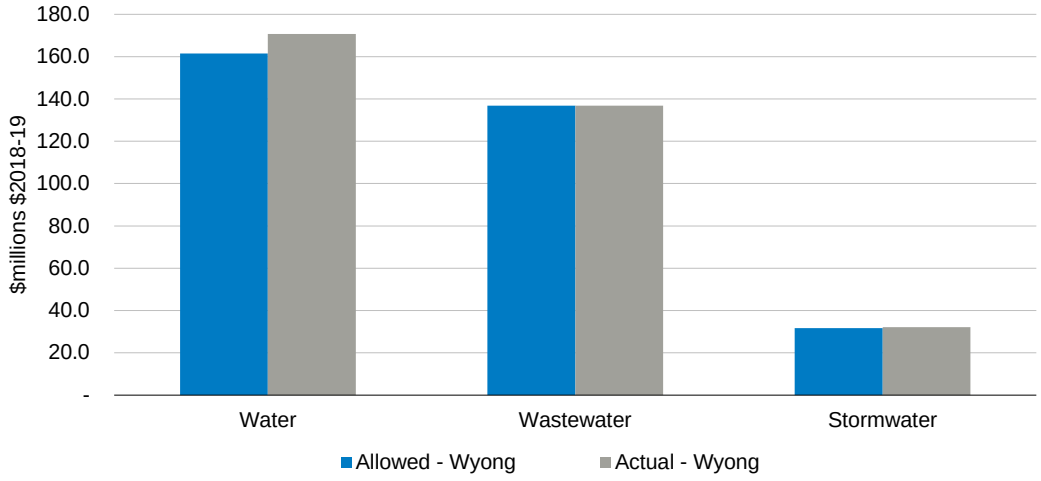
Figure C.5 and Figure C.6 show the Council's revenue over the 2013 determination period by area of business, compared to the revenue we allowed for (ie, 'target revenue') when setting prices.

Figure C.5 Former Gosford Council total revenue by business ($millions, $2018-19)



Note: Total over 2013 determination period, from 2013-14 to 2016-17.
Data source: Central Coast Council Annual Information Return 2016-17.

Figure C.6 Former Wyong Council total revenue by business ($millions, $2018-19)



Note: Total over 2013 determination period, from 2013-14 to 2016-17.
Data source: Central Coast Council Annual Information Return 2016-17.

D Components of the NRR

The notional revenue requirement (NRR) comprises:

- **Operating expenditure**.
- A **return on assets** the Council uses to provide its monopoly services, based on the prudent and efficient levels of the Council's past and forecast capital expenditure, the value of the Council's regulatory asset base (RAB)[83], and the appropriate weighted average cost of capital (WACC).
- A **return of those assets** (regulatory depreciation), based on the Council's capital infrastructure, and the asset lives and depreciation method that we decide to apply.
- An **allowance for meeting tax obligations**, and
- An **allowance for working capital**, which represents the holding cost of net current assets.

Our approach to each of the key components of the NRR is outlined below.

D.1 Operating and capital expenditure

We will analyse the prudent and efficient operating and capital costs the Council will incur providing water, sewerage and stormwater services over the determination period. A key factor in assessing the costs of providing water, sewerage and stormwater services will be the merger of the former Gosford and Wyong Councils. As the Council consolidates its operations, there will likely be implications for the way costs are categorised and forecast.

We will engage consultants to assist us in determining these efficient costs. In calculating the notional revenue requirement, we will also form a view on the efficiency gains the Council can reasonably achieve over the determination period.

The purpose of incorporating efficiency gains into the notional revenue requirement is to provide the Council with guidance on its potential to improve the efficiency of its operating and capital expenditure without reducing the quality of the services it delivers. It also has an incentive to pursue further gains because prices are set for the determination period and are not linked to costs actually incurred. If the Council can achieve better than expected cost savings during the determination period, it can expect to earn a higher return than we forecast.

In deciding on an appropriate allowance for capital expenditure and applying the 'building block' approach, we will incorporate all past capital expenditure that is prudent (ie, based on sound long term investment planning and asset management practices and is appropriately justified by the Council).

83 The regulatory asset base is our estimate of the economic value of a water utility's assets needed to deliver the regulated services.

We are interested in obtaining the Council's comments and explanations and the views of stakeholders about issues relating to the Council's operating and capital expenditures and expected efficiencies in service delivery.

D.2 The weighted average cost of capital (WACC)

The allowance for a return on assets included in the revenue requirement represents our assessment of the opportunity cost of the capital[84] the regulated business (or its owner) has invested to provide the regulated services, and ensures that it can continue to make efficient capital investments in the future.

To calculate this allowance, we multiply the value of the RAB[85] in each year of the determination period by an appropriate rate of return. Our standard practice is to determine the rate of return using a WACC.[86] As for our 2013 Determination, we will use a real post-tax WACC to calculate the allowance for a return on assets, and provide for an explicit tax allowance as a separate cost building block. We will also use our current methodology and process for calculating the WACC, which we reviewed in 2017-18.[87]

D.3 Regulatory depreciation

The allowance for regulatory depreciation included in the NRR reflects that a utility's capital infrastructure will wear out over time, and therefore revenue must recover the cost of maintaining the RAB. Water utilities typically have assets which are long-lived. An allowance for regulatory depreciation ensures that the capital a utility invests in its regulated assets is returned over the useful life of each asset. To calculate this allowance, we need to determine the appropriate depreciation method to use, and the appropriate useful lives for the assets in the Council's RAB.

Our preliminary view is to use the straight-line depreciation method, which we used in the 2013 Determination (and have used in most of our price determinations to date). Under this method, the assets in the RAB are depreciated (ie, their value is reduced) by an equal value in each year of their economic life, from the initial value of the asset to zero at the end of the asset's life. We consider that this method is superior to alternatives in terms of simplicity, consistency and transparency.

Table D.1 shows our decision on asset lives in the 2013 Determination.

84 The 'opportunity cost' of using capital for one purpose is the expected revenue forgone from investing that capital in its best alternative use.

85 The regulatory asset base is our estimate of the economic value of a water utility's assets needed to deliver the regulated services. We initially valued each of the former Councils' RABs in 1999-2000 based on a discounted future revenue stream (minus cash operating costs) that the Council's assets would generate. At each price review we adjust the RAB to reflect regulatory depreciation, prudent and efficient expenditure, asset disposals and cash capital contributions.

86 The WACC for a business is the expected cost of its debt and equity, weighted to take account of the relative share of debt and equity in its capital structure.

87 IPART, *Review of our WACC method, Final Report – Research*, February 2018.

Table D.1 2013 Determination decision on asset lives

	New assets	Existing assets[a]	
	Gosford Council and Wyong Council	Gosford Council	Wyong Council
Water	100	81.06	82.44
Wastewater	100	76.99	72.44
Stormwater	100	98.89	69.76
Total	100	79.29	77.21

a Calculated as a weighted average of new and existing assets.

Source: IPART, *Gosford City Council and Wyong Shire Council, Prices for water, sewerage and stormwater drainage services from 1 July 2013 to 30 June 2017*, Final Repot, May 2013, p 103.

In our submission guidelines, we have asked the Council to outline its proposed depreciation method, including justification for any change it proposes. We have also asked the Council to outline its proposed asset classes, asset lives (for each asset class), explain and justify its approach and analyse the impact of any changes it proposes.[88]

We will ask our expenditure consultants to review the Council's proposed asset lives.

D.4 Allowance for tax obligations

We include an explicit allowance for tax in the NRR, which reflects the forecast tax liabilities for a comparable business operating in a competitive market. This is because we use a post-tax WACC to estimate the allowance for a return on assets in the NRR. We consider that applying a post-tax WACC and separately calculating tax liability more closely estimates tax than applying a pre-tax WACC.

We calculate the tax allowance as a separate building block.[89] The tax allowance is one of the last building block items we calculate, due to its dependence on the other building block items. To calculate tax liability, taxable income is the NRR (excluding tax allowance) less operating cost allowances, tax depreciation, and interest expenses. We ask the Council to provide forecast tax depreciation for the determination period.[90] Other items such as interest expenses are based on the parameters used for the WACC, and the value of the RAB.

The regulatory tax allowance is not intended to match a utility's actual tax liability. It is derived using our assessment of efficient expenditure, the regulatory gearing ratio[91] (60:40 debt:equity) and the WACC. The actual tax liabilities a utility will incur in a given year will vary from our regulatory tax allowance due to differences such as:

- interest expenses, arising from a different gearing ratio from our regulatory ratio and a different cost of debt
- operating expenditure, and
- sales volumes and customer numbers.

88 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 13.
89 IPART, *The incorporation of company tax in pricing determinations – Final Decision*, December 2011.
90 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018, p 14.
91 A business' debt to equity ratio.

E Calculating water and sewerage service prices

Under the 2013 Determinations, water and sewerage service prices vary between different types of customers. Broadly, all residential and small business customers pay the same service price. This includes apartments, units and any building or part of a building available for occupation as a separate place of business or domicile (eg, dual occupancies). The service price for other non-residential customers depends on their meter size. Below, we describe the approach used for calculating service prices in the 2013 Determinations. We also outline two possible options for calculating water and sewerage prices going forward.

E.1 Approach to calculating water and sewerage service prices in the 2013 Determinations

Figure E.1 shows how water service prices were calculated in the 2013 Determinations.

To calculate water service prices, we:

1. Calculated the total revenue required to deliver the service based on our assessment of the efficient costs associated with delivering the water service.
2. Calculated the forecast usage revenue (forecast consumption volumes multiplied by the usage price) and removed it from the total revenue required to deliver the service. This gives the remaining costs that need to be recovered through service prices.
3. Divided the remaining revenue into the shares to be recovered from residential and non-residential customers, based on historical shares of revenue recovered from these customer groups.
4. Calculated residential service prices, based on the total residential revenue required divided by the total number of residential customers.
5. Applied the service price calculated in step 4 to small business customers (customers with a standalone 20mm meter) and removed the revenue to be recovered from small business customers (service price multiplied by number of small business customers) from the costs to be recovered from other non-residential customers. This gives the remaining costs that need to be recovered from other non-residential customers.
6. Calculated all other non-residential prices by dividing the remaining revenue required by the number of 25mm meter equivalents.[92]
7. The non-residential service prices were then apportioned to non-residential customers according to their actual meter size, with higher service prices for larger meters (ie, the 25mm meter charge scaled-up to reflect actual meter size).

92 To calculate the number of 25mm equivalents we summed all non-residential meters, weighted by the relative area of the meter compared to a 25mm meter. For example, a 100mm meter is equivalent to sixteen 25 mm meters in area terms.

Figure E.1 How water service prices were set in the 2013 Determinations

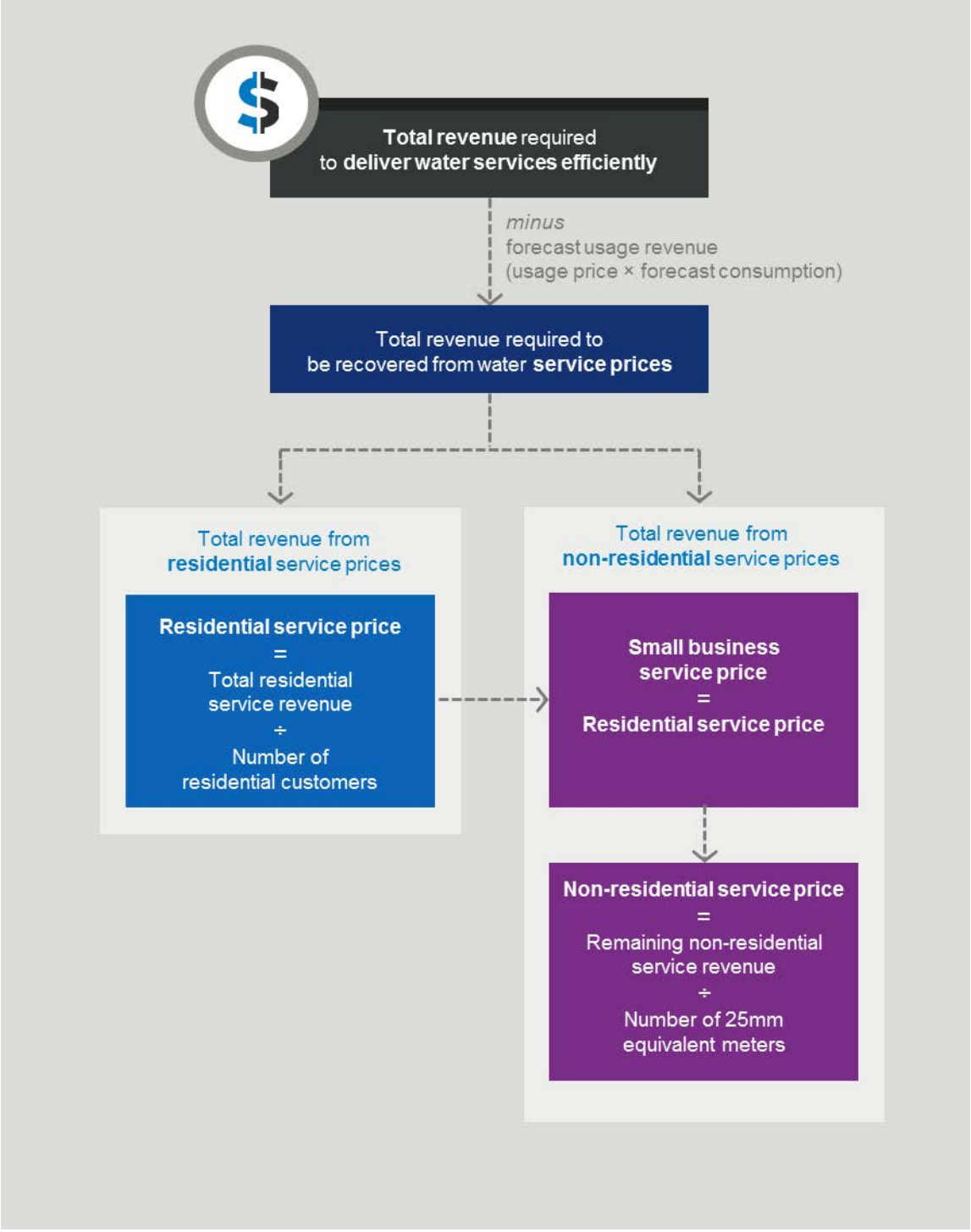
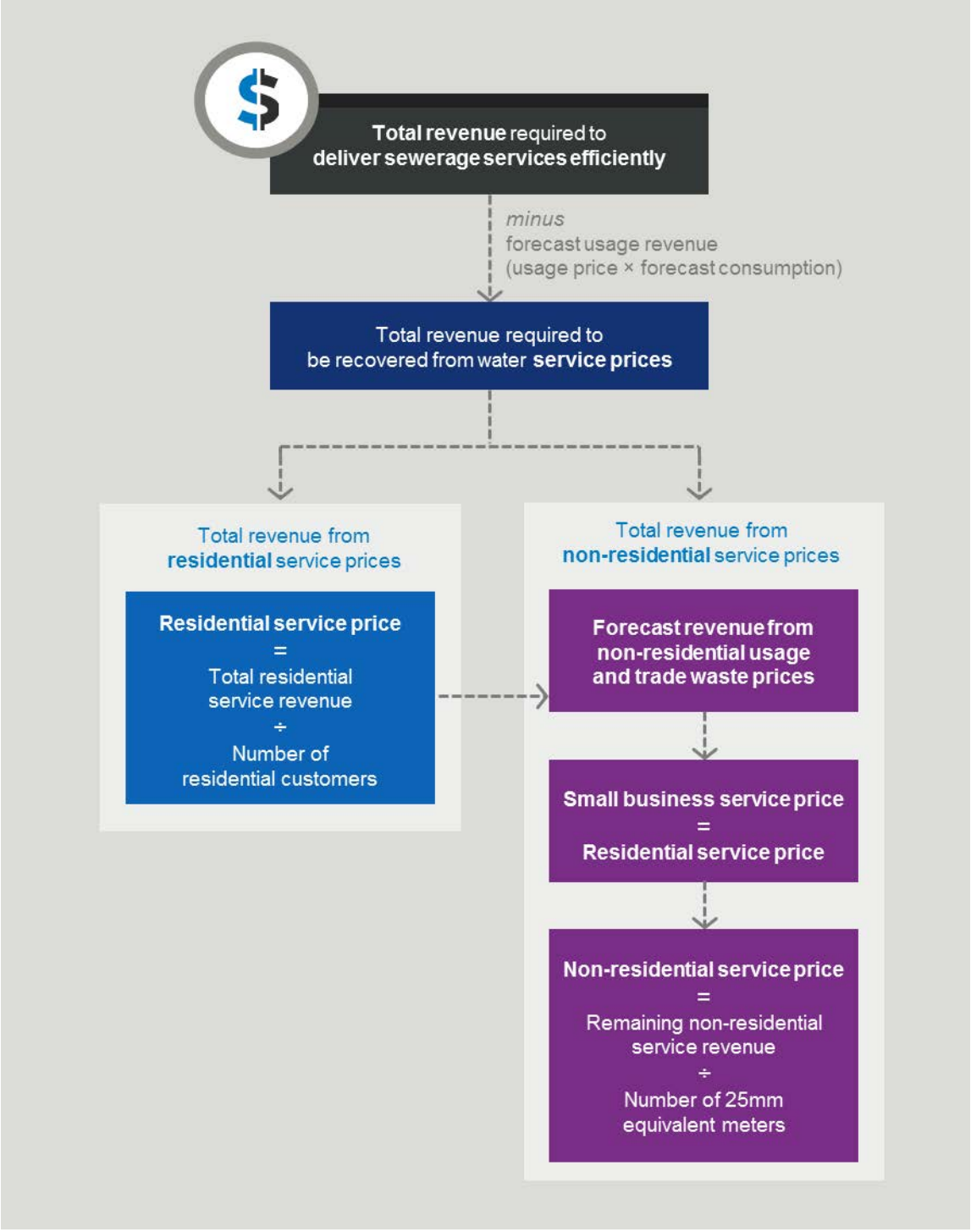


Figure E.2 shows how sewerage service prices were calculated in the 2013 Determinations.

The approach to calculating sewerage service prices is largely similar to the approach for water prices outlined above. However, the sewerage revenue is first split into shares to be recovered from residential and non-residential customers, based on historical shares of revenue recovered from these customer groups. Forecast revenue from non-residential sewerage usage and trade waste prices is then subtracted from the costs to be recovered from non-residential customers prior to calculating their service charges.

Figure E.2 How sewerage service prices were set in the 2013 Determinations



E.2 Options for calculating water and sewerage service prices going forward

In Chapter 5, we identified two potential options for setting service prices with reference to meter size:

1. Rebasing all service prices to a 20mm meter scale (rather than the current 25mm meter scale) and deeming all residential customers to have a 20mm meter so that all residential customers pay the same 20mm meter fixed service price.
2. Adopting pure meter-based prices such that both residential and non-residential customers pay service prices based on the size of their meter (or their share of a common meter for multi-premises).

Each of these is shown in detail below. In addition to these options, we would also look at separating out the base connection component of the sewerage service price from the deemed usage component of this charge (as discussed in Section 5.3.1).

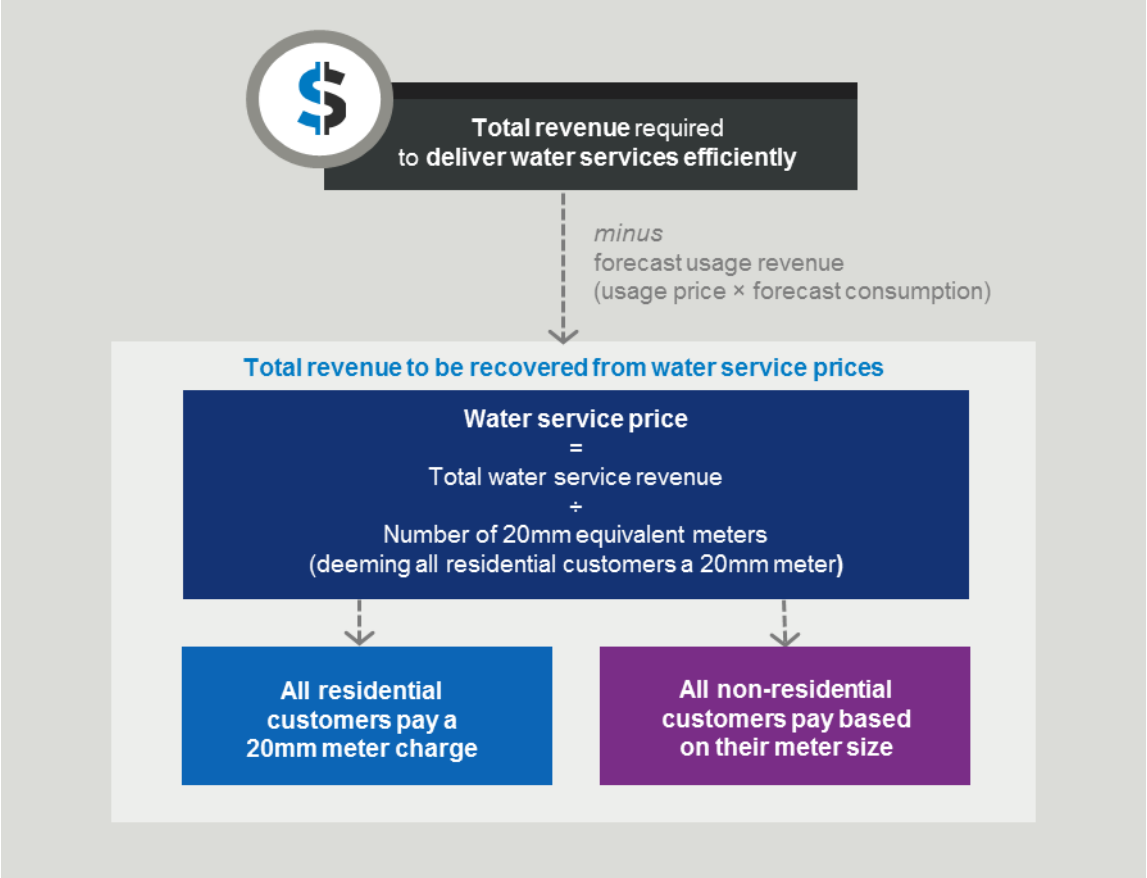
E.2.1 Rebasing service prices to a 20mm meter scale

Figure E.3 shows the method for calculating service prices if we were to rebase all services prices to a 20mm meter scale, and deem all residential customers a 20mm meter. The approach is shown for water services (the approach would be similar for sewerage services). This would involve:

- changing the current base on which non-residential meter-based charges are set from a 25mm meter to a 20mm meter equivalence, and
- deeming all residential dwellings (regardless of type) to have a 20mm meter to ensure that apartments and houses are still charged at the same rate.

Under this approach, there would be no need to use historical cost shares to set service prices for residential and non-residential customers, as all customers would pay service prices based on meter size.

Figure E.3 Setting water service prices on a 20mm meter scale



E.2.2 Adopting pure meter-based service prices for all customers

Figure E.4 shows the method for calculating service prices if we were to adopt pure meter based service charges. This approach is similar to rebasing except that residential customers would pay according to their actual meter size (or their share of a common meter for multi-premises), rather than a deemed 20mm meter.

Figure E.4 Setting pure meter-based service prices

F Long run marginal cost of water supply

The long-run marginal cost (LRMC) of supply is the additional cost to the Council of permanently increasing the supply of water by one unit. The LRMC is important because it signals the costs of water consumption. Therefore, if the water usage price is set with reference to LRMC, it is the efficient water usage price. Setting the usage price below the LRMC would encourage over-consumption, while setting it above the LRMC would discourage consumption at a level that would otherwise improve welfare.

Our preliminary view is that we would estimate the Council's LRMC for potable water using a method similar to the one we used for Sydney Water Corporation's 2016 price determination.[93] In broad terms, this method involves the examination of a range of forecast scenarios. Each scenario represents a forecast of the demand for water and a forecast of rainfall in the Central Coast Council area. For each scenario, it is possible to specify a pattern of investments in supply capacity (eg, dams, the mains network, transfer pipelines, desalination plants, etc) over a period of several decades that the Council would need to make in order to meet demand given the available rainfall. The present value of the cost of these investments would form a key input to the LRMC calculation. The timing of the investments will also influence the LRMC.

Ideally, we would like to receive information from the Council on each specific viable future supply option, including expected storage capacity and yield, capital costs and operating costs. For supply options like transfer pipelines or desalination plants that have distinct 'on' and 'off' modes, we would also need information about operating rules (when to switch them on or off) and how the ongoing costs differ when the facility is on or off.

We recognise that this method of estimating the LRMC is information intensive. We intend to work with the Council to develop a reliable set of input data on the forecasts, as well as the likely costs and capacity of the investment options. If it does not prove feasible to obtain the necessary data, then we would consider alternative estimation methods.

Under our method we would estimate two types of LRMC for each scenario. The first estimate employs the Average Incremental Cost (AIC) approach. The second employs the Perturbation approach. The eventual value of the LRMC that we adopt represents a central point (such as a median or mean) of a distribution of LRMC values derived from considering a range of different scenarios. In practice, the distribution of LRMC values tends to have fairly high variance because of uncertainty over the pattern of rainfall. Climate variability plays a role in this uncertainty, but normal weather variations can also cause dispersion in LRMC values.

Under the AIC approach, we would examine the increase in the required supply capacity and the increase in cost to obtain that capacity between now and a future point in time (potentially several decades from now). The present value of these incremental costs

93 IPART, *Sydney Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016 – Determination*, June 2016, Appendix I, pp 288-298.

divided by the present value of the increment in supply represents one estimate of the LRMC.

Under the Perturbation approach, we compare each forecast scenario with a 'perturbed' version of the same scenario. Here, the perturbation consists of bringing the demand growth forward by a set period of time, such as one year. In this method, the LRMC estimate is the ratio of two differences. The numerator is the difference between the present value of perturbed costs and the present value of unperturbed costs. These costs would include the capital costs of any augmentation that may be required as well as the additional operating costs of augmented supply. The denominator is the difference between the present value of perturbed supply and the present value of unperturbed supply that is necessary to meet demand.

In order to decide which rainfall scenarios to simulate, and what weight to give to each simulation, it is necessary to develop a statistical understanding of possible rainfall patterns over time. We can do this based on historical rainfall records if they cover a sufficiently long (and recent) period of time.

Each simulation would track system yield and dam storage levels over a period of several decades, and identify required investment to ensure yield matches demand. It is possible to make these simulations quite sophisticated, if the data permits, so that they could capture drought response measures and water restrictions, as well as operating rules for the bulk water transfer link with Hunter Water, capacity enhancements to existing dams, any new pipelines or dams, and any future desalination plants, if appropriate. We would ideally like to receive information on future supply options for the Council that includes updates since the 2007 publication of Waterplan 2050.[94]

We would combine the scenarios using a Monte Carlo simulation. The results would include a median or mean and the standard deviation of the distribution. They would also provide information about the sensitivity of LRMC values to the choice between AIC or Perturbation approaches, and the choice of simulation time span (eg, 20, 30 or more years).

94 WaterPlan 2050, A long term water supply strategy for the Central Coast, August 2007, https://www.wyong.nsw.gov.au/getmedia/55b57940-92bc-4f78-ad20-340f0c3e120a/WaterPlan_2050_adopted.aspx [accessed: 8 May 2018]

G Output measures and capital projects

As discussed in Chapter 3, we set output measures for the water agencies we regulate to inform us and stakeholders on whether they are delivering on their planned capital expenditure. The tables below present the Council's performance against output measures, as reported in its 2016-17 Annual Information Return (AIR).[95] All Output Measures represent performance for the period 1 July 2016 – 30 June 2017. We have also included the Council's comments about its reported activity under each table.

Table G.1 Activity against output measures 2016-17 – Gosford City Council

Output or activity measure	Indicator by 2015-16	Activity 2016-17
Water		
Water quality complaints per 1000 properties	9.9	8.6
Average frequency of unplanned interruptions per 1000 properties	151.8	135.31
Water main breaks per 100km main	23.7	18.36
Compliance with Australian Drinking Water Guidelines – microbial guideline values	Yes	Yes
Compliance with Australian Drinking Water Guidelines – chemical guideline values	Yes	Yes
Sewerage		
Wastewater overflows per 100km main	32.6	33.63
Wastewater overflows reported to the environmental regulator per 100km main	1.6	2.8[a]
Wastewater odour complaints per 1000 properties	1.9	1.9
Wastewater main breaks and chokes per 100km main	35.6	37.08
Compliance with EPL 1802 concentration and load limits	Yes	Yes

Council's comments

a. Reported wastewater overflows have increased as a result of internal procedural changes with a focus on aligning reporting guidelines between the two former councils.

95 Received by IPART on 9 April 2018.

Table F.2 Activity against output measures 2016-17 – Wyong Shire Council

Output or activity measure	Indicator by 2015-16	Activity 2016-17
Water		
Water quality complaints per 1000 properties	9.9	6.64
Average frequency of unplanned interruptions per 1000 properties	151.8	85.27
Water main breaks per 100km main	23.7	13.92
Compliance with Australian Drinking Water Guidelines – microbial guideline values	Yes	Yes
Compliance with Australian Drinking Water Guidelines – chemical guideline values	Yes	Yes[a]
Sewerage		
Wastewater overflows per 100km main	32.6	35.27
Wastewater overflows reported to the environmental regulator per 100km main	1.6	4.42[b]
Wastewater odour complaints per 1000 properties	1.9	1.68
Wastewater main breaks and chokes per 100km main	35.6	31.33
Compliance with EPL 1942 & 2647 concentration and load limits	Yes	No[c]

Council's comments

a. A sample result of 0.0110mg/L was detected on 5 September 2016. The ADWG value for lead is 0.01mg/L, a resample was collected on 19 September 2016 and results were within guideline limits (0.0020mg/L). With reference to Chapter 6 (ADWG), guideline values in ADWG are generally rounded to a single significant figure, therefore result did not exceed the guidelines limit and 100% chemical compliance was achieved in 16-17.

b. Reported wastewater overflows have increased as a result of internal procedural changes with a focus on aligning reporting guidelines between the two former councils.

c. Please see below summary table of non-compliant events.

Table F.3 Summary of non-compliant events

Date	EPL	Details
22-Jan-17	1942	The monitoring frequency for BOD at Monitoring Point 3 was not maintained. The sample collected on 22-Jan-17 was not analysed for BOD due to an error made with the sample Chain of Custody form. A new template Chain of Custody forms has been issued for use to prevent a re-occurrence of the error.
22-Jan-17	2647	The monitoring frequency for BOD at Monitoring Point 6 was not maintained. The sample collected on 22-Jan-17 was not analysed for BOD due to an error made with the sample Chain of Custody form. A new template Chain of Custody forms has been issued for use to prevent a re-occurrence of the error.

Table F.4 List of Gosford Council and Wyong Council JWS Projects

Description	Allowed over determination period ($m, 2016-17)	Actual cumulative 2016-2017 ($m, 2016-17)
1. Major water pump station renewals	2.0	6.5
2. Somersby Water Treatment Plant Capital Works Plan	4.2	6.2
3. Gosford Council's share of Wyong JWS Program Budget	6.2	2.0

Note: All figures inflated by quarter-on-quarter CPI June to June.

Council's comments

1. The high voltage power supply assets at Mangrove Creek Water Pump Station and Mooney Mooney Water Pump Station were at the end of their service life. The equipment was no longer supported by suppliers and the equipment exposed Central Coast Council personnel to risk of injury during operation and maintenance of the electrical supply. It also posed a risk to the raw water supply due to power outages and/or equipment failures. The project is now complete.
2. There are several minor projects being completed at Somersby Water Treatment plant. All projects are progressing on track.
3. IPART allowed a reduced amount ($M3.9) for Gosford's share of Wyong JWS Program Budget.

Table F.5 List of Gosford Council Projects

Description	Allowed over determination period ($m, 2016-17)	Actual cumulative 2016-2017 ($m, 2016-17)
1. Water main renewal program	5.5	5.6
2. Woy Woy PRV facility upgrade	2.3	2.4
3. Water meter replacement program	1.3	0.9
4. Davistown trunk main renewal	1.1	1.1
5. Information communications technology renewal	1.9	1.9
6. Major SPS renewal program	2.3	2.8
7. Non major SPS renewal program	18.6	16.2
8. Septicity control optimisation	5.3	2.3
9. Kincumber sewage treatment plant digesters	5.1	10.7
10. Cockle Bay towns sewerage project	14.0	10.4
11. Sewer gravity mains renewal program	8.9	4.4
12. Sewer rising mains renewal program	2.3	4.5
13. North Avoca major rising main valve replacement	1.1	2.4
14. Avoca sewage pump station upgrade	1.2	5.2
15. Developer servicing works - redevelopment	1.4	1.2
16. Developer servicing works - Gosford CBD	3.0	1.6
17. High voltage switchboard renewal - KSTP C1	6.5	5.7
18. High voltage switchboard renewal - WWSTP	2.6	2.9

19. Digester cogeneration unit	2.0	0.1
20. DAF system improvement at Kincumber STP	1.3	0.5
21. Riviera catchment trunk stormwater drainage	1.1	1.0
22. Minor stormwater drainage improvements program	1.6	1.8
23. Kincumber urban flood mitigation	1.5	0.7

Note: All figures inflated by quarter-on-quarter CPI June to June.

Council's comments

1. Annual Water Main Renewal Program for the past 4 years (2013-14, 2014-15, 2015-16 and 2016-17) were developed for the IPART CAPEX budget. All identified renewals have been completed with a further package released for 2017-2018 which is currently underway. It is expected the 2017-18 package will be completed by June 30, 2017.
2. Woy Woy PRV has reached practical completion and is currently undergoing commissioning, with minor site and restoration works to be completed.
3. The water meter replacement program for the 2016-2017 financial year is complete. The project saw the replacement of 3,258 domestic water meters in the Gosford LGA. The 2017-18 package has been release and it is anticipated it will conclude by 30 June 2018.
4. The trunk main construction, 100mm rider main and trunk main connections are now complete. Main is in service.
5. The Water and Sewer ICT budget will be used to replace the W&S network routers and switches that support our telemetry backbone and plant network. In addition to this it is planned to have the Satellite equipment removed at Mooney Mooney WPS by running a fibre network from the Somersby Balance Tanks down to Mooney Mooney WPS.
6. SPS WYOMJ refurbishment involved in replacement of the existing internal pipe work, fittings, installation of new pumps, installation of a flow meter pit and installation of new electrical SCA equipment. The design work for SPS WYOMJ refurbishment was completed in 2015-2016 period and tenders were called for construction work. The construction work was commenced in 2015-2016 and the construction work is complete. SPS Woy Woy Major is will be constructed in stages, with stage 1, currently in the tendering phase.
7. All the funds allocated in these program Budgets for year 2015-2016 have been spent on SPS S2 Decommissioning, Construction of a New SPS WG16 , SPS N2 Refurbishment, Construction of a new SPS G8. The SPS S2 Decommissioning work is in near completion stage now. Construction of a New SPS WG16, Refurbishment of SPS N2, Construction of a new SPS G8 AND Storage chamber all have been completed.
8. First 12 month gas and liquid monitoring is in progress due for completion June 2018. Construction of first three CDU's (C8, C19 and WG2) is complete and now on-line. The construction of next four CDUs (FB1, KA3, N23 and SD5) is nearing completion. Due to come on line by 31 January 2018. Design of next seven CDUs (GP5, G6, WWB3, WW13B, WW3A, E4 and P1) is near completion and is expected to be advertised for tender in January.
9. Due to the "unknown" condition of the plant and equipment and the inability to internally inspect components of the asset, it was decided to adopt 3 separate delivery contracts, comprised of the individual delivery packages. The original IPART estimate was based on a "single" contract delivery program. It was subsequently determined that this proposed procurement strategy was impractical and imposed a significant risk. The impacts of the above mentioned latent conditions could have potentially lead to and scope creep was to that could have significantly

increase the project budget from the initially estimated $4M to the revised “final” budget of $10M. These changes were necessary to ensure that the refurbishment works were not unduly compromised and the final works were complete and functional to provide reliable operations into the foreseeable future.

10. Construction of the Cockle Bay Towns Sewerage Project was completed in November 2016. The scheme is predominantly a pressure sewer scheme with pockets of gravity reticulation and a sewage pumping station. Over 70% of property owners elected to connect to the scheme upon availability however by June 2017, 55% of property owners had connected with further connections occurring periodically. The project aims to have a positive impact on environmental and health outcomes for the community.
11. This program comprises a wide range of planned and unplanned sewer gravity main replacements, renewals and rehabilitation projects as well as operational improvement projects such as the sewage flow gauging and hydraulic model calibration. All planned sewer gravity main renewals / rehabilitation projects will be finalised by June 2016. Planned large sewer trunk main maintenance structures and vortex reconstructions at Springfield and North Gosford are currently underway and are expected to be finalised before the end of June 2016. Additional funding was utilised for the critical failure at Killcare Carrier Common Rising Main which included a partial replacement and associated works carried out between 2014 and 2016.
12. This program comprises planned and unplanned sewer rising mains and critical valves replacements, renewals and rehabilitation. All planned sewer rising main and valve replacement projects are completed or expected to be completed by June 2017. Two major unplanned rising main failures requiring urgent repair works were identified during the current IPART period required additional funding from the “Sewer Gravity Mains Renewal Program”. These projects include the Killcare Carrier Common Rising Main partial replacement with a horizontal directional drilled section and associated OCU and extraction fan and scour valve completed in 2016”. C10 rising main section failure under Terrigal Lagoon includes the rehabilitation of the mains using HDPE slip lining techniques, this project is expected to be completed by November 2016.
13. Construction is completed.
14. Construction is completed. Major unforeseeable environmental issues were encountered along with customer property and access issues. These two factors contributed major costs to the overall expenditure of this project.
15. This program comprises various projects required to service new development.
16. The Gosford CBD DSP prepared in 2012 included a list of sewer augmentations and reinforcements to service the development planned in the Gosford CBD for the next 30 years. Some of these works have been completed and some are currently underway including the partial augmentation of the main branch main along the CBD. The proposed works necessary for the Gosford CBD DSP are currently being reviewed taking into consideration critical changes in the planning requirement around the CBD which allowed large developments to take place in the short and medium term. The concept design for the Gosford CBD sewer servicing strategy will be finalised by December 2016 and the outcomes will feed into the preparation the Gosford CBD DSP in 2017. It is expected that a large amount of sewer reinforcements and augmentations will be carried out in the short and medium term starting in 2017.
17. The high voltage program at Kincumber STP was completed in July 2016. The $380K budget overspend primarily relates to minor project scope increase due to site constraints.

    During the tender evaluation period a need for a new power supply at the lagoons was identified. This new power supply provides power for the new weigh station and the general lagoon area.

Due to its distance from existing substations, the most effective way to provide power to this area was via a high voltage cables. During the tender period prices were requested to perform this work. The price received from the contractor was viewed as competitive.

This work involved the installation of new high voltage cables from substation 1 to the lagoon area and from the lagoon area to substation 2. It also involves the installation of an 11/0.4kV transformer and circuit breaker housed in a kiosks and associated cables and protection and control equipment.

The associated works not only provided power to the lagoon area but also improved the security of power supply at the STP with the creation of a "HV ring main".

18. The Woy Woy STP HV project was completed in November 2016. Ausgrid inspections and energisation of TX2 will occur on the 25th of November. Only minor wiring and civil works relating to the car park (due to relocation of the High Voltage Kiosks) are required to finalise the contract.

19. Following an extensive feasibility review of the Kincumber STP Cogeneration project, a decision was made to defer its construction until the next IPART price determination.

    Based on the financial study, the base case scenario does not provide a clear financial argument for its construction at this stage. However, many of the proposed planned plant improvements reviewed did provide a positive NPV.

    A decision was made to monitor the evolution of these factors in the near future and temporarily postpone construction of the cogeneration plant in light of that evolution, these factors include:

    a. Extra gas is likely to be achieved as a result of the current sludge thickening project.

    b. Current spot price of Large-scale Generation Certificates (LGC) is improving.

    c. Upon completion of the High Voltage (HV) upgrade project on site, a review of possible load shifting through the intelligent use of the completed HV ring main may prove possible.

    The combination of (a) and (b) above was modelled in one scenario, this outcome will be likely achieved by late 2017. The program will be reviewed again to assess the plant's viability at that time.

20. The DAF system improvement at Kincumber Sewage Treatment Plant involves two contracts. The contract for the Design and Construction of the KSTP Thickener Replacement was awarded in February 2017. By the end of June 2017, design was complete and site work commencing. The associated KSTP Thickener Building Modifications contract is expected to be awarded in August 2017 and all works complete by December 2017.

21. Riviera Catchment completed in 2015-16.

22. Approximately 12 larger MDIP projects completed

23. Kincumber Urban FM, Stage 2 of Joalah Road complete and Stage 1 of Carlo Close.

Table F.6 List of Wyong Council Projects

Description	Allowed over determination period ($m, 2016-17)	Actual cumulative 2016-2017 ($m, 2016-17)
1. Mardi WTP Sludge Disposal System	1.1	0
2. Work from Water Quality Strategy	3.2	0.58
3. Curtain in Mardi Dam	2.2	0
4. SPS WS11 Refurbishment	1.7	3.37
5. SPS Safety Improvements	2.2	0.68
6. Wyong South STP Upgrade	13.4	15.87
7. Wyong CBD	1.5	7.51
8. Darri Road	2.7	1.41
9. Porters Creek Stormwater Harvesting Scheme	9.9	0.22

Note: All figures inflated by quarter-on-quarter CPI June to June.

Council's comments

1. Water Quality Strategy has been completed and identified a solution which is tied into a future major upgrade of Mardi WTP. This project will now be managed as part of the major upgrade with concept design completed during 2017. Construction on the sludge lagoon modifications will commence in late 2018.
2. Projects implemented in 2016-17 include the specification and design of a mixer for Tuggerah 2 Reservoir, instrumentation upgrades at Mardi Water Treatment Plant, commencement of installation of water quality monitoring stations within the network and automation of key valves for high pressure mode operation.
3. Project removed from determination when modelling results obtained during the determination review period indicated the project was not required.
4. Construction and site commissioning complete.
5. Installation of aluminium lids now complete.
6. Main site works complete and contractor has demobilised from site.
7. Wyong CBD, Darri Road and Peters Creek Stormwater Harvesting Scheme were all completed prior to 2016-17.

Abbreviations

2013 Determinations	IPART, *Gosford City Council prices - 1 July 2013 to 30 June 2017*, Determination No. 2, 2013; and, IPART, *Wyong Shire Council prices – 1 July 2013 to 30 June 2017*, Determination No. 3, 2013
BPM Framework	NSW Best-Practice Management (BPM) of Water Supply and Sewerage Guidelines
CPI	Consumer Price Index
CSO	Community Service Obligation
determination period	Price limits (maximum prices) set by IPART for a given period.
DoI Water	Department of Industry – Water
ECM	Efficiency Carryover Mechanism
EPA	Environment Protection Authority
GL	Gigalitre
Hunter Water	Hunter Water Corporation
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act	*Independent Pricing and Regulatory Tribunal Act 1992* (NSW)
IWCM	Integrated water cycle management
kL	Kilolitre
LG Act	*Local Government Act 1993* (NSW)
LRMC	Long Run Marginal Cost (of supply)
ML	Megalitre
Notional revenue requirement	Revenue requirement set by IPART that represents the efficient costs of providing the Council's monopoly services.

NRAR	Natural Resource Access Regulator
NRR	Notional revenue requirement
NPV	Net Present Value
RAB	Regulatory Asset Base
SOC	State owned corporation
SRMC	Short Run Marginal Cost (of supply)
Sydney Water	Sydney Water Corporation
Target revenue	The revenue the Council generates from maximum prices set by IPART for that year.
WACC	Weighted Average Cost of Capital
WM Act	*Water Management Act 2000* (NSW)
WICA	*Water Industry Competition Act 2006* (NSW)