IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Review of Central Coast Council's water, sewerage and stormwater prices

To apply from 1 July 2019

Draft Report
Water

April 2019

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ISBN 978-1-76049-297-7

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Invitation for submissions

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

Submissions are due by 24 April 2019.

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:

Review of Central Coast Council's water, sewerage and stormwater prices
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1 Executive summary

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is reviewing the prices the Central Coast Council (the Council) can charge for water and related services. This is our first review since the Council was formed through the merger of Gosford City Council and Wyong Shire Council.[1] We last determined prices for these councils separately in June 2013.

We will determine the maximum prices the Council can charge its residential and non-residential customers from 1 July 2019 for:

- Water, sewerage and stormwater drainage services.
- Trade waste services and a range of miscellaneous and ancillary services.

We have also reviewed prices for services to other water utilities, including the:

- Transfer of bulk water between Hunter Water and the Council (in both directions).
- Services the Council provides to two private-sector water utilities (WICA licensees[2]) – Solo Water (Catherine Hill Bay) and Narara Ecovillage.

This report sets out our draft decisions and explains their impacts for customers and the Council. It also explains how we reached these decisions and how our draft prices compare to the Council's proposed prices. We invite submissions from all interested parties, which we will consider before making our final decisions in late May 2019.

Submissions to this Draft Report are due by 24 April 2019.

1.1 Overview of draft decisions and their impacts

We have decided to set prices for three years, from 1 July 2019 to 30 June 2022 (2019 determination period). This reflects our uncertainty around the Council's costs in future years, as it is a newly merged council.

Under our draft decisions:

- Prices for water, sewerage and stormwater services would fall for most customers, and would be lower than the Council proposed.
- The structure of water, sewerage and stormwater prices would change to improve their equity and cost-reflectivity.
- Combined water, sewerage and stormwater bills would fall for most customers.
- The Council would recover **8.5%** less revenue than it proposed, over the three years.

1 The Central Coast Council was formed on 12 May 2016 when the former Gosford City Council and the former Wyong Shire Council merged. References in this report to the Gosford and Wyong areas refer to the former local government areas of the Gosford City Council and the Wyong Shire Council, respectively.

2 Water and sewerage service providers licensed under the *Water Industry Competition Act 2006* (WICA).

We have also made some draft recommendations to improve the way the Council's prices are set in the future.

Throughout this report, our draft prices are presented in $2018-19, unless stated otherwise. This means these prices, and the difference between them and current (2018-19) prices are expressed in real terms (that is, excluding the impact of inflation).

1.2 Prices for water, sewerage and stormwater services would fall for most customers

Under our draft decisions, prices for water, sewerage and stormwater services would fall for almost all customers in 2019-20, and then remain constant in real terms in 2020-21 and 2021-22. There are only two exceptions:

- The sewerage service charge for Wyong non-residential customers with larger meters (that is, 25mm and above) would increase gradually over the period. Once fully implemented, this change would mean that prices for non-residential and residential customers would be set more consistently.
- Stormwater prices for **some** non-residential customers would increase over the period.

Our draft prices for these two non-residential customer groups are lower than the Council's proposed prices. We disagree with the Council's proposal to harmonise and rebase sewerage prices without any transitional measures, because this would create excessive bill shock for some customers. Instead, we consider these prices should be transitioned over time to minimise the impact on customers. We have also limited the types of customers that would be subject to area-based stormwater charges; in particular, we would apply the standard low-impact price to farmland and other rural properties. For those customers that are subject to area-based prices, we have initiated a gradual transition to the full applicable charges.

Draft water prices

Our draft water usage and service charges are set out in Table 1.1. For all residential and non-residential customers, these prices are significantly lower than the current charges in 2019-20, and do not change in real terms in 2020-21 and 2021-22. Our draft usage charge is 14% lower than the Council proposed, and our water service charges are 4% lower.

Table 1.1 Draft water prices from 1 July 2019 ($2018-19) – without inflation

	2018-19	2019-20	2020-21	2021-22	Council proposed (all years)
Usage Charge ($/kL)					
All customers	2.29	1.90	1.90	1.90	2.20
Annual change (%)		*-17%*	*0%*	*0%*	
Residential Service Charge ($/year)					
Gosford	197.81	109.16	109.16	109.16	113.20
Annual change (%)		*-45%*	*0%*	*0%*	
Wyong	164.63	109.16	109.16	109.16	113.20
Annual change (%)		*-34%*	*0%*	*0%*	
Non-residential 20mm service charge ($/year)[a]					
Gosford	176.67	109.16	109.16	109.16	113.20
Annual change (%)		*-38%*	*0%*	*0%*	
Wyong	146.01	109.16	109.16	109.16	113.20
Annual change (%)		*-25%*	*0%*	*0%*	

a Charges for non-residential customers with larger meters are a multiple depending on the size of the water meter. Specifically, the charge is based on the difference in volume between the larger meter compared to the volume of a 20mm meter, using the formula (meter size)^2/400.

Draft sewerage prices

Our draft sewerage prices are shown in Table 1.2. We have not accepted the Council's proposal to harmonise service prices between the former Wyong and Gosford areas. Instead, we have set separate draft prices for the two areas.

Our draft prices are lower than the current prices for all residential customers in 2019-20, and do not change in real terms in 2020-21 and 2021-22. The prices for customers in apartments are slightly lower than for those in houses, to reflect lower discharges to the sewerage system by apartments, on average.

For non-residential customers, the draft usage charge is the same, in real terms, as the current charge in all years of the period. However, the difference between our draft service charge and the current charge varies across different customer groups:

- For non-residential customers in Gosford, the draft service charge would reduce
- For small business customers in Wyong (those with a standalone 20mm meter), this charge would increase in 2019-20 and remain constant in real terms in subsequent years.
- For larger non-residential customers in Wyong (eg, with a 40mm meter), the draft service charge increases in each year of the period due to our draft decision to gradually rebase this charge over four years. However, our draft price increases are significantly smaller than those proposed by the Council, and are offset by the reduction in water usage and service charges.

Table 1.2 Draft sewerage prices from 1 July 2019 ($2018-19) – without inflation

	2018-19	2019-20	2020-21	2021-22	Council proposed (all years)
Residential customers – total charge ($/year)					
Houses					
Gosford	672.66	503.02	503.02	503.02	538.70
Annual change (%)		*-25%*	*0%*	*0%*	
Wyong	483.28	465.63	465.63	465.63	538.70
Annual change (%)		*-4%*	*0%*	*0%*	
Apartments					
Gosford	672.66	465.67	465.67	465.67	538.70
Annual change (%)		*-31%*	*0%*	*0%*	
Wyong	483.28	428.28	428.28	428.28	538.70
Annual change (%)		*-11%*	*0%*	*0%*	
Non-residential customers[a]					
Usage charge ($/kL)					
All customers	0.83	0.83	0.83	0.83	0.40
Annual change (%)		*0%*	*0%*	*0%*	
Service charge – 20mm individual meter ($/year)[b]					
Gosford	548.16	532.36	532.36	532.36	538.70
Annual change (%)		*-3%*	*0%*	*0%*	
Wyong	358.78	482.50	482.50	482.50	538.70
Annual change (%)		*34%*	*0%*	*0%*	
Service charge – 40mm individual meter ($/year)					
Gosford	3,823.86	2,129.44	2,129.43	2,129.43	2,019.80
Annual change (%)		*-44%*	*0%*	*0%*	
Wyong	1012.10	1,140.00	1,346.00	1,591.00	2,019.80
Annual change (%)		*13%*	*18%*	*18%*	

a For comparison, we have excluded the 150kL annual discharge allowance from 2018-19 prices, as there would be no explicit discharge allowance from 1 July 2019.

b From 1 July 2019, the service price for 20mm individual meters will be multiplied by the customer's actual discharge factor, which is less than or equal to 100%. Thus, the prices from 2019-20 onwards are the maximum that customers would pay over the 2019 period.

Draft stormwater prices

Our draft stormwater prices are outlined in Table 1.3. These prices are not directly comparable to the current stormwater prices, as we have made some changes to the way prices for non-residential customers are structured. Broadly:

- The draft price for residential customers, farmland customers[3] and non-residential customers classified as low impact is a standard $105.11 per year, which is about $20 less than the current price for residential customers.[4]

3 Properties classified as farmland for rating purposes that are within the Council's declared drainage area.

4 Customers whose properties are not classified as low impact by default can apply to the Council to be assessed as eligible for the low impact price.

- The draft prices for other non-residential customers are based on the land area of their property, and increase over the period. For those in the Gosford area with medium to very large properties, and those in the Wyong area with small water meters and large properties, the draft prices are higher than current prices.

Our draft area-based prices are substantially lower than the Council's proposed prices. While we accept the Council's proposal that area-based prices are appropriate **for some non-residential customers**, we consider its proposed prices for these customers could result in bill shock. Therefore, we have set these prices so they increase gradually towards a more cost-reflective area-based level to manage the impact on customers.

Table 1.3 Draft stormwater prices from 1 July 2019 ($2018-19) – without inflation

	2019-20	2020-21	2021-22	Council proposed (all years)
Residential ($/year)				
Houses	105.11	105.11	105.11	110.77
Apartments	78.84	78.84	78.84	83.08
Farmland ($/year)				
All customers	105.11	105.11	105.11	N/A
Non-residential				
Low-impact	105.11	105.11	105.11	110.77
Area-based[a]				
Small (<1,000m^2)	105.11	105.11	105.11	110.77
Medium (1,001 - 10,000m^2)	131.39	157.67	183.94	276.93
Large (10,001 - 45,000m^2)	359.13	613.15	867.17	1,716.96
Very large (>45,000m^2)	946.00	1,786.90	2,627.79	5,427.81
Vacant land ($/year)				
All customers	78.84	78.84	78.84	N/A

a Area-based charges only apply to properties that are classified as mining properties for rating purposes, and non-residential properties zoned as 'commercial' 'industrial' and 'special purpose' that do not qualify for the low-impact price.

Draft prices for water services to other utilities

We have made a draft decision to maintain the current price – which is $0.69/kL – in real terms over the next three years, for bulk water transfers between Hunter Water and the Council.

For the services that the Council provides to:

- Catherine Hill Bay water utility (CHBWU), our draft decision is to accept the Council's proposal to apply standard non-residential prices, given this scheme operates outside the Council's area. We have also allowed the option for the Council to enter an unregulated pricing agreement with CHBWU, if they can identify a price, or set of prices, that is mutually beneficial.

- Narara Ecovillage (NEV), our draft decision is to defer regulating prices for services to the NEV scheme, as the supply arrangements remain uncertain. We consider that, in principle, a retail-minus pricing approach would be appropriate for services that are on-sold by NEV as it operates within the Council's area. However, we see benefit in the price(s) being privately negotiated between NEV and the Council. If the parties are unable to agree, either party may write to IPART at any time to seek a scheme-specific price.

1.3 We have restructured prices to improve equity and cost-reflectivity

As noted above, some of our draft prices reflect changes to promote more equitable and cost-reflective prices. For example, water prices have changed to harmonise prices in the Gosford and Wyong areas, as the Council area is effectively one water supply system. Stormwater prices for some non-residential customers have also changed to introduce area-based prices. For many of these price structure changes, we accepted, or partially accepted, the Council's proposal. But, we have implemented some of the changes more gradually than the Council proposed to prevent large bill changes for specific customers.

Our key changes are summarised in Table 1.4.

Table 1.4 Key changes in price structures

Change	IPART's draft decision	Rationale
Water prices		
Harmonise prices	**Accept** the Council's proposal to harmonise water prices for Gosford and Wyong customers.	The former Gosford and Wyong Councils have operated a Joint Water Supply system for some time, meaning water can be transferred across the entire network. The fixed costs of capturing, storing and transporting water should be shared equally among all customers.
Rebase service prices	**Accept** the Council's proposal to rebase all service charges to a 20mm meter equivalent basis.	Rebasing all service prices to a 20mm meter equivalent would promote consistency between different customer groups.
Sewerage prices		
No change: maintain separate prices for Gosford and Wyong customers	**Not accept** Council's proposal to harmonise water prices for Gosford and Wyong customers.	The Council has not provided sufficient analysis or data to justify this proposal. We have identified that there may be merit in setting sewerage usage prices by catchment in future, as this would better reflect the cost of supply.
Reduce sewerage service prices for apartments compared to houses	**Not accept** Council's proposal to set the same sewerage service prices for houses and apartments.	We found that sewerage discharges for apartments were lower than houses, on average. Apartments should pay lower sewerage service prices to reflect their lower average discharges to the sewerage system.
Rebase sewerage service prices	**Partially accept** the Council's proposal to rebase all service charges to a 20mm meter equivalent basis.	Rebasing all service prices to a 20mm meter equivalent would promote consistency between different customer groups. However, we have gradually rebased service charges over a four year period, for some non-residential customers in Wyong, to prevent bill shock.
Stormwater prices		
Harmonise prices	**Accept** the Council's proposal to harmonise stormwater prices for Gosford and Wyong customers.	The costs of providing stormwater services are similar across the two former Council areas. The benefits of setting prices by catchment area are more than offset by the costs of doing so.
Introduce area-based stormwater prices	**Partially accept** the Council's proposal to introduce area-based stormwater prices. Apply area-based prices to a smaller subset of non-residential customers. Request the Council to take steps to make affected customers aware of the low-impact charge. Gradually introduce area-based stormwater prices to minimise impacts.	We have adapted the Council's proposal to reflect that much of the Central Coast is urban fringe – built up areas alongside rural and less developed land. We have categorised most properties as low impact (including farmland), reflecting that the need for stormwater management is created by all residents. For a subset of non-residential customers, area-based stormwater charges are appropriate because they reflect the increased costs imposed on the stormwater system by properties with larger impervious surface areas. However, we have introduced a transition to area-based stormwater prices to avoid excessive price increases for customers with larger property area sizes.

1.4 Bills would fall for all residential customers, and most non-residential customers

Under our draft prices, assuming the same water usage over time, all residential customers' combined water, sewerage and stormwater bills would fall in 2019-20, and only increase by inflation in subsequent years. Our estimates of the bill impacts on a range of residential customers in Gosford and Wyong are shown in Table 1.5 and Table 1.6.

These estimates indicate that, at the end of the 3-year determination period (2021-22), a typical residential customer with water usage of 170kL per year would see a reduction in their annual bill of between 8% and 25% compared to 2018-19, depending on whether they live in Gosford or Wyong and in a house or an apartment. These bill reductions are significantly larger than would be the case under the Council's proposed prices.

Table 1.5 Gosford residential customers, combined water, sewerage and stormwater bills ($nominal) – including inflation

	2018-19	2019-20	2020-21	2021-22	Change 2019 to 2022
House					
105kL	1,236	932	956	980	-21%
170kL	1,384	1,058	1,084	1,112	-20%
250kL	1,568	1,213	1,243	1,274	-19%
Apartment					
105kL	1,236	868	889	912	-26%
170kL	1,384	993	1,018	1,044	-25%
250kL	1,568	1,148	1,177	1,206	-23%

Note: We forecast inflation to be 1.7% per annum for the first year of the Determination and then 2.5% per annum thereafter.

Table 1.6 Wyong residential customers, combined water, sewerage and stormwater bills ($nominal) – including inflation

	2018-19	2019-20	2020-21	2021-22	Change 2019 to 2022
House					
105kL	1,017	894	917	940	-8%
170kL	1,166	1,020	1,045	1,072	-8%
250kL	1,349	1,175	1,204	1,234	-9%
Apartment					
105kL	985	830	850	872	-11%
170kL	1,133	955	979	1,004	-11%
250kL	1,317	1,110	1,138	1,166	-11%

Note: We forecast inflation to be 1.7% per annum for the first year of the Determination and then 2.5% per annum thereafter.

Bill impacts for non-residential customers

For non-residential customers, the bill impacts under our draft prices would depend on their meter size, discharge factor, as well as their water and sewerage usage. For some of these customers, bill impacts would also depend on the land area of their property.

However, under our draft decisions, most non-residential customers would likely see a reduction in their combined water, sewerage and stormwater bill in 2019-20. Our analysis indicates that small business customers with an individual 20mm meter, consuming 170kL per annum, a discharge factor of 75% and a small-sized property would face the same reductions in their water and sewerage bill as residential customers.

For other non-residential customers, the bill impacts are more varied. Most of these customers would see a slight bill decrease, or a slight bill increase. A small number of customers that have a small water meter and a large property area would experience a larger bill increase, if they are not eligible for the low impact stormwater price. For example, a business customer with a property larger than 45,000m^2, an individual 20mm meter, and annual water usage of 200kL would see their bill increase from:

- $1,589 in 2018-19 to $3,942 in 2021-22, in the Gosford area
- $1,370 in 2018-19 to $3,899 in 2021-22, in the Wyong area.

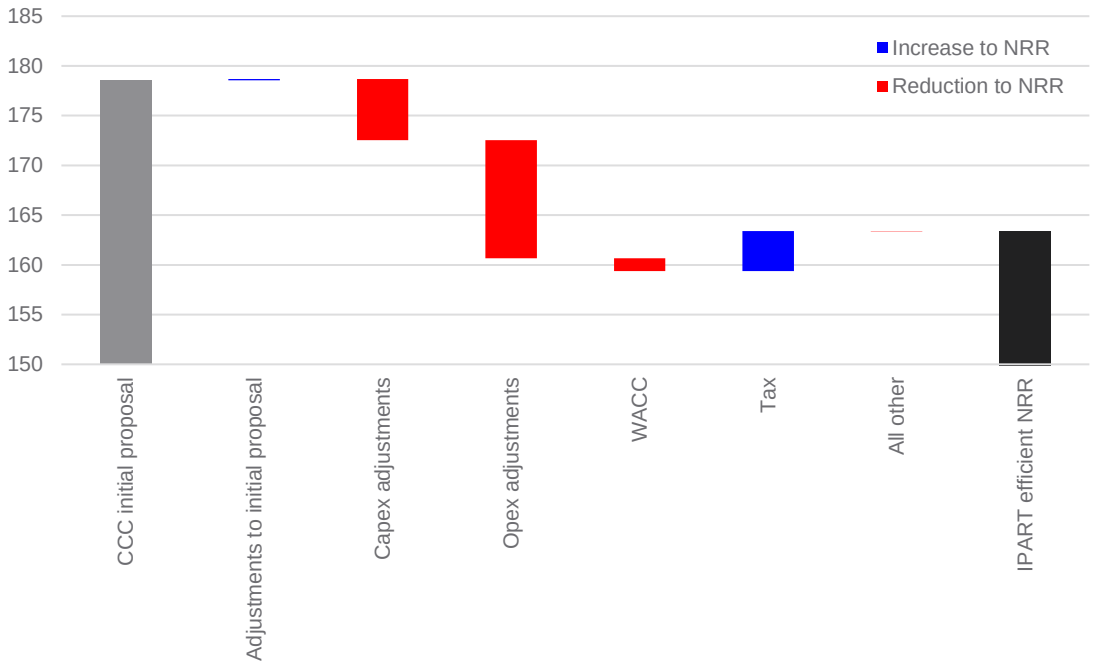
This increase would be largely due to our draft decision to base stormwater prices on land area for some non-residential customers to better reflect the costs they impose on the stormwater system. However, the increase is substantially lower than it would be under the Council's proposal because we have decided to transition to area-based prices.

We have also made a draft decision to continue to classify retirement villages as non-residential properties, in line with the Council's proposal. We consider this would reduce the difference between bills for retirement villages that are exempt from water, sewerage and stormwater service charges and those that are not. It would also result in lower bills for retirement villages than charging each unit within a village as a residential customer, even if the individual unit was eligible for a pensioner discount.

1.5 The Council would recover less revenue per year than it proposed

In setting our draft prices for the 3-year determination period, we aimed to set prices so that the Council could recover a notional revenue requirement (NRR) of $163 million per year, on average. This is 8.5% lower than the Council's proposal of $178 million per year, due to our draft decisions on the efficient levels of forecast operating expenditure, historical and forecast capital expenditure to be included in the regulatory asset base, the weighted average cost of capital (WACC) and the allowances for tax and working capital (Figure 1.1).

Figure 1.1 The Council's proposed NRR compared to IPART's draft NRR (annual average, $2018-19)



Note: The 'adjustments to initial proposal' includes changes to underlying data – reflecting more up-to-date financial statements – as well as including the $90 million of capital projects the Council partially excluded from its pricing proposal.

Forecast operating expenditure

Our draft decision is to include $90.3 million per year, on average, for forecast operating expenditure in the NRR, which is $12.2 million (or 12%) less per year than the Council proposed. This decision largely reflects our view that the Council's actual operating expenditure in 2017-18 is a more reliable baseline for estimating future operating costs than its proposed estimates, which were calculated using a bottom-up 'zero-based budget' approach.

We have also introduced an efficiency carryover mechanism (ECM) for the Council's operating expenditure, which would remove an incentive for the Council to defer efficiencies it identifies during a determination period until the beginning of the next determination period.

Historical and forecast capital expenditure

Our draft decisions on the historical and forecast capital expenditure to be included in the regulatory asset base (RAB) are lower than the Council proposed, and reduce the NRR by $4 million per year. These decisions were informed by the findings of the expenditure review conducted by our consultants, Atkins Cardno.

In setting the value of the RAB, we allowed for $178 million of forecast capital expenditure over the 3-year determination period. This is $107 million (or 38%) less than the Council proposed because we:

- Reduced asset renewals expenditure. We consider that the Council has not demonstrated that increased renewals expenditure is needed to maintain current service levels.
- Re-phased key capital projects over a longer period. We consider the Council's proposed capital program to be prudent and efficient, but not achievable over the period.
- Applied continuing and catch-up efficiency targets to encourage the Council to reduce its costs to achieve the efficiency of a top performing or 'frontier' company over time.

We also made a draft decision to reduce the Council's NRR by an additional $10.3 million over the 3-year period to account for deferred capital projects over the 2013 determination period. This reduction would ensure that customers do not pay twice for projects that were allowed for in prices over the 2013 period but were delayed or deferred until the 2019 period.

Weighted average cost of capital (WACC)

Our draft decision on the WACC is 4.2%, compared to the Council's proposed WACC of 4.3%. This decision reduced the NRR by about $1.3 million per year. The reason for this difference was largely that the Council calculated its proposed WACC at an earlier point in time. Our final decisions will reflect any future changes to our WACC parameters up until 31 March 2019.

Allowance for tax

Our draft decision is to include an allowance of $4 million per year for tax obligations, which is significantly higher than the Council's proposed allowance. Although the Council does not pay tax, or make tax equivalent payments to the NSW Government, we consider it important to include an allowance that reflects the tax a utility would incur if it were operating in a competitive market. This ensures that the Council's prices reflect the full efficient costs that an equivalent private business would incur in providing the same services.

1.6 The Council could improve its future pricing proposals

We have identified some issues with the way the Council arrived at its proposed prices, and have made draft recommendations for improving this in future price reviews.

First, when proposing significant changes to how water, sewerage and stormwater prices are structured, we recommend the Council consider implementing changes gradually over a number of years. This transition period is important to minimise the impact on affected customers.

Second, we recommend the Council collects better information on how its costs vary across its eight sewerage catchments for the next price review, so that it has sufficient information about its current and future costs to allow us to assess the costs of providing sewerage services to each catchment area. Collecting this information could allow us to set more cost-reflective sewerage and trade waste prices. In turn, this would promote efficient investment and

consumption decisions, and promote competition in the provision of water and sewerage services – which could place downward pressure on prices over time.

Third, we recommend the Council further analyse the economic lives of its water, sewerage and stormwater assets. Our analysis suggests the Council's RAB could be better disaggregated into asset classes that more closely reflect the underlying economic lives of its actual water, sewerage and stormwater assets. A more accurate disaggregation would promote more cost-reflective prices and support the Council's financial sustainability over time.

Finally, we recommend the Council take steps to improve its engagement with its customers. There is evidence that the Council's consultation for this price review was not sufficiently representative. Stakeholder submissions clearly showed there was a lack of customer awareness about the Council's proposed stormwater prices in the lead up to this review. It is also not clear that the proposed price changes were communicated clearly enough to elicit an informed view from customers. For example, when consulting with customers on the Council's proposal for "consistent" prices, it is not clear that customers were made aware that they could face very large price increases. In addition, the Council's proposed expenditure programs and capital works could be better informed by customer preferences, including customers' willingness to pay to maintain assets to a certain quality. In particular, it appears that the Council did not present any information to customers on the potential trade-offs between service standards and prices.

The Council should consult our *Guidelines for Water Agency Pricing Submissions* in preparing future pricing submissions.[5]

1.7 Structure of this Draft Report

The following chapters provide more information on this review, and discuss in detail how we reached our draft decisions and how these compare to the Council's pricing proposal:

- Chapter 2 outlines the context for the review.
- Chapter 3 discusses our draft decisions on the length of the determination period, the method we used to calculate the Council's revenue requirements over this period, and our draft decisions on these requirements.
- Chapters 4 and 5 explain our draft decisions on some of the key inputs for calculating the revenue requirement – the forecast operating expenditure, and the historical and forecast capital expenditure to be included in the RAB.
- Chapter 6 outlines our draft decisions on forecast sales volumes and customer numbers over the determination period.
- Chapters 7 to 11 discuss our draft prices for water, sewerage and stormwater services and for the services the Council provides to other water utilities.
- Chapter 12 sets out our draft prices for trade waste services, and other services.
- Chapters 13 and 14 focus on the implications of our draft decisions for customers' bills, for the Council, general inflation and the environment.

5 IPART, *Guidelines for Water Agency Pricing Submissions*, April 2018.

Our draft decisions and draft recommendations are set out in these chapters, and are also listed below for convenience. Stakeholders are encouraged to comment on any or all of these decisions and recommendations or any other matters relevant to our review.

1.8 List of draft decisions

Length of determination and revenue to be recovered over this period

Operating expenditure

Capital expenditure and asset lives

Forecast water sales and customer numbers

27 Not to accept the Council's proposal to reduce the discharge allowance in sewerage service prices from 150 kL to 112.5 kL for all customers, and instead:

- Reduce the allowance for residential customers to 125 kL for houses and 80 kL for units in multi-premises.
- Remove the allowance for non-residential customers, and apply the sewerage usage charge to all sewerage discharge (based on each non-residential property's water consumption multiplied by the relevant discharge factor). 91

28 To maintain the maximum sewerage usage price at $0.83 per kilolitre in real terms over the 3-year determination period from 2019-20 to 2021-22. 93

Stormwater prices

29 To accept the Council's proposal to harmonise stormwater prices across the former council areas. 100

30 To set a standard stormwater price for all properties categorised as residential for rating purposes of $105.11 per year in 2019-20 and maintain this price in real terms in 2020-21 and 2021-22. 101

31 To provide a 25% discount on the standard stormwater price for dwellings within multi-premise residential properties and all vacant land. 101

32 To set a standard 'low impact' stormwater price equal to the price for residential customers, and apply this price to all properties categorised as farmland for rating purposes. 101

33 To automatically apply the standard 'low impact' stormwater price for properties categorised as mining or business for rating purposes that meet one of the following eligibility criteria:

- small properties (less than 1,000m^2)
- medium to very large properties (greater than 1,000m^2) zoned 'environmental', 'recreation' or 'waterways', and
- other medium to very large properties where the Council has assessed that impermeable surfaces cover less than 10% of the land area. 104

34 To set an area-based charge:

- for properties categorised as mining or business for rating purposes that are not classified as low-impact
- as a multiple of the standard charge for residential customers in a house, and
- by gradually transitioning the area-based prices to the full charge applicable to the property's size over time. 104

35 To accept the Council's proposal that customers with medium to very large properties categorised as mining or business could apply to the Council for an assessment of their eligibility for the 'low impact' price. 104

36 To request the Council to:

- Publish the application process for eligibility for the 'low impact' charge on its website by 1 July 2019.
- Inform customers who are billed area-based charges that they may be eligible for the low-impact price, and where they can access information about the application process. 104

Prices for specific customers

37 To set water and sewerage prices for retirement villages based on their actual meter sizes, rather than based on the number of dwellings. 110

38 To set stormwater prices for retirement villages on an area basis. 110

39 That when a property is temporarily unmetered, for the unmetered period it should be charged:

- the standard 20mm service charges for water and sewerage, plus
- the water usage price applied to the average daily usage over the previous twelve months, specific to that property, multiplied by the number of days that the property is unmetered, or
- zero if average daily usage data is unavailable. 114

40 To set water service charges for properties not connected to the water supply system to zero. 116

41 To set sewerage service charges for properties not connected to the sewerage system to zero. 116

Prices for water supplied to other utilities

42 To set the price for water services supplied by the Council to Catherine Hill Bay Water Utility:

- based on a non-residential water price
- without including any facilitation costs (or cost savings), and
- for three years, in line with all other prices in the 2019 Determination. 120

43 To defer determining prices for water and sewerage services supplied by the Council to Narara Ecovillage. 125

44 To set the price for bulk water transfers between the Central Coast Council and Hunter Water Corporation as $0.69/kL ($2018-19) plus inflation for 2019-20, to be increased annually by inflation. 130

45 To set the price for bulk water transfers between the Central Coast Council and Hunter Water Corporation for three years. 130

46 To allow the option for the Council to opt out of determined prices and enter unregulated pricing agreements with Hunter Water and Catherine Hill Bay Water Utility. 135

Trade waste and miscellaneous prices

47 To harmonise trade waste prices across the Central Coast. 139

48 To set the trade waste prices as listed in Appendix G for 2019-20, to increase with inflation for 2020-21 and 2021-22. 139

49 To set the prices for miscellaneous service as listed in Appendix H, to increase with inflation. 144

50 To defer setting maximum prices for the miscellaneous services 'Relocate Existing Stop Valve or Hydrant', 'Raise/Lower Manhole – physical adjustment' and non-standard 'Location of water and sewer mains', which the Council will charge by quote. 144

51 To remove the revenue for trade waste and miscellaneous services in Table 12.5 from the notional revenue requirement (NRR). 149

1.9 List of draft recommendations and issues for comment

We recommend:

1 That the Council consider disaggregating its regulated water, sewerage and stormwater assets into classes that reflect the underlying economic lives of the assets. 62

2 That the Council collect the information in Box 8.1 on its sewerage and trade waste costs, on a catchment basis, for the 2021-22 price review. 95

We seek comment on

1 Are there benefits of recovering the costs of stormwater services through separate charges or should these costs be recovered through Council rates? 109

2 Scope and context of the review

This is the first time IPART has set prices for the Central Coast Council as a merged entity. Previously, we set prices for the former Gosford City Council and Wyong Shire Council separately. In May 2016, the former Wyong and Gosford Councils were amalgamated to form the Central Coast Council (the Council). The Council is responsible for a range of services to its local government area, which spans 1,680 km^2 and services a population of about 340,000.

The Council provides water, sewerage and stormwater services to the Central Coast area. IPART sets the maximum prices for services that the Council supplies as a water supply authority under the *Water Management Act 2000* (NSW) (WM Act).

Section 2.1 outlines the key features of these services. Section 2.2 summarises the Council's regulatory framework. Section 2.3 provides an overview of IPART's role and price review process.

2.1 Overview of the Council's water, sewerage and stormwater services

The Council's Water and Sewer department delivers water and sewerage services and its Roads, Transport and Drainage department delivers stormwater drainage services.[6] In 2017-18, there were 141,000 billed end users connected to the water supply system and 139,000 to the sewerage system.[7]

Water supply is delivered through a network of three dams, 2,270 km of mains, 71 reservoirs and 50 pumping stations. Prior to amalgamation, the former Wyong and Gosford Councils operated a joint water supply via a joint scheme funding agreement.[8] The Council also has an agreement with Hunter Water to allow the two-way transfer of treated drinking water.

Sewage is collected through 2,490 km of reticulation pipes and 324 pumping stations and treated at one of eight treatment plants. The majority of sewage undergoes secondary treatment[9] before it is discharged into the ocean. A small portion undergoes tertiary treatment[10] and is reticulated as recycled water. Unlike the water supply system, the former Councils developed their sewerage systems as stand-alone systems, with no linkages between each other or to Hunter Water's network.[11]

6 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 18.
7 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 20.
8 Central Coast Council, *Water and Sewer Strategic Business Plan*, May 2018, p 9.
9 Secondary treatment uses a physical separation process to remove settleable solids and/or biological processes to remove dissolved and suspended organic compounds.
10 Tertiary treatment removes harmful inorganic compounds, bacteria, viruses and parasites using chemical processes. Chlorination is a typical process within tertiary treatment.
11 Central Coast Council, *Water and Sewer Strategic Business Plan*, May 2018, p 10.

The stormwater drainage system incorporates more than 1,250 km of pipes, culverts and channels and more than 40,000 pits, across 29 urban catchments and a number of large rural catchments.[12] Like the sewerage system, the stormwater system was also managed separately in the Gosford and Wyong areas prior to amalgamation.

Figure 2.1 Central Coast Council's area of operations

Source: Map supplied by Central Coast Council.

12 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p.22.

2.2 The Council's regulatory framework

The Council is governed by an extensive range of legislation, regulation and industry guidelines in relation to its water, sewerage and stormwater functions. 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 under a dual-regulatory framework, where:

- It is a water supply authority under the *Water Management Act 2000* (NSW) (WM Act).
- It is a council-owned water utility under the *Local Government Act 1993* (NSW).

Overall, the Council's regulatory framework can be summarised into the following three categories.

- Environmental protection, water management and planning.
- Pricing and finance.
- Public health and safety.[13]

Environmental protection, water management and planning

The NSW 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.[14]

The Environment Protection Authority (EPA) monitors and regulates sewage discharges from the Council's sewerage systems. Under the *Protection of the Environment Operations Act 1997* (NSW), Environment Protection Licences (EPLs) issued by the EPA are required to operate components of its sewerage system. These EPLs 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.

The NSW Department of Industry – Water (DoI Water) administers Ministerial approval to construct, maintain or operate works for water and sewage treatment, and for reusing effluent and biosolids.[15] This approval process aims to provide assurance that the new infrastructure is fit for purpose; protects public health and safety, and the environment; and provides a robust, cost-effective solution that meets community needs.[16]

13 This section is an overview of key legislations and regulations. It is not intended as a comprehensive list.

14 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).

15 Under s 292 of the WM Act (also refer to clause 117 of the *Water Management (General) Regulation 2018*) or s 60 of the LG Act.

16 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 147 of the *Water Management (General) Regulation 2018* and s 90 of the LG Act.

As a water supply authority under the WM Act, the Council must comply with DoI Water's *Best Practice Management for Water Supply & Sewerage Guidelines* (*BPM Guidelines)* to be eligible for the payment of an 'efficiency dividend' from the surplus of its water and sewerage business.[17] The *BPM Guidelines* require the Council to undertake water services planning through an Integrated Water Cycle Management (IWCM) Strategy and Strategic Business Plan.[18] This water planning is aimed at providing safe, secure, sustainable and affordable water services to customers. An IWCM Strategy, developed in consultation with the community, identifies the best value-for-money solutions (on a triple bottom line basis[19]) for delivering services to customers over the next 30 years.[20]

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.[21] In addition, DoI Water provides utilities with an annual 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.[22]

The Council is also 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.

Pricing and Finance

We set the maximum prices the Council can charge for its monopoly water, sewerage and stormwater services, under the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW) (IPART Act). The Council must not charge prices above our determined maximum prices, and cannot charge prices below our determined prices without approval of the Treasurer.

In addition, the *BPM Guidelines* include best-practice pricing principles (including full cost recovery). The Council (as a water supply authority) is required to seek annual Ministerial approval for its water and sewerage service prices each year.[23]

Financially, the Council must operate in accordance with the Local Government Act and *Public Finance and Audit Act 1983* (NSW). All accounting records and financial statements should be maintained and prepared in accordance with accounting standards.

17 Department of Industry Water, Best practice management, https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt [accessed: 15 March 2019].
18 Every eight years on a rotation where one plan is updated every four years.
19 A triple bottom line accounting framework measures a business' social, environmental and financial performance.
20 Department of Industry Water, Integrated water cycle management, https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt/iwcm [accessed 15 March 2019].
21 Department of Industry Water's performance reports are available at this link: https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt/performance-monitoring
22 Further information is available at this link: https://www.industry.nsw.gov.au/water/water-utilities/best-practice-mgmt/performance-monitoring
23 Under section 315, WM Act.

Public Health and Safety

The Council is obliged to follow advice issued by the Chief Health Officer regarding drinking water safety under the *Public Health Act 2010* (NSW). The Council is required to add fluoride to the water supply in accordance with the *Fluoridation of Public Water Supplies Act 1957* and the Fluoridation Code of Practice administered by NSW Health.[24] In addition, the Council must follow the *Food Act 2003* (NSW), *Dams Safety Act 1978* (NSW), *Dam Safety Act 2015* (NSW) and *Work Health and Safety Regulation 2017* (NSW) administered under the Minister for Primary Industries and the Minister for Finance and Services during the course of their operations.

2.3 IPART's role and price review process

We are the principal economic regulator in New South Wales. Our main functions are set out in the IPART Act.[25] Among other responsibilities, we determine the maximum prices for declared government monopoly services provided by water utilities, such as Sydney Water, Hunter Water and the Council.[26,27]

In determining maximum prices, we have considered the matters under section 15 of the IPART Act (included at Appendix A). Section 15 requires us to consider a range of matters when determining prices, including the costs of providing the services, customer affordability, environmental impact and service standards.

Subject to considering the potential impact of our pricing decisions, we generally aim to set prices at levels that provide utilities with sufficient revenue to recover the costs of efficiently supplying water, sewerage and stormwater services. Cost-reflective prices signal to consumers the costs of their consumption decisions and encourage the efficient use and allocation of resources, to the benefit of the community as a whole.

We will consider all submissions received in response to our Draft Report and Determination, prior to releasing our Final Report and Determination in May 2019. The indicative timetable for this review is outlined in Table 2.1 below.

24 NSW Health, *New South Wales Code of Practice for Fluoridation of Public Water Supplies: Fluoridation of Public Water Supplies Act 1957*, April 2018.

25 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.

26 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).

27 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.

Table 2.1 Indicative review timetable for Central Coast Council

Task	Timeframe
Released Issues Paper and Fact Sheet	12 Jun 2018
Hunter Water's pricing submission	12 Sep 2018
Central Coast Council's pricing submission	12 Sep 2018
Received submissions to the Issues Paper and pricing submissions	10 Oct 2018
Released Fact Sheet for Public Hearing	13 Nov 2018
Held Public Hearing	27 Nov 2018
Released Draft Report and Draft Determination	2 Apr 2019
Deadline for submissions to the Draft Report	24 Apr 2019
Release Final Report and Determination	May 2019

Note: These dates are indicative and are subject to change.

In making our draft decisions, we have considered all submissions received through the review and all the matters we are required to under section 15 of the IPART Act. As part of our review process, we have undertaken extensive investigation and public consultation. We:

- Released an Issues Paper in June 2018 to assist stakeholders to identify and understand the key issues for review.
- Invited the Council to submit its pricing proposal in September 2018. This proposal outlined the Council's view on the expenditure necessary to maintain service levels and respond to regulatory demands as well as its proposed plan to recover this expenditure.
- Invited Hunter Water to make a pricing submission in September 2018 on its bulk water transfer price between the Council and Hunter Water.
- Invited stakeholders to make submissions on the Issues Paper and the utilities' proposals by October 2018.
  - We received 127 submissions to the review from organisations and individuals, over 100 related to the Council's proposal on stormwater prices (discussed in Chapter 9).
- Released a Fact Sheet that outlined our preliminary views on pricing proposals, for the public hearing.
- Held a public hearing on 27 November 2018 that discussed the issues raised by the Council and other stakeholders.
- Engaged independent consultants to review the Council's proposed:
  - operating expenditure, capital expenditure, asset lives and output measures (Atkins Cardno), and
  - prices for trade waste and miscellaneous services (Marsden Jacob Associates).
- Released this Draft Report and Draft Determination and invite stakeholders to make submissions in response to the draft decisions by 24 April 2019.

Our reports, stakeholder submissions, the transcript from the public hearing, and consultants' reports are available on our website (www.ipart.nsw.gov.au).

3 Length of determination and revenue to be recovered over this period

The first steps in our approach for determining prices in this review is to decide on the length of the determination period, and the amount of revenue to be recovered through prices over this period.

To decide on the amount of revenue to be recovered, we first calculate the Council's notional revenue requirement (NRR) in this period. The NRR represents our view of the total efficient costs of providing the Council's regulated water, sewerage and stormwater services in each year of the determination period.[28] We calculate a separate NRR for water, sewerage and stormwater services, to ensure customers who do not have access to one of more of the services do not pay for them. Then, for each of the water, sewerage and stormwater services, we consider an appropriate combination of usage (variable) and service (fixed) charges to recover the revenue from customers. To achieve this, we also need to forecast demand for services over the period.

The sections below provide a summary of our draft decisions in this step, then discuss how and why we reached those decisions, including our consideration of the Council's proposal and stakeholders' comments. Chapters later in this report provide more detail on how we reached our draft decisions on prices.

3.1 Summary of draft decisions on length of determination and NRR

We decided to set a 3-year determination period, rather than a 4-year period as the Council proposed. This reflects some uncertainty around the Council's forecast cost estimates for future years, as it is a newly merged Council, without imposing unreasonable regulatory burden on the Council or uncertainty for customers. In addition, a 3-year determination period would provide the Council with two years to collect better information, and improve its forecasts and processes before we begin our next price review.

We have made some significant adjustments to the Council's proposed cost estimates, reducing the NRR by $13.7 million in the first year, and around $16 million per annum in the second and third years. Our draft NRR is shown in Table 3.1.

28 This excludes the revenue required for trade waste and miscellaneous services, as these are charged separately.

Table 3.1 Draft notional revenue requirement ($million, $2018-19)

	2019-20	2020-21	2021-22
Water	73.6	73.4	74.6
Sewerage	74.2	74.1	74.4
Stormwater	15.0	15.2	15.5
Total	**162.8**	**162.8**	**164.5**
Council proposed	**176.5**	**178.4**	**180.7**
Difference	**-7.8%**	**-8.8%**	**-9.0%**

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019,* September 2018, p 259 and additional information from the Council to IPART; and IPART analysis.

In addition, we decided to set prices to recover the total NRR by the end of the 3-year period (rather than the annual NRR each year) in net present value terms. This would smooth the impacts on customers and the Council of annual variations in costs, while protecting all parties from over- or under-recovery. Table 3.2 shows our draft NRR compared to our draft target revenue from prices.

Table 3.2 Draft target revenue from prices ($million, $2018-19)

	2019-20	2020-21	2021-22
Draft NRR	162.8	162.8	164.5
Draft target revenue from prices	160.5	163.7	166.1
Difference	**1.4%**	**-0.6%**	**-1.0%**

3.2 Adopt a three-year determination period

We made a draft decision:

1 To adopt a 3-year determination period, from 1 July 2019 to 30 June 2022.

For each water pricing review, we decide on the length of the determination period. In general, this length can be between one and five years. In deciding on the appropriate length, we consider the range of factors outlined in Box 3.1.

For this review, we consider that a 3-year determination period is appropriate, rather than a 4-year period as the Council proposed. In particular, our draft decision to set prices for three years reflects:

- Our uncertainty about the Council's operating and capital costs, particularly for longer forecast horizons.
- The need to not unduly increase regulatory burden (regulatory costs increase with shorter determination periods).
- That neither a 3-year, nor a 4-year period, would facilitate consistency with Hunter Water's determination period, or the Council's Integrated Planning and Reporting (IP&R) program.
- That a 3-year period would provide sufficient time for the Council to collect more information and improve its processes before the next review.

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.

We firstly summarise stakeholder feedback, and then explain our draft decision in more detail below.

3.2.1 Stakeholder views were somewhat mixed

We sought stakeholder views on this item, but there was limited feedback:

- PIAC supported a 4-year determination period in its written submission. However, at the public hearing it supported a 3-year determination, given the Council is a new entity and this would facilitate earlier consultation with customers on price structure issues.
- One retirement village stated that a longer determination period offers more budget stability.
- One individual supported a shorter determination period based on his view that the Council's input data was 'extremely tenuous to say the least'.[29]
- One individual (commenting on stormwater prices) asked that a price be set in perpetuity, whilst another suggested we set the prices each year.

We consider that our decision provides a balance between providing stability to stakeholders, and allowing for a timely subsequent review to account for efficiencies that the Council finds or other changes to the Council's operating environment and costs.

3.2.2 Reasons for our draft decision

The sections below explain how we reached our draft decision, with reference to the factors outlined in Box 3.1.

29 M. Redrup submission to IPART Issues Paper, October 2018, p 1.

Uncertainty in forecast costs

We have limited confidence in the forecasts for the later years.

As a newly merged Council, it is still consolidating its systems following the merger, and it is yet to identify merger efficiencies. While we have reasonable confidence in our operating expenditure profile for the next three years, in later years there is more uncertainty about the Council's operating costs as it identifies and, we expect, achieves further merger efficiencies. Furthermore, our expenditure review consultant (Atkins Cardno) expressed low confidence in the Council's operating expenditure forecast for Year 5 (2023-24).

In assessing our confidence in the Council's capital expenditure forecasts, we considered the Council's historical completion and deferral of proposed capital projects. We also considered Atkins Cardno's finding that the Council's proposed capital expenditure program is not achievable, as a number of major projects have overlapping construction periods. Atkins Cardno recommended smoothing the Council's capital expenditure over a longer period, which we agree with. In our view, these two factors create an increased degree of uncertainty about what the Council can achieve over time regarding its capital expenditure program, which supports a shorter 3-year determination period.

Minimising regulatory burden

Our view is that a 3-year determination period adequately balances the uncertainty of forecasts, with costs specific to reviewing prices. Whilst a 1- or 2-year determination would further reduce the uncertainty, it would also add significant regulatory cost for both the Council and IPART as we would have to undertake a subsequent review sooner.

Alignment with other reviews

We do consider that aligning the Council's review process with Hunter Water could provide some benefit to the extent that water is managed on a regional basis. In addition, aligning the determination period with the Council's IP&R Delivery program could improve the Council's planning and consultation with its customers.

However, neither a 3-year nor a 4-year determination period would facilitate alignment with these two review processes, at least in the short term. This is because the Hunter Water determination ends in 2019-20 (one year after the Council's begins), and the current IP&R Delivery program ends 2020-21, and then will be on a 4-year review cycle.

A 1-year determination period would realign the Council's determination period with the Hunter Water process, and a 2-year determination would allow alignment to the Council's IP&R program. However, given that no single determination window would align to other reviews and the Council's IP&R process, we consider the benefits of minimising regulatory burden support a longer determination period.

Implementing process improvements

A 3-year determination would provide the Council two years to collect better information, improve its forecasts and consult adequately with customers before we begin our next price review. We consider this is a sufficient time to initiate improvements before the next regulatory process without overburdening the Council.

3.3 How we calculate the notional revenue requirement (NRR)

We made a draft decision:

2 To set the notional revenue requirement (NRR) as shown in Table 3.1.

As for previous water utility reviews, we have used our standard 'building block' method to calculate the NRR. This method involves estimating, for each year of the determination period:

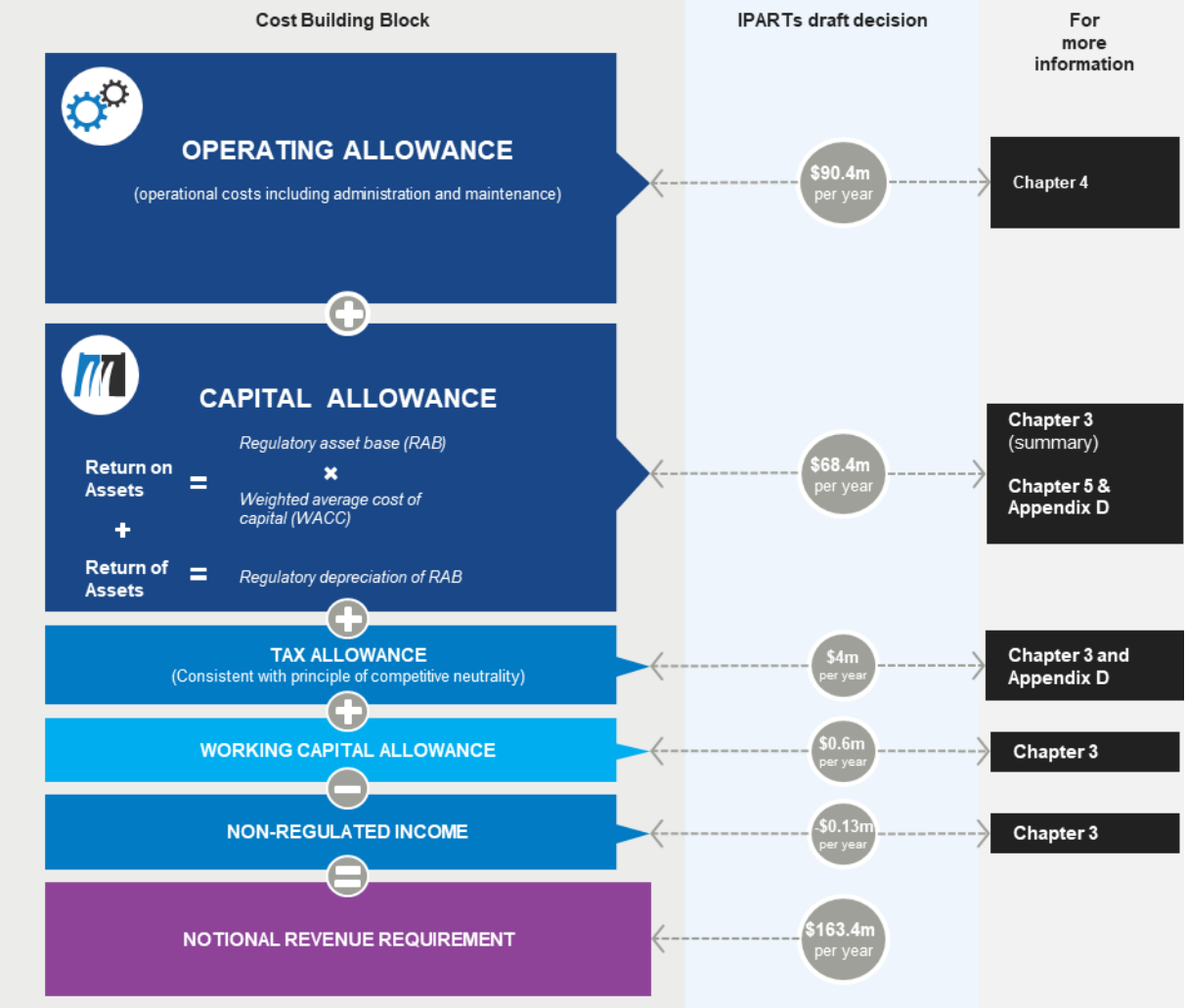
- an operating expenditure allowance
- a capital allowance, which comprises a return on the assets the Council uses to provide its services and a return of these assets (or regulatory depreciation)
- a tax allowance
- a working capital allowance, and
- any 'non-regulated' revenue the Council is forecast to earn from non-regulated services it provides using its regulated assets.

We use this approach to calculate a separate NRR for water, sewerage and stormwater services, and set prices for each service to recover its respective NRR. This will ensure the prices for each service reflect the cost of providing that service, and customers who do not have access to one or more of the services do not pay for those services.[30]

As Figure 3.1 illustrates, the sum of the allowances, minus 50% of the non-regulated revenue equals the NRR.

30 For example, there are a number of properties in the Central Coast that are not connected to water or sewerage services but do receive stormwater services.

Figure 3.1 The building block model



3.3.1 Operating expenditure

Our draft decision on the NRR includes the operating expenditure allowance shown in Table 3.3.

Table 3.3 Draft operating expenditure allowance ($million, $2018-19)

	2019-20	2020-21	2021-22
Draft decision	91.4	89.9	89.8
Council's proposal	103.1	102.6	102.0
Difference ($)	-11.6	-12.7	-12.2
Difference (%)	-11.3	-12.4	-12.0

Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 101 and IPART analysis.

The draft operating expenditure allowance represents our estimate of the Council's forecast efficient operating, maintenance and administration costs in each year of the determination

period. It makes up around 55% of the Council's total NRR each year, and is 11-12% lower than the Council's proposed operating expenditure for these years.

To establish our draft operating expenditure allowance, we considered Atkins Cardno's review of the efficiency of the Council's proposed expenditure. We accepted its recommendations to adjust the proposed expenditure to:

- Use actual expenditure in 2017-18 as the baseline for forecasting operating costs, rather than accepting the Councils' bottom-up 'zero-based budget' approach.
- Include specific anticipated efficiency gains (eg, from the Council's new IT system and a 24-hour operations centre which will reduce overtime).
- Include continuing efficiency targets to reflect general improvements in productivity over time.

See Chapter 4 for more detail on our decision on the draft operating expenditure allowance, the Council's proposed operating expenditure allowance, and Atkins Cardno's efficiency review.

3.3.2 Capital allowance

Our draft decision on the NRR includes the capital allowance shown in Table 3.4.

Table 3.4 Draft capital allowance ($million, $2018-19)

	2019-20	2020-21	2021-22
Draft decision	66.7	68.3	70.1
Council's proposal	73.1	75.6	78.4
Difference ($)	-6.5	-7.3	-8.3
Difference (%)	-8.8	-9.6	-10.6

Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 146, and IPART analysis.

The draft capital allowance is not intended to recover the Council's proposed investments in new assets over the period. Instead, it comprises:

- **A return on assets.** This amount represents our assessment of the opportunity cost of the capital invested in the assets used to provide its regulated water, sewerage and stormwater services – that is, its regulatory asset base (RAB) – and aims to ensure that the Council can continue to make efficient capital investments in the future.
- **A return of these assets (or regulatory depreciation)**. This allowance recognises that by providing services to customers, a utility's assets will wear out over time, and therefore aims to ensure that the costs of the assets are recovered from users over time.

Establishing the capital allowance is more complex than the operating expenditure allowance. Broadly, we calculate the return on assets by multiplying the value of the RAB over the determination period by an efficient rate of return (the WACC). We calculate regulatory depreciation by applying a straight-line depreciation method to the RAB – that is, the cost of assets are recovered evenly over their assumed economic life. We make draft decisions on the following inputs to these calculations:

1. The value of RAB at the start of the regulatory period (the opening value) and the start of each year of the determination period.
2. The efficient rate of return over the determination period, or the weighted average cost of capital (WACC).
3. The appropriate asset lives for the Council.

Draft decision on value of the RAB

We made a draft decision:

3 To set the regulatory asset base (RAB) values as shown in Table 3.5.

Table 3.5 Draft RAB values (as at 1 July, $million, $2018-19)

	2019	2020	2021	2022[a]
Water	573.0	575.1	594.9	606.5
Gosford sewerage	412.1	415.8	420.7	420.2
Wyong sewerage	195.1	198.5	202.3	208.5
Stormwater	102.1	109.4	116.4	122.5
Total	**1,282.3**	**1,298.8**	**1,334.3**	**1,357.6**

a This is the closing value for 2022 and is a forecast opening value for the next price review.

To make this decision, we established the opening value for the RAB, using the RABs we set in 2013 when we last reviewed the former Councils' prices, and assessed the Council's actual capital expenditure over the determination period compared to the forecast capital expenditure. We also assessed the Council's proposed expenditure for the 2019 determination period to find how much of this expenditure is prudent and efficient and used these findings (among other inputs) to roll forward the value of the RAB in each year of the 2019 period.

Chapter 5 discusses our assessment and findings on the Council's prudent and efficient capital expenditure in detail. Box 3.2 and Appendix E provide more information on our approach and inputs for rolling forward the RAB.

Box 3.2 Summary of the RAB calculation

The RAB represents the value of the Council's assets on which we consider it should earn a return on capital and an allowance for regulatory depreciation (a return of capital). We assess the RAB at each price review to:

1. adjust capital expenditure in the current determination period to reflect the Council's **actual prudent and efficient**[a] expenditure, when rolling forward the RAB to the start of the new determination period, and
2. add our prudent and efficient **capital expenditure allowances** for the forthcoming determination period, when rolling forward the RAB to determine RAB values for each year of the new determination period.

Chapter 5 explains our tests for prudency and efficiency of past and forecast expenditure.

We make some further minor adjustments to the RAB. We:

- **Deduct cash capital contributions** to ensure that customers do not pay for a return on or return of capital expenditure that the utility has not funded itself. (These are contributions from third parties such as developers or government grants, for the purpose of capital expenditure.)
- **Deduct the regulatory value of disposed assets**, that is, when the Council sells or writes off an asset that is included in the RAB, it needs to be removed so that customers do not continue to pay a return on and of the asset that is not used to provide the services.
- **Deduct regulatory depreciation allowed in the previous determination,** to account for the difference in the forecast expenditure in the previous determination and the actual expenditure.

For this review, we also adjusted for the tax treatment of past cash capital contributions.

Appendix E provides more details on the RAB inputs.

[a] What we assess as 'prudent and efficient' expenditure may differ from the Council's total actual expenditure.

Note: Sometimes the Council receives assets free of charge (AFOC), usually from developers. These do not affect the RAB, and utilities do not earn a return on or of those assets.

Draft decisions on the WACC

We made draft decisions:

4 To set the weighted average cost of capital (WACC) at 4.2%.

5 To account for annual changes in the cost of debt through a regulatory true-up in the following determination period.

To make our decision on the WACC, we applied our standard WACC methodology, which we updated in 2018 after an extensive review and broad stakeholder engagement. (See Final Report - Review of our WACC method on our website.) This resulted in a real post-tax WACC of 4.2%, compared to the Council's proposed WACC of 4.3%. As we multiply the RAB values by the WACC, to get a portion of the capital allowance (the return on assets), the implication of a lower WACC is a reduction in the capital allowance portion of the NRR.

Box 3.3 provides a broad outline of how we reached our draft decision on the WACC. Appendix E provides more information about the inputs we used in applying our WACC

method, while Appendix F outlines a new process for estimating the equity beta parameter in the WACC that we are developing.

In our 2018 WACC review, we made a number of decisions that would improve our method for estimating the equity beta. We also made decisions to publish more information for stakeholders on how we estimate the equity beta, and to give stakeholders the opportunity to propose additional industries for the equity beta calculation.

We are developing a new process for estimating the equity beta, which includes the improvements we made in the 2018 WACC review, as well as automating the extraction of financial market data and calculation of the equity beta.

We have not applied our new method to estimate the equity beta in this review, as we are still developing this process and we have not yet consulted with stakeholders on the new method.[31] To that end, we have released a Fact Sheet on our website which explains and seeks feedback on our new method to estimate the equity beta.[32]

We would have regard to the equity beta estimated with this method along with other evidence on beta in our future WACC decisions.

Box 3.3 How we reached our decision on the WACC

The WACC is our estimate of the efficient cost of capital to the Council. It is a hypothetical benchmark of a business's efficient cost of debt and equity. It is a weighted average to take account of the relative shares of debt and equity that a firm might have.

We use the WACC to calculate the return on assets that we allow the business, by applying it to the value of the Council's RAB. If we set a WACC that is too high, then customers would pay too much for the services and we risk encouraging too much investment in that business. If we set the WACC too low, then we risk the financial viability of the firm and encouraging too little investment. Neither of these outcomes is in the long-term interest of consumers.

To set the WACC, we use our established methodology that involves defining a benchmark entity and applying market-based parameters, including the risk-free rate, debt margin, market premium risk and inflation forecasts. See Appendix E for the parameter values we used to make our draft decision.

True-up for annual changes in the cost of debt

We also decided to account for annual changes in the cost of debt – one of the components of the WACC – through a regulatory true-up in the following determination period. In our recent review of our WACC method, we decided to transition to a trailing average cost of debt. We consider that this approach will allow regulated businesses to better manage their refinancing risk, while maintaining their incentives for efficient investment.

31 With that said, we note that our new process currently generates a similar equity beta estimate (0.74) to the draft value (0.7) we adopted as part of our draft WACC decision.

32 IPART, Estimating Equity Beta, Fact Sheet, March 2019.

However, implementing a trailing average approach involves updating the cost of debt at the start of each year within a regulatory period. To do this, we need to decide in each price review whether annual changes in the cost of debt will:

- Flow through to prices in the subsequent year, or
- Be cumulated and passed through via a regulatory true-up in the subsequent regulatory period.

For this review, we decided that annual changes in the cost of debt should be cumulated and passed through via a regulatory true-up in the subsequent regulatory period. While the two options are equivalent in present value terms to customers and the business, we prefer the regulatory true-up for this review because it would provide certainty to customers about their prices over the 2019 determination period. If the true-up is smoothed over the next regulatory period, we do not expect that price shocks would be any more likely under this approach compared to an annual update. The Council did not address this issue in its pricing proposal.

Draft decisions on depreciation method and asset lives

To calculate the regulatory depreciation allowance (return of assets), we applied a straight-line depreciation method to the remaining life of the Councils' assets. The straight-line method depreciates the value of all assets evenly over their assumed lives and is in line with the Council's proposal.[33] We typically use this method in water price reviews, unless the utility proposes a different method and we agree with it.

In deciding on the remaining asset lives, we considered recommendations made by Atkins Cardno in its review of the Councils' capital expenditure. We accepted its recommendation to apply shorter lives to some assets than the Council had proposed, resulting in a lower average asset life. Our draft decisions means that the cost of the assets is recovered over fewer years than under the Council's proposal and, therefore, the annual depreciation allowance in the NRR would be higher than under the Council's proposal. Chapter 5 discusses our assessment of asset lives in more detail.

3.3.3 Tax allowance

Our draft decision on the NRR includes a tax allowance of around $4 million per year, compared to the Council's proposal to not include a tax allowance.

Our draft tax allowance is not intended to recover the Council's actual tax liability over the determination period. Rather, it reflects the liability that a comparable commercial business would be subject to. Including this allowance is consistent with our aim in setting prices, which is to set prices that reflect the full efficient costs a utility would incur if it were operating in a competitive market (including if it were privately owned). It is also consistent with the principle of competitive neutrality, that is, that a government business should compete with

33 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 141.

private business on an equal footing and not have a competitive advantage due to its public ownership.[34]

3.3.4 Working capital allowance

Our draft decision on the NRR includes a working capital allowance of around $0.6 million per year, compared to the Council's proposed allowance of $0.3 million in 2019-20, and $0.4 million in the subsequent two years.[35]

The working capital allowance ensures the Council recovers the costs it incurs due to the time delay between providing a service and receiving the money for it (ie, when bills are paid). To calculate this allowance, we applied our standard approach to calculating the appropriate amount for working capital. In summary, this involves:

1. Calculating the net amount of working capital the business requires, using the formula:

   working capital = receivables – payables +inventory +prepayments

2. Calculating the return on this amount by multiplying it by the nominal post-tax WACC.

More information on our standard approach can be found in our working capital Policy Paper on our website.

3.3.5 Non-regulated revenue

In reaching our draft decision on the NRR, we subtracted the non-regulated revenue shown on Table 3.6.

Table 3.6 Non-regulated revenue deducted from draft NRR ($'000, $2018-19)

	2019-20	2020-21	2021-22	Total
Total proposed non-regulated revenue	244	261	280	**784**
Non-regulated revenue deducted from NRR (50%)	**122**	**130**	**140**	**392**

Source: Central Coast Council, Annual Information Return to IPART, and IPART analysis.

Non-regulated revenue is revenue received by the Council that does not come from the regulated water, sewerage or stormwater services, but was earned as a result of operating a regulated business, or using a regulated asset.

IPART's policy is to share this non-regulated revenue (usually equally) between the customers receiving regulated services ('regulated customers') and the business. This sharing approach

34 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).

35 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 146.

recognises that non-regulated revenue is derived using regulated assets (which are paid for by regulated customers), while providing a financial incentive to the utility to pursue non-regulated income as it ultimately benefits regulated customers through a share of this income.

To facilitate the sharing, we reduce the NRR by the regulated customers' share of the non-regulated revenue before we use the NRR to set (regulated) prices.

The Council's forecast rental income for the three years to 2022 includes:

- $470,000 for water carter licences[36]
- $228,000 for miscellaneous sewer operations[37], and
- $87,000 for rental income.[38]

Sharing this equally would result in the NRR deductions shown in Table 3.6 above. In this instance, this revenue sharing would not result in any noticeable price reduction for water, sewerage and stormwater customers. However, it maintains a principled policy position that customers should share in the benefits of 'non-regulated' use of regulated assets that they have funded.

3.3.6 Comparison of draft NRR to the Council's proposed NRR

Table 3.7 compares our total draft NRR to the Council's proposed NRR. It shows that our draft NRR is approximately $45.8 million lower over the three-year period, and about 8%-9% lower per year.

Table 3.7 Total draft NRR for all services ($million, $2018-19)

	2019-20	2020-21	2021-22
Council proposed	**176.5**	**178.4**	**180.7**
Draft allowances			
Operating expenditure (incl. bulk water)	91.4	89.8	89.8
Capital	66.7	68.3	70.1
Working capital	0.6	0.6	0.6
Tax	4.1	4.0	4.0
Total draft NRR	**162.8**	**162.8**	**164.5**
Difference ($m)	-13.7	-15.7	-16.2
Difference (%)	-7.8%	-8.8%	-9.0%

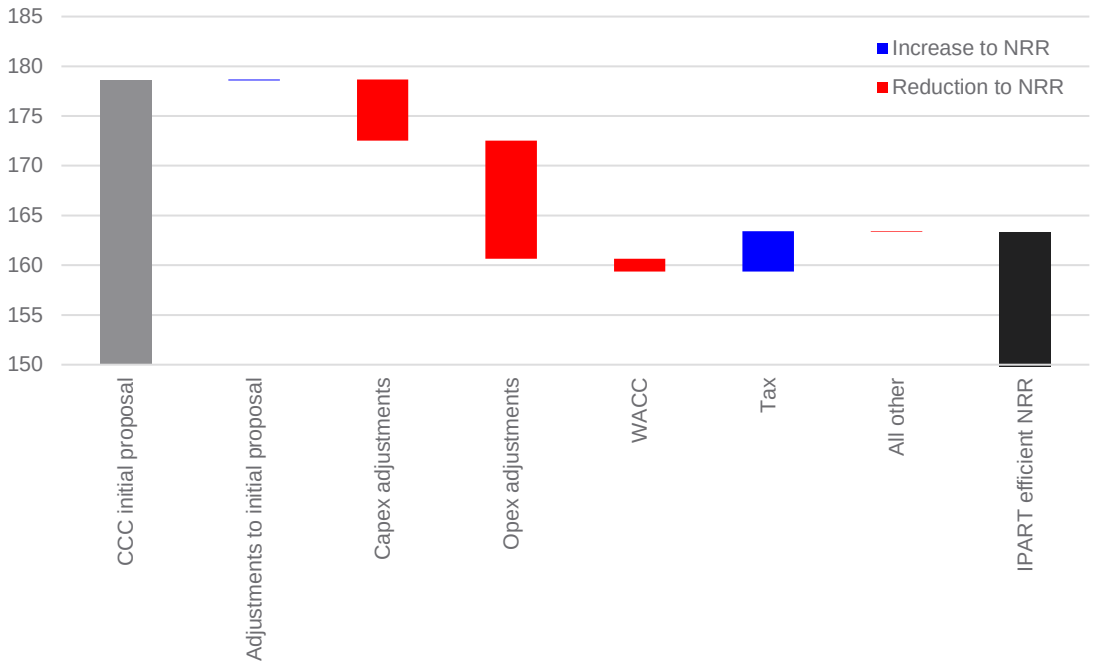
Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 146 and IPART analysis.

As Figure 3.2 (below) shows, the main drivers of the difference between the Council's proposed NRR and our draft NRR are our draft decisions on the operating expenditure

36 This includes revenue from temporary pump hire by construction sites.
37 Interest payment on loans given by the Council for the construction of the sewer pump station under the Cockle Bay and Mooney Mooney sewer schemes.
38 Data sourced from the Council's Annual Information Return 2017-18.

allowance, the capital expenditure to be included in the RAB, and the WACC. The impact of these draft decisions is partly offset by our draft decision on the tax allowance.

Figure 3.2 Council's Proposed NRR compared to IPART's draft NRR (annual average, $million, $2018-19)

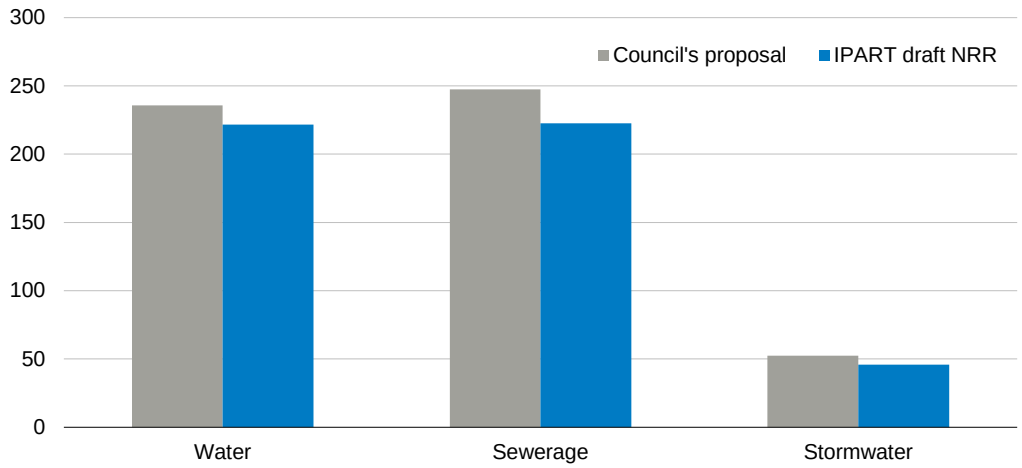


Note: The 'adjustments to initial proposal' includes changes to underlying data – reflecting more up-to-date financial statements – as well as including the $90 million of capital projects the Council (largely) excluded from its pricing proposal.

Data source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 146, additional information from the Council to IPART, and IPART analysis.

Figure 3.3 shows the impact of these draft decisions on the NRR for water, sewerage and stormwater services respectively, compared to the Council's proposal. Appendix F provides more analysis of our draft NRRs for water, sewerage and stormwater services.

Figure 3.3 Comparison of Council proposal NRR and IPART draft NRR by service ($million)



Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018 p 146 and IPART analysis.

3.4 Set prices to recover the NRR by the end of the determination period, in net present value terms

We made a draft decision:

6 To set prices to recover the total NRR over three years, in present value terms.

In line with our usual practice, we decided to set prices to recover the total NRR by the end of the determination period (rather than to recover the annual NRR by the end of each year of this period). This approach would smooth the impact of price changes over the period, thus reducing price volatility for customers, and revenue volatility for the Council.

However, this approach also means the target revenue to be recovered in each year of the period would not equal the NRR in each year (see Table 3.8). To ensure that the Council and customers do not benefit or lose from this arrangement, we set prices so that the target revenue expected to be received from prices equates to the NRR over the determination period, in 'present value' terms. That is, prices are set over the three year determination period so that the present value of the target revenue equals the present value of the NRR.

Table 3.8 Comparison of draft target revenue and draft NRR ($million, $2018-19)

	2019-20	2020-21	2021-22	3-year NPV[a]
Draft NRR	162.8	162.8	164.5	455.2
Draft target revenue from prices	160.5	163.7	166.1	455.2
Difference	**1.4%**	**-0.6%**	**-1.0%**	**0.0%**

a Sum over the 3-years on a present value basis, assuming a discount rate equal to the WACC (4.2%).

4 Operating expenditure

This chapter sets out our assessment of the Central Coast Council's efficient level of operating expenditure over the 2019 determination period. As Chapter 3 discussed, it is our view of the efficient level of operating costs the Council will incur in providing its services over the 2019 determination period. These costs include labour, corporate overheads, hire services, energy, materials, plant and fleet, external consultants and/or contractors and employee provisions.

To inform our draft decision on operating expenditure, we engaged Atkins Cardno to review the efficiency of the Council's proposed operating expenditure.

In this chapter, we also explain our draft decision to introduce an efficiency carryover mechanism (ECM) to apply to the Council's operating expenditure. This mechanism would allow the Council to retain permanent efficiency savings for a period equal to the length of the determination period, regardless of when these savings are actually realised and identified. In turn, this would remove an incentive for the Council to defer efficiencies it identifies during a determination period until the beginning of the next determination period, and hence allow customers to benefit from the Council's efficiency gains sooner.

4.1 Summary of our draft decision on operating expenditure

We made a draft decision:

7 To set the efficient level of the Council's operating expenditure as shown in Table 4.1.

Table 4.1 Draft efficient operating expenditure allowances ($million, $2018-19)

Services	2019-20	2020-21	2021-22	Total
Corporate	20.3	20.2	20.2	60.7
Water	32.7	32.0	32.1	96.8
Sewerage	31.9	31.3	31.1	94.2
Stormwater	6.5	6.3	6.4	19.2
Total	**91.4**	**89.9**	**89.8**	**270.7**

Note: Numbers may not add due to rounding.
Source: IPART analysis.

Our draft decision is to set the Council's allowance for operating expenditure at $271.0 million over the 2019 determination period. This would reduce the Council's proposed operating expenditure by $36.7 million (11.9%).

Over the 3-year determination period, the Council proposed operating expenditure of $307.6 million, using its zero-based budgeting approach. Under a zero-based budgeting method, at the beginning of a budget period, all expenses are forecast from the 'bottom-up' at a component level, regardless of how much was actually spent in the previous budget. Using this approach, the Council has forecast cost increases in running its water, sewerage and stormwater business units. This is mainly driven by forecast increases in hire services (by

24.1%), materials (by 10.1%) and energy costs (by 31.8%) compared to the average annual costs in the current determination period.[39] These increases are only partially offset by forecast reductions in corporate overheads[40] (by 14.8%) and total labour costs[41] (by 3.6%) in the same period.

Our draft decision reflects our assessment of the level of efficient operating expenditure the Council should be able to achieve, given its operating environment after amalgamation. In making our decision, we considered:

- the Council's actual operating expenditure over the 2013 determination period
- the level of operating expenditure it forecast over the 2019 determination period, and
- efficiency savings we consider the Council could make over the three years of the 2019 determination period.

We have adopted Atkins Cardno's advice that:

- The Council's zero-based budgeting approach is not an appropriate method to establish a baseline for efficient expenditure. Instead, we have used the efficient level of expenditure in 2017-18 as a baseline.
- We should accept the Council's proposed increase in energy costs as efficient.
- Further efficiency savings can be achieved via
  - productivity gains from IT transformation (ERP), and
  - reduced overtime resulting from its new operations centre.
- The Council can reasonably achieve a continuing efficiency saving of 0.25% per annum. This adjustment reflects the benefits of productivity improvements over time.

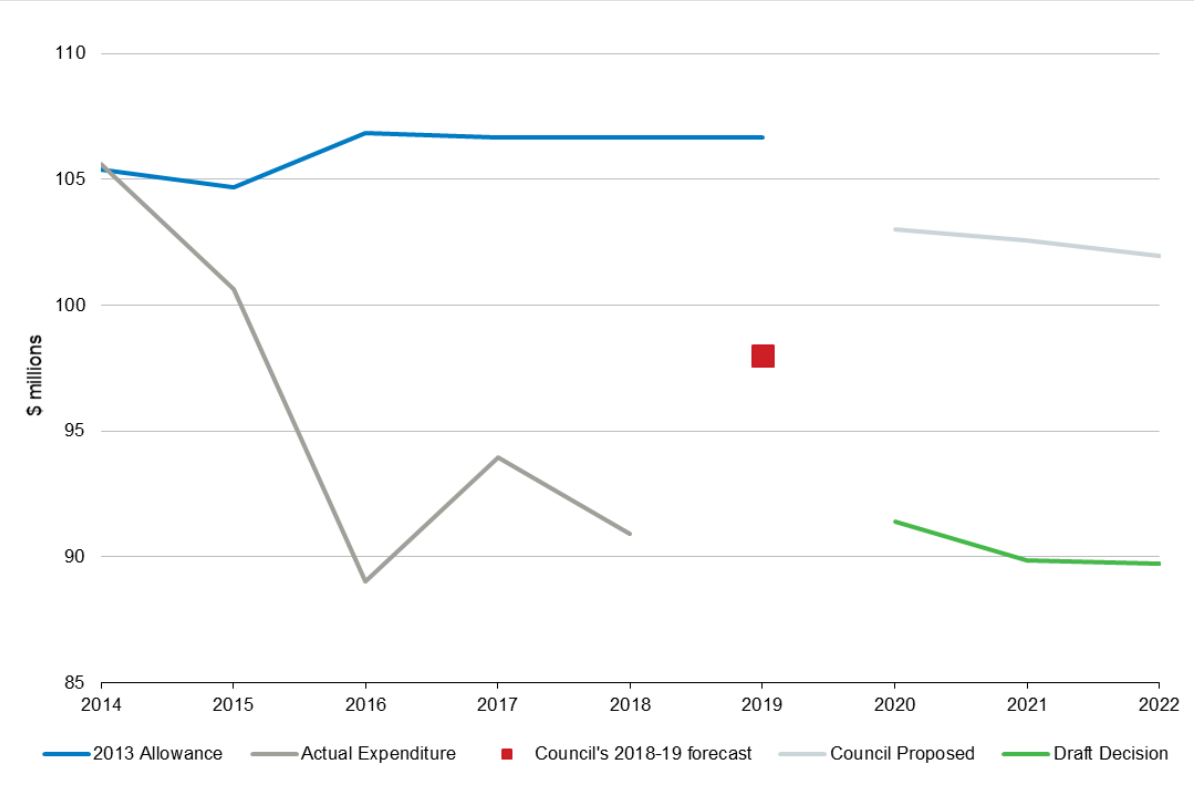
Atkins Cardno also recommended a $3.2 million catch-up efficiency adjustment, based on its view that the Council had scope to achieve enhanced efficiency in budgeting, energy efficiency, on-site generation as well as procurement and materials.[42]

We recognise and accept the reasons for Atkins Cardno's recommended reduction in operating expenditure to reflect the scope for the Council to achieve catch-up efficiencies. However, we also recognise that – **over a 3-year determination period** – the Council may not have sufficient capacity to identify and implement these efficiencies as a newly merged entity. We also note that over the 2013 determination period, the Council achieved operating expenditure reductions from restructures of the former Wyong and Gosford Council water businesses.[43] However, we would expect the Council to identify, **and quantify**, its efficiencies as a merged entity ahead of the next review period.

Figure 4.1 presents our draft decision alongside the Council's historical and proposed operating expenditure.

39 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, p 70.
40 The Council's IT expenditure is included in its corporate overheads. It has not proposed to capitalise these costs.
41 Total labour costs include labour, employee provisions and external consultants and/or contractors.
42 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, p 77
43 Including by establishing Wyong Water.

Figure 4.1 Council's past and forecast total operating expenditure (financial year, $million, $2018-19)



Data source: Central Coast Council Annual Information Return 2017-18.

Note: For the purpose of this analysis we have held the 2016-17 operating expenditure allowance constant in real terms for 2017-18 and 2018-19 (even though we did not set an explicit allowance in these years). The Council's forecast operating expenditure for 2018-19 was estimated using a zero-based budgeting approach.

4.2 The Council's performance over the 2013 determination period

Overall, the Council's actual operating expenditure was significantly less than the operating expenditure allowance used to set prices for the 2013 determination period, by 8.1% per year on average.[44] The underspends in operating expenditure resulted from a number of efficiency initiatives, including business restructures in both the former Gosford and Wyong businesses, lower corporate overheads, chemical cost-savings and more efficient sludge disposal. Table 4.2 summarises the Council's operating expenditure allowance and actual spending over the 2013 determination period.

44 For the purpose of this analysis we have held the 2016-17 operating expenditure allowance constant in real terms for 2017-18 and 2018-19 (even though we did not set an explicit allowance in these years).

Table 4.2 The Council's past operating expenditure ($million, $2018-19)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
IPART allowance	105.3	104.7	106.8	106.6	106.6[a]	106.6[a]	636.8
Actual expenditure	105.6	100.6	89.0	93.9	90.9	98.0[b]	568.7
Difference	0.2	-4.0	-17.8	-12.7	-15.7	-18.1	-68.1
% Difference	0.2%	-3.8%	-16.7%	-11.9%	-14.8%	-17.0%	-10.7%

a For the purpose of this analysis we have held the 2016-17 operating expenditure allowance constant in real terms for 2017-18 and 2018-19 (even though we did not set an explicit allowance in these years).

b 2018-19 figure is a forecast.

Note: Numbers may not add due to rounding.

Sources: Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, p 55 and IPART analysis.

The Council forecast its 2018-19 expenditure based on its zero-based budgeting approach. Under this approach, it projected a significant increase ($7.1 million or 7.8%) in total operating expenditure in 2018-19, relative to 2017-18 actuals.[45] This budget forms the basis for the forecast operating expenditure in the entire 2019 determination.[46] Under the Council's forecast from 2019-20 to 2021-22, average annual total operating expenditure would be $11.6 million (or 12.8%) higher than 2017-18 actuals. In effect, the efficiencies that the Council realised in the previous period would be largely offset under its proposal.

Under our regulatory framework we do not adjust past operating expenditure. However, to inform its recommended efficient operating expenditure for the 2019 determination period (discussed below), Atkins Cardno assessed what it considered to be the efficient operating expenditure for 2018-19. It found the efficient 2018-19 operating expenditure should be $88.5 million ($9.5 million or 10% less than the Council's forecast), based on a number of challenges to the Council's forecasting assumptions and zero-based budgeting approach. The key challenges included a lack of justification to increase spending on stormwater services ($1.0m) and water and sewerage materials ($2.0m).[47]

Overall, the Council's total operating expenditure in the 6-year period from 2013-14 to 2018-19 was $568.7 million, which is $68.2 million (10.7%) lower than our determination allowance over the period.[48] This means the Council achieved average efficiency savings of 3.7% per annum (or 3.1% excluding energy costs) over the 2013 determination period.[49]

4.3 Operating expenditure over the 2019 determination period

The Council proposed increasing operating expenditure from 2018-19 to 2019-20, followed by a small decline (roughly $0.7 million per annum) thereafter. This is based on its zero-based budgeting approach, assuming a fully-recruited structure.[50]

As outlined in Table 4.3, the Council has forecast cost increases in running its water, sewerage and stormwater businesses over the 2019 determination period. This is driven by forecast

45 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, p 64.
46 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 100.
47 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, pp 64 and 67.
48 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, Table 3-14, p 83; and, IPART analysis.
49 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, p 77.
50 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 98-101.

increases in hire services (by 24.1%), materials (by 10.1%) and energy costs (by 31.8%), when compared to average annual costs in the 2013 determination period.[51] These increases are partially offset by smaller reductions to the two largest components of operating expenditure, being a 14.8% reduction to corporate overheads[52] (20% of total operating expenditure) and 3.6% savings on total labour costs[53] (one third of total operating expenditure).

Table 4.3 Council proposed operating expenditure by categories in the 2019 determination period ($'000, 2018-19)

Categories	2019-20	2020-21	2021-22	Proposed Average	Previous Average[a]	% Change
Labour	28,164	28,293	28,268	28,242	26,809	5.3%
Employee provisions	3,802	3,802	3,802	3,802	6,363	-40.2%
Consultants	5,125	4,567	3,505	4,399	4,614	-4.7%
Hire and Contracts	15,212	15,375	15,371	15,319	12,341	24.1%
Materials	9,257	9,401	9,649	9,436	8,568	10.1%
Energy	11,078	10,603	10,751	10,811	8,202	31.8%
Corporate overheads	20,344	20,344	20,344	20,344	23,874	-14.8%
Plant and Fleet	6,391	6,391	6,391	6,391	950	572.7%
Other category[b]	3,651	3,808	3,880	3,780	4,777	-20.9%
Total	**103,024**	**102,584**	**101,961**	**102,523**	**96,498**	**6.2%**

a Previous average means the average annual expenditure over the previous determination period (2014-2018).

b Other category contains licence fees, bulk water purchases, advertising, phone, insurance, road opening fees and other in the Council's submission.

Note: % Change is calculated as the percentage change of difference (between proposed average and previous average) over proposed average.

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 108, 111 and 112; Atkins Cardno, Central Coast Council Expenditure Review, February 2019, p 70; and, IPART analysis.

We note that Table 4.3 also shows a large increase in 'Plant and Fleet' costs. This is because, from 2017-18, these costs were included as operating costs, whereas they were previously included as a capital cost. Atkins Cardno has used the Council's operating expenditure on Plant and Fleet costs in 2017-18 ($3.8 million) as a baseline.[54]

4.3.1 Atkins Cardno recommended a 12.9% reduction to the Council's proposed operating expenditure

Atkins Cardno had limited confidence in the Council's 'zero-based budget' approach because the Council provided little explanation for many of the key drivers of expenditure increases. This approach also had some anomalies, such as negative expenditures. Instead, Atkins Cardno has recommended using the actual operating expenditure for 2017-18 as the baseline to forecast operating expenditure in the next determination period.

51 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 108-112.

52 The Council's IT expenditure is included in corporate overheads, rather than corporate capital expenditure. The Council has not proposed to capitalise this expenditure for the 2019 determination period.

53 Including labour, labour provisions and external consultants or contractors.

54 Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, p 64.

In its response to Atkins Cardno's draft report, the Council explained that 2017-18 operating expenditure was low mainly because of unfilled positions and delays in projects delivery during the amalgamation. The Council indicated it has commenced recruitment to fill vacant positions to deliver water and sewerage programmes. It reiterated the importance of its zero-based budget and concluded that Atkins Cardno's recommended reduction in operating expenditure would negatively impact the water and sewerage budgets significantly.[55]

Atkins Cardno assessed the Council's actual operating expenditure profile over a number of years while tracking its output performance. It found that despite lower expenditure levels over the last few years, the Council's performance was relatively steady over time. Thus, it concluded that the 2017-18 operating expenditure level is likely to be a good baseline to derive efficient operating expenditure for the next determination period.

Using the actual 2017-18 operating expenditure level as a baseline, Atkins Cardno recommended the following specific adjustments to derive its recommended operating expenditure:

- Incorporating the Council's proposed reductions during the 2019 determination period to labour and corporate costs.
- Allowing the Council's proposed increases in energy and some materials costs.
- Applying cost savings associated with the Council's IT transformation and reduced overtime due to a new operations centre.
- Applying further reductions to reflect the scope for catch-up efficiencies (0.5% per annum, cumulative) and continuing efficiency (0.25% per annum, cumulative).

In relation to the catch-up efficiencies, Atkins Cardno advised that the Council has the scope to achieve further savings (of around $3.2 million) through improved efficiency in the following areas.

- **Budgeting.** Adopting a multi-year budgeting process with clear accountability and ownership of budget lines could incentivise medium term planning, improved decision-making and encourage spend-to-save initiatives.
- **Energy efficiency.** The Council could implement a proactive energy efficiency programme to identify measures that can pay for themselves through reduced electricity costs.
- **On-site electricity generation.** The Council could benefit from further on-site generation due to its short pay-back period.
- **Procurement and materials.** Better procurement practice, along with proactive planning and ownership of materials costs, could bring further efficiencies.

4.3.2 We have made a draft decision to apply an 11.9% reduction

Having considered both Atkins Cardno's recommendations and the Council's response to the draft expenditure report, we have decided to accept Atkins Cardno's recommendation to use

55 Central Coast Council, Central Coast Council Expenditure Review – Response to the Draft Report version 1.1, 31 January 2019, p 10.

the Council's 2017-18 actuals as a baseline, and apply the specific adjustments outlined above with the exception of the recommendation to apply catch-up efficiency adjustments.

In its response to Atkins Cardno's draft report, the Council argued that using the 2017-18 baseline is not appropriate as staff levels at the time did not reflect a fully recruited structure, unlike the zero-based budget approach. However, we consider that Atkins Cardno's baseline is appropriate since a fully recruited structure will take time to achieve.

We consider it appropriate to use 2017-18 expenditure as a baseline. Firstly, the Council's operating expenditure had been fairly stable over the 3-year period between 2014-15 and 2017-18. Secondly, the Council's output measures suggest that service standards had been stable or improving over this period, and indeed over the whole 2013 determination period. Taken together, this suggests a consistent trend in recent years of flat costs and consistent service standards. Thirdly, the nature or scale of the Council's services has not materially changed since 2017-18.

However, we have made a draft decision to not apply Atkins Cardno's recommended catch-up efficiency adjustment. We recognise and accept the potential cost savings that Atkins Cardno has identified. However, as explained earlier in the chapter, we also recognise that over a 3-year determination period the Council may not have sufficient capacity to identify and implement these operating efficiencies.

Table 4.4 summarises the specific adjustments we have applied to the Council's proposed operating expenditure, to set the Council's efficient operating expenditure allowance for the 2019 determination period. Appendix F also provides a break-down of these adjustments for water, sewerage and stormwater operating expenditure, separately.

Table 4.4 The Council's operating expenditure (million, $2018-19)

	2020	2021	2022	Total
Council proposed operating expenditure	**103.1**	**102.6**	**102.0**	**307.7**
Adjusting baseline to 2017-18 level	-13.1	-12.6	-12.0	-37.7
Productivity from IT transformation	-0.8	-1.5	-1.5	-3.8
Reduced overtime from call centre	-0.2	-0.4	-0.4	-1.0
Labour cost reduction	-1.7	-1.6	-1.6	-5.0
Hire services adjustment	0.1	0.1	0.1	0.3
Additional materials	0.2	0.2	0.2	0.6
Energy cost increase	4.0	3.5	3.6	11.1
Continuing efficiencies	-0.2	-0.5	-0.7	-1.4
IPART draft operating expenditure	**91.4**	**89.9**	**89.8**	**271.0**
% Reduction to the Council's proposal	11.3%	12.4%	12.0%	11.9%

Note: Years in this table are based on financial years (for example, 2020 means 2019-20). Numbers may not add due to rounding.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, February 2019, Chapter 3 and IPART analysis.

Overall, our draft decision represents an 11.9% reduction to the Council's proposal, on average over three years.

We have not included Atkins Cardno's recommended catch-up efficiencies, however we note that the Council should consider opportunities to implement the recommendations made by Atkins Cardno above. If the Council were to identify opportunities to realise further permanent efficiency savings, we have allowed an efficiency carryover mechanism for operating expenditure, as discussed in the section below.

4.4 Efficiency carryover mechanism

In our 2016 reviews of Sydney Water and Hunter Water's prices, we decided to implement an efficiency carryover mechanism (ECM). The ECM is aimed at removing the potential incentive for a utility to delay efficiency savings from the end of one determination period to the beginning of the next, by allowing it to retain permanent efficiency savings for a fixed period regardless of when they are achieved. The Council supported introducing the ECM.[56]

We made a draft decision:

8 To introduce an efficiency carryover mechanism (ECM) for the Council's operating expenditure.

4.4.1 Introducing an ECM would encourage the Council to pass on efficiencies sooner

We have made a draft decision to introduce an ECM to apply to the Council's operating expenditure. Our intention is to apply the ECM at the next price review, to provide equal incentives for permanent operating expenditure efficiency savings over the 2019 determination period. The introduction of an ECM in this review is in line with our last reviews for Sydney Water, Hunter Water and WaterNSW.

Our current form of regulation allows the Council to retain any cost savings it makes during the regulatory period. This feature is referred to as 'incentive regulation' because it provides a financial reward to incentivise the Council to deliver cost savings. If the cost savings are permanent, they can be passed through to customers through lower prices in subsequent determination periods (when we re-set prices after assessing efficient costs).

A shortcoming of the current approach is that, to the extent there are opportunities to make permanent efficiency savings, the financial reward for achieving these savings deteriorates over the determination period. That is, a saving made earlier in a determination period results in additional profits being retained for longer (before efficient cost allowances are reset at the next review). The consequence is that the Council could have an incentive to delay savings from the latter years of one determination period to the early years of the next determination period. Delaying efficiency savings is wasteful and it means customers have to wait longer before they benefit from lower prices.

The ECM removes the incentive to delay savings by allowing the Council to retain profits for each permanent saving as though the saving were made in the first year of the determination

56 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 222.

period. That is, the total profit is the same regardless of which year the efficiency is actually achieved, which makes the Council indifferent to passing the saving on sooner.

One stakeholder considered that, based on past performance, the Council was unlikely to make efficiency gains, and that the figures would be compromised due to cross-subsidisation.[57] We note that we would scrutinise the Council's ECM proposals at the next determination. For the ECM to apply:

- the Council would need to include details of efficiency savings in its next pricing submission, and demonstrate these are permanent efficiency improvements, and
- we would assess the efficiency gain and the appropriate level of funds to be carried forward (including ensuring appropriate ring-fencing of expenditure).

The ECM would be the same length as the 2019 determination period of three years. This means the ECM would apply to efficiencies made in the first two years of this determination period.

Our ECM equalises the incentive to achieve permanent efficiency savings over time, while preserving all other features of our current approach to regulation. That is:

- Permanent cost increases are held by the business until the next price review where they are assessed by the regulator and, if determined to be efficient, passed on to customers (through price increases as a result of an increase in the business's 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.

Worked examples of how the ECM would apply in practice are included at Appendix C.

57 M. Redrup submission to IPART Issues Paper, October 2018, p 1.

5 Capital expenditure and asset lives

This chapter presents our assessment of the Council's prudent and efficient capital expenditure. It also explains our decision to subtract $10.3 million from the Council's NRR to ensure that customers do not pay twice for projects that were allowed for in prices over the 2013 determination period but were delayed or deferred until the 2019 determination period. In addition, it discusses our draft decision on asset lives for the Council's capital assets.

Under the building block method, capital costs are not recovered as they are expended. Instead, prudent and efficient capital expenditure is added to the RAB and recovered over time through allowances for a return on assets and regulatory depreciation (discussed in Chapter 3).

As with operating expenditure, we engaged Atkins Cardno to review the Council's historical and forecast capital expenditure and recommend the prudent and efficient amount to include in the RAB. As part of its review, Atkins Cardno also:

- Recommended what asset lives should be applied to the Council's existing assets and new assets it creates over the 2019 determination period.
- Reviewed the Council's performance against output measures over the 2013 determination period, and recommended new output measures. Some of the new output measures relate to the completion of capital projects.

The new output measures for the 2019 determination period and associated reporting timeframes are outlined in Appendix B.

5.1 Summary of our draft decisions

We have made draft decisions:

- To largely accept that the Council's actual capital expenditure over the 2013 determination was prudent.
- To include an allowance of $178.1 million for capital expenditure over the 2019 determination period, which is a 37.5% reduction from the Council's proposal of $285.0 million over the 3-year period.
- To subtract $10.3 million over three years from the NRR. This is an exceptional adjustment to reflect the amount of revenue that the Council recovered from customers, on a present value neutral basis, for projects that the Council deferred or delayed.
- To adopt the Council's proposed approach to calculating remaining lives for existing assets, and to assign asset lives of 75 years for new water and sewerage assets, and 95 years for new stormwater assets.
- To accept our consultant's (Atkins Cardno's) recommendations on output measures. These include three additional measures that track the completion of major capital projects. This is discussed in Appendix B.

5.1.1 How did we establish the prudent and efficient allowance for capital costs?

To make our capital expenditure decisions, we first considered the Council's historical capital expenditure and performance over the 2013 determination period. We then considered: the capital programs it has proposed for the 2019 determination period; whether the proposed expenditure was fully justified; and, any potential savings it could achieve through greater efficiencies in delivering its capital program.

To aid us in this assessment, we engaged Atkins Cardno to undertake a review of the Council's historical and proposed capital expenditure, as well as a strategic review of the Council's long-term investment plans, asset management systems and practices. In undertaking the review, Atkins Cardno assessed:

- the efficiency and prudence of capital expenditure for the period from 1 July 2013 to 30 June 2019, and
- the efficiency and prudence of proposed capital expenditure for the period from 1 July 2019 to 30 June 2024.

See Box 5.1 for a summary of these tests.

Box 5.1 Prudence and efficiency tests

In reviewing expenditure, Atkins Cardno applied prudence and efficiency tests to historical and proposed expenditure.

Prudence test

This test assesses whether the decision to invest in an asset was one that the Council, acting prudently, would have been expected to make in the circumstances existing at the time. Having regard to information available at the time, the test assesses both:

- how the decision to invest was made, and
- how the investment was executed (that is, whether the construction or delivery of the asset was cost effective).

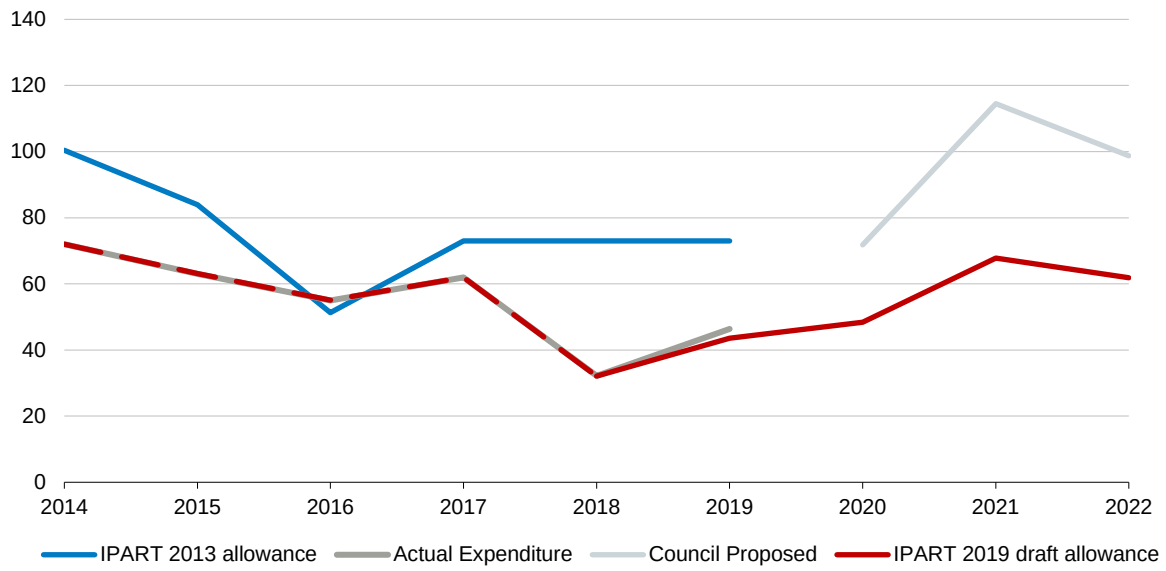
In examining forecast expenditure, the prudence test examines the consistency of this expenditure with the utility's longer-term capital expenditure program.

Efficiency test

This test examines whether the Council's actual and proposed expenditure represents the best and most cost effective way of delivering the monopoly services. Including whether the proposed capital expenditure represents the best way of meeting customers' needs (over the life of the asset), subject to the utility's regulatory requirements.

We have considered Atkins Cardno's review and recommendations in forming our draft decisions on prudent and efficient capital expenditure. Our draft decisions are summarised in Figure 5.1.

Figure 5.1 Council's past and forecast total capital expenditure ($million, $2018-19)



5.1.2 The Council's performance over the 2013 determination period

The Council's actual capital expenditure over the 2013 determination period has been significantly lower than IPART's allowances.[58] We have accepted the actual capital expenditure over the 2013 determination period as prudent and efficient, with minor adjustments to the 2018-19 forecasts, relating to changes made to expenditure allowances in the 2019 determination period.

5.1.3 The Council's expenditure over the 2019 determination period

We have accepted Atkins Cardno's recommended adjustments to capital expenditure and set the Council's allowance at $178.1 million over the three years of the 2019 determination period. In doing so, we reduced the Council's proposed capital expenditure of $285.1 million by $107.0 million (or 37.5%), which included the following adjustments:[59]

- $63.7 million (or 22.4%) reductions in renewals,
- $27.6 million (or 9.7%) in re-phasing specific capital projects over a longer period, and
- $15.7 million (or 5.5%) in efficiency savings.

Our draft decisions reflect our assessment of the efficient and prudent level of capital expenditure that should be recovered through prices.

58 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 86.
59 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 117.

5.1.4 Adjusting the NRR for historical capital expenditure underspends

The Council has consistently underspent its capital allowance over the previous two determination periods. In large part, this underspend reflects decisions to delay or defer major capital projects, which do not necessarily represent genuine efficiency savings.

The Council has acknowledged this point in its pricing proposal, and proposed excluding a portion of its proposed capital expenditure from the RAB.

However, we have decided that – in this case – it is more equitable and efficient to address this historical capital expenditure underspend by reducing the NRR by $10.3 million over three years. This draft decision ensures that customers do not pay too much for capital projects that were delayed or deferred, and ensures that current customers do not pay for projects that future customers enjoy.

5.1.5 Asset lives

We have made our draft decision on asset lives based on Atkins Cardno's recommendations and our own calculations. These asset lives are used to calculate the regulatory depreciation component of the NRR.

Our assessment of the Council's capital expenditure over the 2013 determination period, and our assessment of the Council's proposed capital program over the 2019 determination period are discussed in Sections 5.2 and 5.3, respectively. Our NRR adjustment to address capital expenditure underspends is discussed in detail in Section 5.4. Our draft decision on asset lives is discussed in Section 5.5.

5.2 Assessment of capital expenditure over the 2013 determination period

We made a draft decision:

9 To set the prudent and efficient level of past capital expenditure to be included in the regulatory asset base (RAB) as shown in Table 5.1.

Table 5.1 Draft prudent and efficient past capital expenditure ($million, $2018-19)

Service		2014	2015	2016	2017	2018	2019
Water	Actual expenditure	20.0	13.0	9.0	19.9	10.0	16.3
	IPART draft decision	**20.0**	**13.0**	**9.0**	**19.9**	**10.0**	**13.6**
Sewerage	Actual expenditure	36.7	41.1	38.8	30.9	13.8	20.3
	IPART draft decision	**36.7**	**41.1**	**38.8**	**30.9**	**13.8**	**20.3**
Stormwater	Actual expenditure	15.3	9.0	7.3	11.2	8.3	9.8
	IPART draft decision	**15.3**	**9.0**	**7.3**	**11.2**	**8.3**	**9.7**
Total	Actual expenditure	72.0	63.1	55.1	62.0	32.1	46.4
	IPART draft decision	**72.0**	**63.1**	**55.1**	**62.0**	**32.1**	**43.6**

Note: Years in this table are based on financial years (for example, 2014 means 2013-14), and the 2019 figures are forecasts. As we set prices separately for the former Gosford and Wyong Councils in the 2013 Determinations, the figures prior to the amalgamation represent the sum of Gosford and Wyong expenditure.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019 p 89 and IPART analysis.

Actual capital expenditure in the current determination period was significantly lower than IPART's 2013 allowances (Table 5.2). The Council spent $124.0 million (27.3%) less than its total allowance ($454.6 million) over the 6-year period.[60]

Atkins Cardno found the underspend was caused by a significant number of key capital projects being delayed or deferred during the council amalgamation, which partly reflected a high number of unfilled staff vacancies.[61]

Table 5.2 The Council's actual and allowed past capital expenditure ($million, $2018-19)

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
IPART allowance	100.4	83.9	51.3	73.0	73.0[a]	73.0[a]
Actual expenditure	72.0	63.0	55.0	62.0	32.2	46.4
Variance	28.4	20.9	-3.7	11.0	40.8	26.6

a For the purpose of this analysis we have held the 2016-17 capital expenditure allowance constant in real terms for 2017-18 and 2018-19 (even though we did not set an explicit allowance in these years).

Note: As we set prices separately for former Gosford and Wyong Councils in the 2013 determination, the figures prior to the amalgamation represent the sum of the former Gosford and Wyong Councils' allowances. 2019 figures are forecasts. Figures may not add due to rounding.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 89 and IPART analysis.

Overall, Atkins Cardno found that actual expenditure over the 2013 determination period was prudent and efficient. It recommended two minor adjustments to forecast capital expenditure for 2018-19 (a $2.7 million reduction for water and a $0.1 million reduction for stormwater),[62] commensurate with adjustments made to specific projects that carry over into the 2019 determination period.

The Council did not support the small reduction to 2018-19 capital expenditure in its response to Atkins Cardno's draft report, on the basis that its renewals program was on track to meet forecast expenditure.[63] However, we note that Atkins Cardno has recommended the efficient level of renewals expenditure, and we consider that this allowance need not be equal to the Council's actual expenditure.

60 We note that in 2013 we set capital allowances separately for the former Gosford and Wyong Councils for four years, we have presented our analysis in total, and also extrapolated the final two years of allowances based on the 2016-17 allowance.

61 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 90.

62 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, pp 108 - 111.

63 Central Coast Council, *Response to the Draft Expenditure Report*, January 2019, pp 35-39.

5.3 Assessment of proposed capital expenditure over the 2019 determination period

We have made a draft decision:

10 To set the efficient level of capital expenditure to be included in the regulatory asset base (RAB) over the 2019 determination period as set out in Table 5.3.

Table 5.3 Draft prudent and efficient forecast capital expenditure ($millions, $2018-19)

Services		2019-20	2020-21	2021-22	Total
Water	Council's proposal	21.7	69.7	46.2	137.6
	IPART draft decision	**14.1**	**32.9**	**27.1**	**74.1**
	Difference	-34.8%	-52.9%	-41.3%	-46.1%
Sewerage	Council's proposal	39.8	34.4	41.9	116.1
	IPART draft decision	**24.4**	**25.4**	**26.1**	**76.0**
	Difference	-38.6%	-26.1%	-37.7%	-34.5%
Stormwater	Council's Proposal	10.4	10.4	10.6	31.5
	IPART draft decision	**9.8**	**9.6**	**8.7**	**28.0**
	Difference	-5.9%	-8.3%	-18.6%	-11.0%
Total	Council's Proposal	71.8	114.5	98.7	285.0
	IPART draft decision	**48.4**	**67.8**	**61.9**	**178.1**
	Difference	-32.6%	-40.8%	-37.3%	-37.5%

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, pp 114-117 and IPART analysis.

The Council proposed an ambitious future capital expenditure program, with average proposed annual expenditure roughly double the average annual spent in the current period.[64] The key components of the proposed increase in capital expenditure include:

- a large increase in renewals expenditure across all services and various asset types, and
- the delivery of the Mardi to Warnervale Pipeline project.

Overall, Atkins Cardno recommended a reduction of 37.5% relative to the Council's proposed capital expenditure. To reach its recommendation, Atkins Cardno split the Council's proposed capital expenditure into 'asset renewals' and 'other projects' (ie, new projects).[65]

Our draft decision provides an allowance for all capital expenditure, rather than an allowance for specific projects. Our draft decision does not prevent the Council from re-prioritising and completing any individual projects it considers necessary to deliver its services.

At the next review of the Council's prices, scheduled to commence in 2022, we will review the Council's actual expenditure over the 2019 determination period. If the Council's capital expenditure exceeds the amount allowed in our current determination, and this expenditure is found to be prudent and efficient, it will be rolled into the RAB at that time.

64 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 89 and p 117.

65 Due to historical system changes, capital expenditure for the former Gosford and Wyong Councils was submitted in different formats over time (with assets being re-categorised). This meant that, in order to assess variance in expenditure over time, Atkins Cardno was only able to categorise expenditure into 'renewals' and 'other projects' for each service (water, sewerage and stormwater).

5.3.1 We did not find evidence to support the Council's proposed increase in renewals

The Council proposed a large increase in its asset renewals for water, sewerage and stormwater services. In part, this was informed by analysis conducted by Morrison Low of the Council's reported asset backlog. The asset backlog is calculated as the expenditure needed to bring all assets to at least a certain standard. In its analysis, the Council calculated the expenditure required to bring all assets to at least a "satisfactory" condition.[66]

Atkins Cardno found that higher expenditure on renewals was not required to maintain existing service standards. In Atkins Cardno's view, using asset backlogs is not an appropriate approach to quantify asset renewals expenditure, as a condition rating below 'average' does not mean that an asset cannot provide a service at the required standard.[67] It is appropriate for many assets to run to failure where there is little or no impact on service until this failure. Tellingly, the Council adopts the strategy of running assets to failure for a number of asset classes, including water reticulation mains.

In responding to the Council's comments to its draft expenditure report, Atkins Cardno outlined that the following hierarchy could be followed to estimate renewals requirements:

1. **Asset age**. First, the utility could calculate and examine each asset's expected remaining useful life.
2. **Asset condition and risk**. Second, adjusting each asset's expected useful life for the asset's observed condition.
3. **Asset performance**. Third, by considering the impact of asset performance (or failure) on customer service to establish whether an asset could be run to failure.

Atkins Cardno outlined that the backlog ratio has been used as a metric for other purposes, particularly as a high-level measure of financial sustainability, but that this is not equivalent to forecasting asset renewal requirements. Therefore, Atkins Cardno found that maintaining assets at the 'satisfactory standard' is not consistent with minimising the life cycle cost of assets and is not efficient. Given that Atkins Cardno's view was that higher expenditure on renewals was not required to maintain existing service standards, Atkins Cardno recommended that expenditure be maintained at levels consistent with actual expenditure during the 2013 determination period.

Atkins Cardno's recommended capital expenditure on renewals is outlined in Table 5.4.

66 To do this, the condition of all assets is graded between a scale of 1 ('as new') and 5 ('poor'), with a 'satisfactory' asset at condition grade 3.

67 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, pp 37-39.

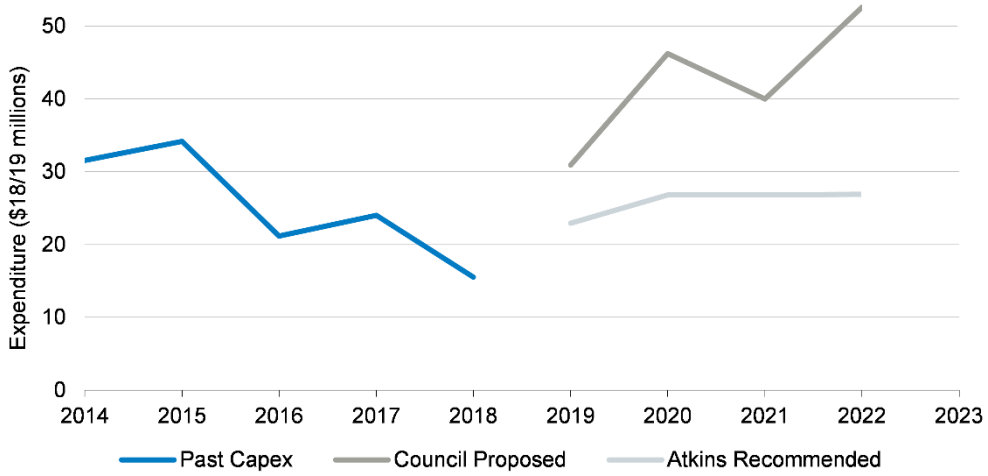
Table 5.4 Council's proposed and Atkins Cardno recommended renewals expenditure ($million, $2018-19)

	2019-20	2020-21	2021-22
Council's proposed	48.6	41.9	53.9
Atkins Cardno recommended	26.8	26.8	26.8
Difference	-44.9%	-36.0%	-50.3%

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 96, Table 4-5.

We have adopted Atkins Cardno recommended profile for asset renewals. Furthermore, Figure 5.2 shows that Atkins Cardno's adjustments to asset renewals would still represent an increase in expenditure from the average level over recent years.

Figure 5.2 Asset renewals capital expenditure for the 2013 and 2019 determination periods



Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, Tables 4-5, 4-8, 4-9 and 4-10.

5.3.2 We have re-profiled two major projects over longer timeframes

Atkins Cardno generally found the other projects it assessed to be prudent in terms of project need. However, it had concerns over the Council's ability to complete multiple large projects within short (and overlapping) timeframes. Thus it has adjusted the timing of expenditure for the Mardi to Warnervale Pipeline and Mangrove Creek Dam spillway upgrade projects, as summarised in Table 5.5. This is because of specific concerns it has identified around the timing of these projects (Box 5.2).

We note that Atkins has not recommended any specific adjustments to the total level of expenditure on each of these projects. However, adjusting the timing results in a lower overall capital expenditure allowance over the 3-year determination period to 2021-22. IPART will review the Council's actual capital expenditure on these projects as part of the next pricing review.

Table 5.5 Council's proposed and Atkins Cardno's recommended adjustments to specific projects ($2018-19 thousands)

	2019	2020	2021	2022	2023	2024	Total
Mardi to Warnervale Pipeline							
Council proposed	640	4,031	39,061	13,748	0	0	**57,480**
Atkins Cardno recommended	640	4,031	13,202	13,202	13,202	13,202	**57,480**
Mangrove Creek Dam Spillway upgrade							
Council proposed	100	520	919	3,750	1,890	0	**7,179**
Atkins Cardno recommended	100	520	919	2,570	2,570	500	**7,179**

Note: Years in this table are based on financial years (for example, 2019 means 2018-19).

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, Table 4-6 and Table 4-7.

Box 5.2 Atkins Cardno's rationale for adjustments to major water projects

Mardi to Warnervale Pipeline

Atkins Cardno found the expenditure to be prudent in terms of project need, but raised concerns over the Council's proposed project timing because:

- the Council may not be able to recruit adequate skilled project staff within the proposed timeframe, and
- a Review of Environmental Factors (REF) is required before construction can proceed.

Mangrove Creek Dam Spillway

Atkins Cardno also found this expenditure to be prudent, but adjusted the project timing because the Council did not provide a business case for the project, which suggests that Council may not be ready to implement the project within its proposed timeframe.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, pp 100-103.

We have adopted Atkins Cardno's recommended profile for other projects. In our view, the Council's proposed expenditure on new projects is ambitious, particularly given it significantly underspent its capital allowance during the current determination period.

5.3.3 Continuing and catch-up efficiencies to capital expenditure

In addition to the specific adjustments outlined above, Atkins Cardno recommended adjustments for continuing and catch-up efficiencies.

First, Atkins Cardno recommended a 0.25% per annum reduction to the Council's capital expenditure allowances to reflect 'continuing' efficiencies.[68] This adjustment reflects that ongoing productivity improvements should reduce costs gradually over time. In other words, it represents the scope for a top performing or 'frontier' company to continue to improve efficiency over time.

68 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 112.

Second, Atkins Cardno also identified four areas where the Council could achieve catch-up efficiencies (Box 5.3). The catch-up efficiency adjustment reflects the scope for the Council to make efficiency improvements in systems and processes to achieve the performance of an efficient frontier company over time.[69]

Box 5.3 Atkins Cardno's catch-up efficiency adjustments

Capital program management. Effective program management includes better planning and portfolio optimisation, which helps identify synergies, and optimise capital programs by targeting spending to areas where it is most needed and where it can have the greatest impact on customer outcomes.

Procurement. Procurement efficiency involves finding better ways to purchase capitalised goods and services. Leading utilities use a variety of approaches, including alliancing and partnering.

Value engineering. Value engineering looks to reduce the cost of delivering a given scheme by challenging scope and methods and looking for alternative ways to achieve the outcome required.

Cost estimation. Cost estimation tools and techniques should be streamlined, and not depend on the project context and location. Significant project cost estimates should not solely rely on bottom-up analysis, with little reference to (or explanation of variance from) outturn costs for similar schemes. Risk and contingency should be managed at a portfolio level.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, pp 112-113.

In total, Atkins Cardno's continuing and catch-up efficiencies represent savings of around $15.7 million (or a 5.5% reduction to the Council's proposed capital expenditure) over three years.[70] Table 5.6 summarises Atkins Cardno's recommended adjustments for continuing and catch-up efficiencies.

Table 5.6 Cumulative efficiency challenge to capital expenditure (% of Atkins Cardno's adjusted capital expenditure)

	2019-20	20-2021	2021-22
Continuing efficiency at the Frontier	***0.25***	***0.5***	***0.75***
Catch-up: capital program management and optimisation	0.5	1	1.5
Catch-up: value engineering	0.75	1.5	2.25
Catch-up: cost-estimating	0.5	2	3
Catch-up: procurement	1.5	3	4
Total catch-up efficiency	***3.25***	***7.5***	***10.75***
Total efficiency	**3.5**	**8**	**11.5**

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 113, Table 4-11.

In its response to Atkins Cardno's draft report, the Council opposed the catch-up efficiencies to projects that were at an advanced stage.[71] The Council argued that it could not achieve the catch-up efficiency savings recommended by Atkins Cardno for specific projects that had already progressed through the planning stages.

69 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 112-113.
70 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 117.
71 Central Coast Council, *Response to the Draft Expenditure Report*, January 2019, pp 41-43.

We have accepted Atkins Cardno's recommended adjustments for continuing and catch-up efficiencies. Atkins Cardno's adjustments apply at a program level, rather than to individual projects, and have been phased gradually to reflect that the scope to find efficiencies is lower for projects that are already well-progressed. For example, Atkins Cardno phased the procurement efficiency from 1.5% in the first year of the determination period, to 4% in the third year recognising that a larger proportion of contracts in early years would have already been procured. We consider these adjustments reflect the potential for the Council to realise efficiencies across its capital program as it delivers new projects as a merged Council.

5.4 We have made an exceptional adjustment to address the Council's previous capital underspends

As discussed in Section 5.2, the Council underspent its capital expenditure allowance over the 2013 determination period by $124.0 million (or 27.3%). This was largely because it did not commence or complete a number of projects. However, the Council received a return of, and return on, capital for these deferred projects over the 2013 determination period.

In its proposal, the Council recognised that it over-recovered revenue, and underspent its allowances, over the 2013 determination period.[72] The Council proposed to use $93 million of 'surplus funding'[73] to exclude $67 million of capital expenditure from its RAB. We estimate this adjustment would reduce the Council's total NRR by about $4 million over the 3-year determination period.

In this case, we consider an adjustment to reflect that the Council underspent its capital expenditure allowance in the 2013 period by deferring and delaying projects is appropriate. However, we consider our draft decision to reduce the NRR by $10.3 million over three years is more equitable and efficient than the Council's proposal.

We made a draft decision:

11 To address the Council's previous capital underspends by a $10.3 million reduction to its notional revenue requirement (NRR) over the 2019 determination period.

5.4.1 The Council has consistently under-delivered its capital projects in recent regulatory periods

Following our Issues Paper and the Council's pricing proposal, we received several submissions indicating that the Council's capital expenditure has not delivered appropriate service levels. For example, two individuals suggested that if the Council had delivered Mangrove Creek Dam spillway upgrade, the Central Coast's water security would have been improved.[74]

72 Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 59.

73 The 'surplus funding' was due to over-recovery of revenue because demand exceeded forecasts, and because the Council spent less than our expenditure allowance.

74 Anonymous submissions to Issues Paper (W18/2595 and W18/2677), October 2019.

We noted our stakeholders' submissions on capital expenditure and service levels. As briefly discussed in Section 5.1, we recognised that Council has over-collected revenue from its customers but under-delivered its capital programs.

We have decided to reduce the Council's NRR by $10.3 million to address this capital underspend. In reaching our draft decision, we analysed the Council's capital projects line by line and its past revenue profile to estimate how much revenue the Council has over-collected from its customers.

Table 5.7 lists major projects the Council proposed in its 2009 and 2013 pricing proposals, which our expenditure review consultants at the time considered prudent and efficient. However, the Council did not deliver these projects during the determination periods.

Table 5.7 Key capital project deferrals ($million, $2018-19)

Key project	2009 Determination		2013 Determination		2020-2024
	Proposed	Expended	Proposed	Expended	Proposed
Mardi to Warnervale pipeline	29.5	0.4	26.3	2.4	57.5
Charmhaven Sewerage Plant	18.6	1.0	See below	0.2	10.2
Gosford CBD – water and sewerage upgrades	--	--	8.0	0.4	37.0[a]
Porters Creek stormwater harvesting	13.3	0.1	10.6	0.2	0.0

a To be funded by NSW Government grants.

Sources: 2013 Wyong pricing submission, p 135; Central Coast Council proposal to IPART, March 2019 AIR/SIR Update; IPART analysis.

Table 5.8 lists two projects that the Council proposed in the 2013 determination period. While our expenditure review consultant (Oakley Greenwood) did not consider these projects to be efficient, the Council still included these projects in its capital expenditure budget for the same period (ie, the Council used its revenue allowance to fund these projects).[75] However, it did not deliver these projects in the review period, and is re-proposing them in the 2019 determination period. [76]

Table 5.8 Budgeted projects not delivered ($million, $2018-19)

	2013 determination period			2020-2024
	Proposed	Budgeted	Expended	Proposed
Charmhaven Sewerage Plant	14.1	13.2	0.2	10.2
Mangrove Creek Dam Spillway	9.0	5.8	0.0	7.1

Sources: 2013 Wyong Shire Council pricing submission, pp 141-142; Central Coast Council proposal to IPART, March 2019 AIR/SIR Update; and IPART analysis.

We have estimated that overall, in present value terms, the Council has collected around $10.3 million from its customers over the 2013 determination period from these delayed

75 Oakley Greenwood, *Review of Capital and Operating Expenditure for Wyong Shire Council,* November 2012, pp 11, 96-97.

76 Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 121-122, 127.

projects (Table 5.9). The Council's capital underspends resulted from deferral or delays in capital projects, rather than genuine efficiencies being achieved.

Table 5.9 Revenue recovered from customers for delayed projects over the 2013 determination period ($million, $2018-19)

Project	Revenue over-recovered
Mardi to Warnervale pipeline	3.8
Charmhaven Sewerage Plant	2.1
Porters Creek stormwater harvesting	2.0
Gosford CBD – water and sewerage upgrades	1.6
Mangrove Creek Dam Spillway	0.8
Sub-total	**10.3**

Sources: 2013 Wyong pricing submission, 2019 Central Coast Council Annual Information Return 2017-18.

We have made an exceptional adjustment to reduce the Council's NRR by $10.3 million over the next three years to address these underspends. We consider it appropriate to address these underspends via a reduction to NRR rather than reducing the future value of its RAB, as proposed by the Council. Our draft decision:

- Reduces the Council's revenue allowance for future capital expenditure for the revenue it has already received from customers for deferred and delayed projects.
- Is more consistent with our regulatory approach, where we provide the Council with an allowance equal to an efficient benchmark business. However, in this case, we have made an additional adjustment to reflect that the Council has already received revenue from customers in the previous period for specific projects that were delayed or deferred.
- Is more equitable and efficient over time, because it ensures that current customers do not pay for the costs of servicing future customers.

Going forward, we have made a draft decision to include three additional output measures that track the delivery of specific capital projects. This would encourage the Council to report its progress on these specific projects on an annual basis, including the reasons for any delays or project deferrals. These output measures are discussed in more detail at Appendix B.

We note that we do not intend to apply these adjustments as a matter of course in pricing reviews and would consider the circumstances case by case.

We have adjusted the Council's NRR because of two exceptional circumstances:

1. The Council has underspent its capital expenditure allowances over multiple periods, and this underspend in large part reflects delayed and deferred projects that it has subsequently re-proposed as efficient capital expenditure.
2. The Council itself recognised in its proposal that it over-collected revenue and proposed to address this. We consider that our approach to adjusting the NRR rather than excluding assets from the RAB is more equitable for customers.

5.5 Regulatory asset lives over the 2019 determination period

Water utilities typically construct and operate assets which are long-lived. Part of the building block method is to provide an allowance for regulatory depreciation that ensures that the capital a utility invests in its regulated assets is recouped from customers over the useful life of each asset. To calculate this allowance, we need to decide on the appropriate useful lives for the assets in the Council's RAB. As with capital expenditure, we sought advice from Atkins Cardno on the Council's asset lives.

We made a draft decision:

12 To apply the asset lives as shown in Table 5.10 in the 2019 determination period.

Table 5.10 Asset Lives in the next determination period (Years)

	Water	Sewerage (Gosford)	Sewerage (Wyong)	Stormwater
Average existing assets at 30 June 2019				
IPART draft decision	**77.0**	**77.2**	**71.2**	**80.8**
New assets to be created in the next determination period				
IPART draft decision	**75.0**	**75.0**	**75.0**	**95.0**

For **existing assets** at 30 June 2019, the Council has proposed to use the weighted average remaining regulatory asset lives from the previous determination, and reduced them by 6 years.[77] Atkins Cardno found this consistent with our 2013 determination and recommended no adjustments to these values.[78] We have therefore accepted the Council's proposed approach to calculating existing asset lives, and updated the calculation to reflect the RAB values we have approved in this draft decision.

For **new assets** created in the 2019 determination period, the Council proposed asset lives of 100 years across all assets (water, sewerage and stormwater).

Atkins Cardno analysed the Council's fixed asset register – reviewing assets created since 30 June 2013 – to estimate the economic lives of new assets created over the previous determination period. It found that 100 years was not consistent with the economic lives of the assets being created and recommended shorter lives (see Table 5.11 below).

We also analysed the Council's fixed asset register by considering all the assets on this register, including those created before 2013. This is because the assets created over the previous period may not necessarily be representative of all the assets the Council creates over time.

After considering Atkins Cardno's and our analysis, our draft decision is to accept Atkins Cardno's recommended asset life for stormwater assets. Both sets of analysis suggest that the Council's stormwater assets tend to have asset lives that are a little less than 100 years, on average.

77 Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 140-141.
78 Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, p 118.

However, for water and sewerage assets, we analysed the Council's fixed asset register and identified a wide dispersion in asset lives. We found that the average life for water assets is around 75 years, and for sewerage assets around 60-65 years. This data, and the fact that the two major new projects proposed by the Council for the 2019 period – the Mardi to Warnervale Pipeline and the Mangrove Creek spillway – have asset lives of 77 and 93 years, respectively, further supports longer asset lives than those recommended by Atkins Cardno.

Given the gaps in the Council's fixed asset register (about 20% of the water and sewerage assets have no replacement costs assigned) and the absence of better-quality data, we have decided to use 75 years for both new water and sewerage assets as an interim step.

Table 5.11 New Asset Lives in the Next Determination Period (in Years)

	Water	Sewerage	Stormwater
Council proposed	100.0	100.0	100.0
Atkins Cardno recommended	65.0	41.0	95.0
IPART Draft Decision	**75.0**	**75.0**	**95.0**

Sources: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, pp 120-122 and IPART analysis.

Regarding data quality, our analysis of the Council's assets supports a better disaggregation of the Council's RAB into asset classes that more closely reflect the underlying economic lives of these assets. We note that the Council has commenced a review of its infrastructure assets, including the asset lives to be adopted in future. We encourage the Council to consider applying disaggregated asset lives which would better reflect the economic life of assets used to supply its services.[79] Doing so could promote the Council's long-term financial sustainability (as discussed further in Chapter 14).

We recommend:

1 That the Council consider disaggregating its regulated water, sewerage and stormwater assets into classes that reflect the underlying economic lives of the assets.

79 For example, Sydney Water has disaggregated its assets into different asset categories such as Civil, Electrical, Mechanical, Electronic and Non-Depreciating and applied specific asset lives to each category.

6 Forecast water sales and customer numbers

To allocate the Council's efficient costs among customers, we decide on forecast water demand and customer numbers, as well as forecast chargeable sewerage volumes. These forecasts are used to calculate the water, sewerage and stormwater price levels.

It is important that the forecasts are reasonable. If the Council's actual water sales, customer numbers and chargeable sewerage volumes differ markedly from the forecasts over the determination period, the determined prices will result in the Council significantly over- or under-recovering 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.

6.1 Summary of our draft decisions

We have largely accepted the Council's water demand forecasts as we consider it has significantly improved its demand forecasting approach. Its forecasts have been peer reviewed by the Institute of Sustainable Futures (ISF) at the University of Technology Sydney, which found its modelling was reasonable within existing data constraints.

We reviewed the ISF report and broadly agree with the findings. However, we do not agree with ISF and the Council that a demand elasticity factor should not be applied, given water usage prices are reducing. We have therefore applied demand elasticity adjustment factors consistent with our 2016 review of Sydney Water's prices.

We have accepted the Council's customer numbers for water, sewerage and stormwater services. However, we have made an adjustment to recover the difference from the broader customer base, where the Council has a revenue shortfall due to its community service obligations relating to exempt properties and pensioner rebates.

As part of our 2013 review, we recognised that there is uncertainty in forecasting water demand and introduced a mechanism to allow us to adjust future prices to reflect revenue under- or over-recovery due to actual demand varying from our forecasts by more than 10% (+ or -).

Over the four years from 2013-14 to 2016-17, the Council's total actual water sales were 5.5% above the forecast levels. This is within the volatility band we established at the last review, so we have not made any adjustment as part of this review. However, for the 2019 determination period, we have made a draft decision to narrow the band in which we would consider making an adjustment to 5% (+ or -). This reduces revenue volatility for the Council, and also protects customers from paying too much over time. It is also consistent with our approach for Sydney Water and Hunter Water.

6.2 Forecast water sales volumes

We made draft decisions:

13 To adopt the water demand forecasts as set out in Table 6.1.

14 To set the average residential consumption per customer for the purposes of setting developer charges to 150 kL for each year of the determination.

Table 6.1 Water demand forecasts over the 2019 determination period (ML)

	2019-20	2020-21	2021-22
Council proposal			
Houses	18,267	18,383	18,497
Apartments	2,830	2,843	2,856
Non-residential	6,075	6,127	6,176
Metered exempt properties	0	0	0
IPART draft decision			
Houses	18,558	18,969	19,086
Apartments	2,839	2,861	2,874
Non-residential	6,585	6,748	6,803
Metered exempt properties	771	790	796

Sources: Central Coast Council Annual Information Return 2017-18; and IPART analysis.

We have accepted the Council's demand forecasts as sound, however we have corrected two discrepancies and applied demand elasticities, as discussed below. We have also set the equivalent tenement value per customer (for setting developer charges) at 150 kL, based on average residential water usage.

6.2.1 Sales forecast performance over the previous determination periods

For the 2009 and 2013 Determinations, both former Councils estimated demand using a Demand Side Management Decision Support System (DSM DSS) model.

Over the **2009 determination period,** water sales were 10.9% below forecast. This was attributed to slower than expected bounce back following the lifting of water restrictions put in place during the millennium drought.

Over the **2013 determination period,** water sales were 5.5% above forecast. In its proposal, the Council identifies that this was related to a number of factors:

- relaxing drought restrictions[80]
- winding back of 'water wise' messaging
- dry conditions in 2017 and 2018
- higher population growth than expected, and
- more accurate consumption readings from a rollout of around 28,000 new meters.[81]

6.2.2 The Council has improved its demand forecasting approach

In preparing for this review, the Council retired the DSM DSS model, recognising it had relatively outdated assumptions, and adopted a more robust model for this review. It used two inputs to prepare its water demand forecasts:

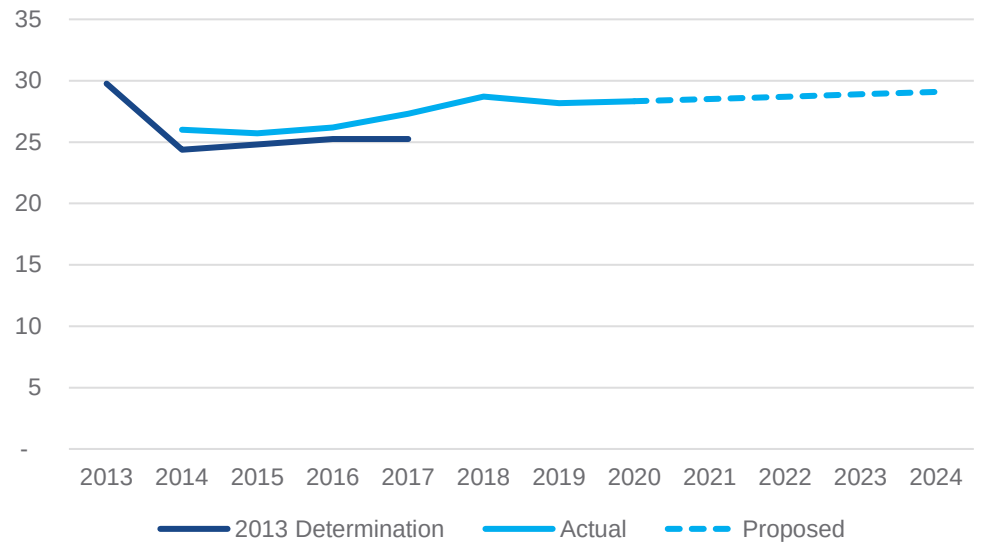
1. It engaged a consultant ('.id – the population experts') to prepare population and dwelling forecasts to estimate the number of customers across different categories of households and businesses.
2. It then used the **Integrated Supply-Demand Planning (iSDP) model** to forecast consumption at the household and business level across each category.

This represents a significant step forward in the Council's demand modelling approach. It has also adopted this model to support regional planning by aligning with Hunter Water's demand forecasting approach. Hunter Water used the iSDP model for its 2015 pricing proposal, and it was also used in developing the *Lower Hunter Water Plan*.[82]

The Council forecasts that water demand will increase by more than 500 ML (or 2%) from 2020 to 2023.[83] The predicted annual population growth is expected to be 1.1% per annum.[84] Figure 6.1 shows the Council's past and proposed water consumption.

80 Drought restrictions were gradually removed from mid-2007 and completely removed by mid-2012.
81 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 58.
82 NSW Metropolitan Water Directorate, *Lower Hunter Water Plan*, January 2014.
83 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 136.
84 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 135.

Figure 6.1 Past and proposed water consumption (GL)



Note: We have smoothed reported values for 2015-16 and 2016-17, noting that, due to the Council merger in May 2016, 2015-16 reported actuals covered a 10.5 month period and 2016-17 reported actuals covered a 13.5 month period.

Sources: Gosford City Council Annual Information Return 2016-17, Wyong Council Annual Information Return 2016-17, and Central Coast Council Annual Information Return 2017-18.

6.2.3 ISF peer reviewed the forecasts and found they were reasonable with room to improve data quality

The Council engaged ISF to review its water demand forecasts, and identify areas for future improvements to forecasting. ISF concluded that the Council successfully applied the iSDP model and that the forecasts appeared reasonable. Box 6.1 outlines ISF's recommended adjustments to the Council's future forecasting, which generally relate to data quality issues, and cannot be implemented in the short term.

We have reviewed the ISF report and consider that the Council's demand forecasting approach is generally sound, however we identified two issues:

- discrepancies in water consumption values reported in the pricing submission and Annual Information Return (AIR) to IPART, and
- that the Council did not factor demand elasticity into its water usage forecasts.

Box 6.1 ISF recommended long run improvements to the Council's forecasting

1. Extending the baseline years for future water sale forecasts

The Council used 2013-14, 2014-15 and 2015-16 as the baseline, as water restrictions applied to mid-2012 (making earlier years unsuitable). The Council's baseline is short compared to the seven years used by Hunter Water. ISF found that, given available data, the baseline represents average climate conditions. But, it recommended that the Council aim to use a longer baseline in future.

2. Improving the data structure of customer metered data

ISF found shortcomings in the raw customer meter data, including that property data could not be tracked over time when new meters were installed, and too many customer types (160) that are not consistently applied. ISF recommended adopting unique property identifiers and fewer categories.

3. Improving the data quality and quality assurance of customer metered data

ISF identified errors in the raw customer meter data, and recommended creating a separate field to indicate correct/incorrect data, as well as error checking at multiple stages.

4. Developing a single customer billing system for the joint Council region

ISF recommended developing one billing system which meets future demand forecasting needs.

5. Using the latest version of the iSDP model when it is available

ISF is updating the iSDP model (updating assumptions for the latest data, and potentially incorporating a NSW-specific version) and recommended the Council adopt this when available.

6. Conducting a local end-use and stock data survey

ISF recommended refining residential forecasts with local data, using a combination of online surveys and onsite verification, and that the Council conduct this survey with Hunter Water to minimise costs.

7. Breaking the non-residential forecast into sub-sectors

When data quality allows, ISF recommended that the Council separate non-residential forecasts into sub-sectors (eg, commercial, industrial, institutional).

8. Conducting an ongoing survey of the intentions of major customers (intensive uses)

The Council assumed major customers would maintain current usage. ISF recommended that the Council survey its intensive users annually to more accurately anticipate their usage.

9. Climate correction of consumption and bulk data for the baseline years

While the Council's current baseline reflects average climate conditions, ISF recommended that for the next forecast it apply a climate correction model to avoid bias due to extended dry or wet periods.

10. Sensitivity analysis of key parameters in the forecast

ISF recommended that the Council undertake sensitivity analysis, though it noted this was more important to longer term forecasts rather than the five years of the price determination forecast.

Source: Fane S. and J. Falletta, 2018, Re*view of water demand forecasts and demand model for Central Coast Council, report by the Institute for Sustainable Futures*, University of Technology Sydney for Central Coast Council, Wyong, Australia.

6.2.4 We adjusted for two discrepancies in the Council's data

We identified and adjusted for two discrepancies in the data provided by the Council.

- The Council did not include exempt property consumption. We have included this consumption as these properties are only exempt from service charges, and do pay usage charges. This increases total forecast consumption by 2.7% per year.
- The ISF report noted the Council's projections would lead to a 4.12% increase in non-residential usage over 5 years to 2022-23. However, the Council's reported values showed a decrease in non-residential usage. We adjusted non-residential usage to reflect the 4.12% increase in the ISF report, before applying our demand elasticity.[85]

6.2.5 We applied demand elasticities consistent with the 2016 Sydney Water review

The Council did not propose a price elasticity adjustment, and ISF agreed that demand was likely to be price inelastic:

> The price of water is obviously a potential influence on the demand for water. However various studies for Sydney have shown that water demand to be relatively inelastic over the long run (Abrams et al 2012, Grafton and Kompas 2007) and less so over the short run. Similar levels of price responsiveness could reasonably be expected for the Central coast. This is unsurprising given that the relative price of water volumetrically relative to income. Given the likelihood of price inelasticity for water on the Central Coast and the expected volumetric price of water in the region, it is unlikely that water price will be a major factor driving water demand in the period to 2023.[86]

However, we consider demand elasticity is a relevant factor in the context of a proposed decrease to water usage prices (even if water usage is relatively price inelastic). As such, we sought further information from the Council on the price elasticity factors it would apply. It responded that no specific price elasticity analysis was undertaken in preparing its forecasts, and cited a 2011 study for Sydney Water, which estimated the price elasticities for households in Table 6.2.[87]

Table 6.2 Estimated immediate and long term water price elasticities

Household	Immediate	Long term
Owner occupied houses	-0.08	-0.14
Tenanted houses	-0.02	-0.10
Housing units	-0.01	-0.03
Weighted average	**-0.05**	**-0.11**

Note: The Sydney Water study was based on a water usage price of $1.20 per kL ($2009-10).

Source: Abrams, B., Kumaradevan, S., Sarafidis, V. and Spaninks, F. *The Residential Price Elasticity of Demand for Water, Joint Research Study*, Sydney, February 2011.

85 We applied an 0.81% increase per year (ie, 4.12% cumulative over 5 years) to accord with the ISF report. Source: Fane S. and J. Falletta, 2018, *Review of water demand forecasts and demand model for Central Coast Council, report by the Institute for Sustainable Futures*, University of Technology Sydney for Central Coast Council, Wyong, Australia, p 37.

86 Fane S. and J. Falletta, 2018, *Review of water demand forecasts and demand model for Central Coast Council, report by the Institute for Sustainable Futures*, University of Technology Sydney for Central Coast Council, Wyong, Australia, p 15.

87 Information provided by Council to IPART, 6 November 2018.

The Council commented that:

- Applying the long-term average elasticity in the 2011 paper (of -0.11) would mean its proposed water usage price reduction (from $2.29 to $2.20) would increase residential demand by 0.4%.
- Residential water usage in the Central Coast is generally lower than Sydney, and that it would be reasonable to estimate a lower price elasticity on the Central Coast given:
  - the extensive demand management programs in response to the drought
  - more water efficient appliances, and
  - greater proportion of dwellings developed under BASIX.
- Residential demand represents around 80% of total water sales on the Central Coast so is the key customer category driving water demand.
- Annual demand can fluctuate by more than 10% in response to climatic conditions, so the small impact associated with the proposed price change is unlikely to be material when other more significant factors are considered.

Based on these considerations, it maintained its initial position that the demand elasticity should be zero.[88]

While we acknowledge that a lower level of usage relative to Sydney Water may result in lower demand elasticity due to less 'discretionary' usage, there are other factors that would imply a similar or higher level of demand elasticity in the Central Coast. For example, incomes in the Central Coast are lower on average than in Sydney, which would imply higher demand elasticity, and block sizes are larger on average, which would likely lead to more discretionary outdoor usage.[89]

Information on the demand response to reductions in water usage prices is limited for other urban water utilities. We did not apply a demand elasticity adjustment to Hunter Water in 2016 as we maintained its water usage price at $2.22 per kL.

As a point of comparison, for the Victorian Essential Service Commission's 2018 water price reviews, five utilities estimated price elasticities. Table 6.3 outlines their estimates as well as the basis for them.

88 Information provided by Council to IPART, 6 November 2018.

89 Australian Bureau of Statistics, 2016 Census QuickStats, http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1GSYD?opendocument [accessed 4 December 2018]; and, Valuer General, Bulk land value information – Monthly land value data, http://www.valuergeneral.nsw.gov.au/land_value_summaries/lv.php [accessed 4 December 2018].

Table 6.3 Recent demand elasticity estimates of Victorian utilities

	Demand elasticity estimate		
Utility	**Residential[a]**	**Non-residential**	**Basis for estimates**
City West Water	-0.14	-0.1	Sydney Water study (2011)
South Gippsland Water	Unspecified adjustment applied	Nil	Sydney Water study (2011)
Yarra Valley Water	-0.09 to -0.3	Nil	La Trobe University study (2016)
Lower Murray Urban	Tier 1 (<300 kL): -0.05 Tier 2 (300 kL-600 kL): -0.1 Tier 3 (>600 kL): -0.15	Nil	Maintaining its 2013 approach, which was based on analysis undertaken by ACIL Allen Consulting
South East Water	Step 1 (first 440 L/day): -0.05 Step 2 (over 440 L/day): -0.1	-0.0925	2007 study by ACIL Tasman

a Some utilities do not use the term 'residential' and describe tiers of usage.

Sources: City West Water, Price Submission to Essential Services Commission (ESC), September 2017, p 70; South Gippsland Water, Pricing Submission to ESC, September 2017, p 46; Yarra Valley Water, Price Submission to ESC, September 2017, p 118; Lower Murray Water, Price Submission to Essential Services Commission (ESC), September 2017, p 35; and, South East Water, Price Submission to Essential Services Commission (ESC), September 2017, p 54; Submissions available at: https://www.esc.vic.gov.au/water/water-prices-tariffs-and-special-drainage/water-price-reviews/water-price-review-2018

We note that most of these estimates were based on relatively outdated studies, and the first two utilities in the table referenced the Sydney Water 2011 study mentioned above. Sydney Water provided updated elasticity estimates as part of our 2016 price review. Only the study completed for Yarra Valley Water is relatively recent, and this study resulted in a range that is reasonably close to values adopted in our 2016 Sydney Water review.

We consider that, on balance, applying a small elasticity adjustment would be more accurate than using the Council's proposed demand elasticity of zero.

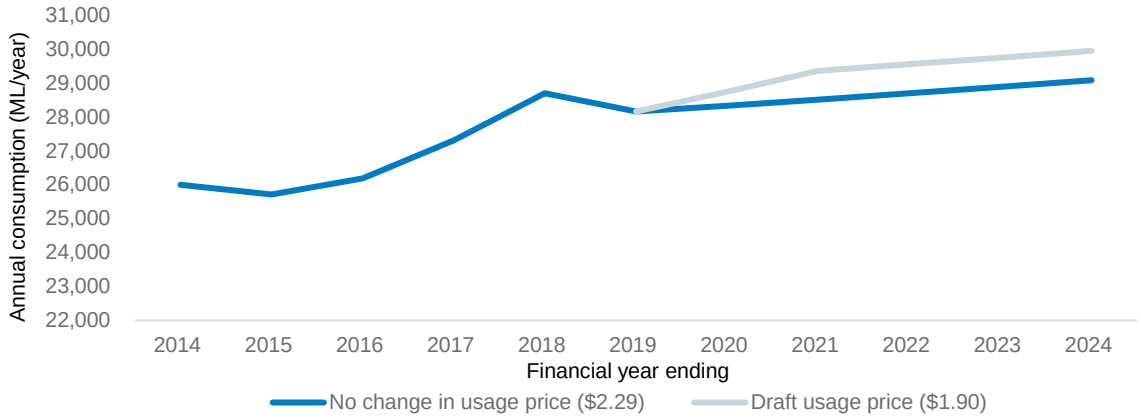
In the absence of specific information on the Central Coast, we have adopted the elasticities applied in Sydney Water's 2016 determination as we consider they provide a reasonable proxy for the demand response in the Council's area. While the Council argued that demand elasticity in the Central Coast is likely to be lower than in Sydney, in our view there are factors supporting a higher elasticity as well as a lower elasticity. Therefore, we do not consider there is evidence to justify deviating from the approach we adopted for Sydney Water.

Because the demand response to a change in price is likely to increase over time, we have phased the elasticity adjustment over two years. In other words, we have adjusted the demand profile in 2019-20 by 50% of the recommended elasticities in Table 6.4, and by the recommended elasticities in subsequent years. This is supported by the 2011 Sydney Water study, which found that, on average, it takes around one year for households to adjust behaviour.[90]

90 Abrams, B., Kumaradevan, S., Sarafidis, V. and Spaninks, F. *The Residential Price Elasticity of Demand for Water*, Joint Research Study, Sydney, February 2011, p 4.

Figure 6.2 shows the change in demand factoring in the adjustments outlined above, with and without our draft decision to lower the water usage price to $1.90 per kL (discussed in Chapter 7).

Figure 6.2 Forecast impact of demand elasticity adjustment



Data source: Central Coast Council Annual Information Return 2017-18 and IPART analysis.

Table 6.4 breaks down the impact of applying the elasticity adjustment by customer category.

Table 6.4 Elasticity adjustment by customer category

Customer category	IPART elasticity adjustment[a]	Demand impact (%)	Demand impact over three years (ML)
Houses	-0.187	2.7%	1,465.4
Apartments	-0.037	0.5%	44.8
Non-residential	-0.198	2.8%	551.2
Exempt properties	-0.198	2.8%	64.5
Total			**2126.0**

[a] Based on elasticity estimates supplied by Sydney Water as part of its 2016 price review.

Note: For exempt properties, we have used the same elasticity as non-residential properties. Exempt properties include institutions such as schools, hospitals and churches, which are likely to have more outdoor usage. This is consistent with the approach adopted for Sydney Water, which includes exempt property water consumption in the non-residential figures.

Source: IPART analysis.

6.3 Forecast customer numbers

Forecasts of customer numbers are used in calculating the water, sewerage and stormwater drainage service charges as part of setting prices to recover the required revenue for each service.

We made draft decisions:

15 To adopt the Council's customer numbers for the purpose of setting maximum prices.

16 To recover the shortfall associated with exempt properties and pensioner rebates from the broader customer base.

We have accepted the Council's customer numbers for the purpose of setting prices, as we consider they are reasonable and reflect forecast population growth of 1.1%. However, we have adjusted the Council's proposed customer numbers to recover the shortfall associated with its community service obligations (CSOs) relating to exempt properties and pensioner rebates, as outlined below. To do this:

- we subtracted the number of customers that receive an exemption from service charges from the total number of customers, and
- we adjusted for the fact that the Council needs to fund 45% of the cost of pensioner rebates.

6.3.1 We have made a draft decision to recover the CSO shortfall from other customers

Particular customers have their bills partially offset in one of two ways:

1. certain land is exempt from service charges[91], and
2. eligible pensioners receive a rebate on each of their water and sewerage service charges, capped at a maximum of $175 per annum.[92]

State owned corporations, such as Sydney Water and Hunter Water, can seek full NSW Government funding for CSOs through the state budget process.[93] However, for council water utilities, the Government provides funding for only 55% of the cost of pensioner rebates and does not provide any funding for exempt properties.[94]

In principle, we consider that the NSW Government should fund social policies, rather than other customers doing so through prices.[95] This ensures that the broader community (rather than a specific segment) funds these social policies, and that the NSW Government is faced with, and is aware of, the costs of its policies.

Two stakeholders also commented that the NSW Government should fund the cost of CSOs.[96] In particular, PIAC raised potential inequity when low-income customers that are not eligible for pensioner rebates cross-subsidise those that are. It supports a NSW Government review into the application and funding of pensioner rebates.

While we agree with the issues raised by PIAC, we recognise that, within the current legislative framework, the Council has limited ability to recover these costs from the NSW

91 Under section 312 and Schedule 4 of the *Water Management Act 2000*, exempt land includes, but is not limited to, land belonging to and/or used for a public hospitals, charities, churches, schools and kindergartens, specific aged care facilities and land vested in the State, regional or local Aboriginal Land Councils.

92 Section 575(3) of the *Local Government Act 1993.*

93 NSW Treasury has a Commercial Policy Framework, which provides for this. Source: NSW Treasury, *Financial Distribution Policy for Government Businesses*, Policy & Guidelines Paper, TPP 16-04, August 2016, p 6.

94 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.

95 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.

96 Public Interest Advocacy Centre, submission to IPART Issues Paper, October 2018, p 1; and, M. Redrup submission to IPART Issues Paper, October 2018, p 3.

Government. Therefore, our view is that the costs to the Council of the CSOs should be recovered through prices from all water, sewerage and stormwater customers.[97]

The Council proposed to recover the shortfall associated with exempt properties from other customers, but to not recover pensioner rebates from other customers. It stated that it is within its remit to assist disadvantaged members of the community without disadvantaging others, and to recover the cost of pensioner rebates from other customers would be viewed negatively.[98]

We have made a draft decision to recover these costs from water customers because we consider this provides simplicity and transparency, and applies a consistent approach for both types of exemptions. We also emphasise that the revenue foregone from CSOs impacts roughly the same group of customers regardless of how it is recovered, given the overlap between ratepayers and water customers.

Finally, we consider that including this cost is important to ensuring service standards are maintained. If the revenue is not recovered, services levels may be impacted. For example, if the Council diverted funds from service delivery to funding the CSOs. This could be unsustainable over time, and could be inequitable if it impacts a narrow subset of customers.

We estimate that including the cost of pensioner rebates would result in other customers' bills increasing slightly (for example, by $8.40 per year for a residential house), the impact on non-residential customers would depend on their meter size. We note the costs associated with exempt properties were already included in the Council's proposed prices (which have reduced under our draft prices). These costs would likely otherwise be reflected in reduced services or collected through a similar group through ordinary Council rates.

6.4 Forecast chargeable sewerage volumes

Non-residential properties are liable for sewerage usage charges based on their metered water consumption multiplied by their discharge factor.[99]

We made a draft decision:

17 To adopt the forecasts for sewerage chargeable volumes as set out in Table 6.5.

97 We note that some customers will not pay water and sewerage prices as they are not connected, but may be levied stormwater charges.

98 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 224.

99 A discharge factor is a customer's percentage of water consumption deemed to be discharged to the sewerage network. They are used because sewerage discharges are generally not metered. Discharge factors are set by the Council, as outlined in Chapter 8.

Table 6.5 Chargeable sewerage volumes (ML/year)

	2019-20	2020-21	2021-22
Council proposed	3,499	3,529	3,557
IPART Draft Decision	3,708	3,800	3,830

Our chargeable volumes are higher than those proposed by the Council as we have added 150 kL for each non-residential customer. This is because of our draft decision not to set a deemed discharge allowance for non-residential customers and charge for all sewerage discharge.

Chargeable sewerage volumes are also slightly higher because our water sales forecasts are slightly higher than the Council's. In each year, we have escalated the discharge volumes by the growth in our non-residential water consumption forecast (discussed in Section 6.2).

6.5 Demand volatility adjustment mechanism

We made a draft decision:

18 To consider, at the next determination of the Council's prices, making an adjustment to future prices to address any over- or under-recovery of revenue over the 2019 determination period due to material variation between the level of actual water sales and the forecast water sales used in making this determination, where:

- a material variation is defined as more than 5% (+ or -) over the whole determination period
- we would only consider adjusting for variation greater than 5% (+ or -), and
- we will consult as part of the next price review on how the volatility mechanism could be applied, if a material variation occurs.

We recognise there is some uncertainty around the Council's water sales forecasts. In the 2013 price review for the former Gosford and Wyong Councils, we established a mechanism to adjust revenue in subsequent determination periods if actual water sales were 10% higher or lower than forecast (ie, a demand volatility adjustment).[100]

The Council's actual water sales over the last determination period (from 2013-14 to 2016-17) were within the 10% band established at the last review – total water sales were 5.5% above the forecast – meaning the adjustment has not been triggered in this review.

The Council proposed maintaining the demand volatility adjustment mechanism and narrowing the band to +/-5%, consistent with the preliminary view in our Issues Paper. It considers narrowing the band an appropriate refinement to the current approach and noted this provides greater protection of its revenue in the event of water restrictions.[101]

100 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.

101 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 137.

We note that narrowing the band also better protects the Council's customers from paying too much, and protects the Council from its customers paying too little. While we received no comment from customers specifically on the demand volatility adjustment mechanism, some commented that the Council's $90 million in savings accumulated over the last determination period should be returned to customers.[102] We note that almost half of these savings comprise revenue over-recovery due to actual demand exceeding forecasts. However, as the Council only over-recovered by 5.5% (as outlined above), this did not trigger our existing demand volatility adjustment mechanism, and we have made no adjustment.

This adjustment is also consistent with our decision in the 2016 Sydney Water and Hunter Water price reviews. We consider a band of 5% (+ or –) is consistent with normal historical variation that the utilities would be able to manage and balances upside and downside risks.

Under this approach, we would consider a demand volatility adjustment to revenue at the next price review to account for any over- or under- recovery of revenue of more than 5% over the determination period.[103] While introducing the mechanism 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.

102 For example, B. Stacy submission to IPART Issues Paper, October 2018, p 7.

103 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%).

7 Water prices

The Council's prices for water services comprise two components:

- A fixed service price (expressed as $ per year).
- A variable usage price (expressed as $ per kilolitre (kL) of metered water used).

Currently, all residential and small business[104] customers pay a standard service price, regardless of whether their property is a house or a unit in a multi-premise property. For larger non-residential customers, the service price depends on their meter size, and is set with reference to a 25mm meter.[105] However, the price levels vary, depending on whether the customer is in the former Gosford or Wyong council area. All customers pay the same water usage price, which is $2.29 per kL across both the Gosford and Wyong areas.

For this review, the Council proposed to:

- Harmonise water service prices across the Central Coast LGA.
- Set all water service prices with reference to a 20mm meter.
- Reduce the water usage price by 4% to $2.20 per kL, to reflect its estimate of the long run marginal cost of water supply.

The sections below summarise our draft decisions on water prices, and then discuss those decisions and our consideration of the Council's proposal and stakeholders' comments in more detail.

7.1 Summary of our draft decisions on water prices

Table 7.1 sets out our draft water prices and compares them to the Council's proposed prices and the current prices.

104 In the 2013 Determination, small businesses include non-residential customers with a single 20mm meter.

105 This means that service prices for all other meter sizes = $\frac{(meter\ size\ in\ mm)^2 \times 25mm\ service\ price}{25^2}$.

Table 7.1 Draft water prices compared to current prices ($2018-19)

	IPART draft prices	Council proposed		Former Gosford		Former Wyong	
	2019-20[a]	2019-20[a]	% change	2018-19	% change	2018-19	% change
Water usage price ($/kL)							
All customers	**1.90**	2.20	-14%	2.29	-17%	2.29	-17%
Service prices ($/year)							
Residential[b]	**109.16**	113.20	-4%	197.81	-45%	164.63	-34%
Non-residential							
–20mm meter	**109.16**	113.20	-4%	176.67	-38%	146.01	-25%
–25mm meter	**170.56**	176.87	-4%	276.05	-38%	228.14	-25%
–40mm meter	**436.64**	452.79	-4%	706.68	-38%	584.04	-25%
–50mm meter	**682.26**	707.50	-4%	1,104.19	-38%	912.56	-25%
–80mm meter	**1,746.58**	1,811.20	-4%	2,826.72	-38%	2,336.16	-25%
–100mm meter	**2,729.03**	2,830.00	-4%	4,416.75	-38%	3,650.25	-25%
–150mm meter	**6,140.31**	6,367.50	-4%	9,937.69	-38%	8,213.06	-25%

a Prices would increase by inflation from 2019-20.

b Residential properties include properties classified as 'residential' under s 516 of the *Local Government Act* or 'farmland' under s 515 of the *Local Government Act*, and excludes retirement villages which would pay non-residential service prices (as outlined in Chapter 10).

Note: Meter based charge is based on 20mm meter, using the formula: (meter size)^{2}x20 mm meter service price / 400.

Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 10-11 and IPART analysis.

Our draft water usage price reflects our draft decision not to accept the Council's proposal to set this price at $2.20 per kL. We consider the Council's proposed water usage price overstates the cost of supplying an additional unit of water. We have made a draft decision to set the water usage price at $1.90 per kL, as we consider this balances the objectives of cost reflectivity and price stability.

Our draft water service prices reflect our decisions to accept the Council's proposals to harmonise water service prices across the Central Coast LGA, and set all water service prices with reference to a 20mm meter. We consider this will improve the consistency of prices applied to similar types of customers.

Our draft water service prices are 4% lower than the Council's proposed prices. This reflects our draft decisions on the NRR for water services over the determination period (discussed in Chapter 3) and forecast demand for water services over this period (discussed in Chapter 6).

7.2 Water service prices

We made draft decisions:

19 To accept the Council's proposal to align water service prices in the Gosford and Wyong areas from 2019-20 onwards.

20 To accept the Council's proposal to set water service prices on a 20mm meter basis, where all residential dwellings are deemed to each be one 20mm meter equivalent customer.

7.2.1 Harmonising water service prices

The Council proposed harmonising water service prices across the Gosford and Wyong areas, as shown in Table 7.2. Under this proposal, water service prices would decrease for all customers, and prices for Gosford customers would decrease by more than those for Wyong customers.

Table 7.2 Council's proposed water service prices compared to current prices ($2018-19)

	Proposed	Former Gosford		Former Wyong	
Service prices ($/year)	**2019-20[a]**	**2018-19**	**Proposed % change**	**2018-19**	**Proposed % change**
Residential service - house, flat or unit	113.20	197.81	*-43%*	164.63	*-31%*
Non-residential service					
20mm	113.20	176.67	*-36%*	146.01	*-22%*
25mm	176.87	276.05	*-36%*	228.15	*-22%*
40mm	452.79	706.68	*-36%*	584.09	*-22%*
80mm	1,811.17	2,826.71	*-36%*	2,336.34	*-22%*

[a] The Council proposed to only increase prices with inflation from 2019-20.

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, Table 2, pp 10-11, and IPART analysis.

We found that the Council's initial proposal did not sufficiently justify harmonising water prices across these areas, as it did not address whether harmonised prices reflected the underlying costs of supplying services in the two areas. In response to our request for further information, the Council stated that:

> Due to the interconnected nature of the water supply from source to customer and the formal Joint Water Supply (JWS) agreement, Council considers the cost and nature of the water supply service is already largely common across the Central Coast and residents receive an equivalent level of service.[106]

The former Gosford and Wyong Councils have operated a Joint Water Supply system for some time, meaning water can be transferred across the entire network. In line with this approach, water **usage** prices have been aligned for some time (since 2003). We consider it is also reasonable that the fixed costs of capturing, storing and transporting water should be shared

106 Information provided by Council to IPART, 23 November 2018, p 1.

equally among all customers. Therefore, we have accepted the Council's proposal to harmonise water service prices.

We note an additional benefit of harmonising service prices as part of this review is that implementing this change would not have an adverse impact on any customer bills, because the gap between Gosford and Wyong prices is relatively small at present (for example, $33 per year for residential customers). And, water service prices would still decline for all customers. PIAC supported harmonising prices if it meant that residential customers would pay less.[107]

7.2.2 Rebasing water service prices to a 20mm meter scale

The Council proposed rebasing water service prices to a 20mm meter, consistent with our decisions in the 2016 Sydney Water and Hunter Water price reviews. This involves:

- Changing the current base on which non-residential meter-based charges are set from a 25mm meter to a 20mm meter equivalence[108]
- 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.[109]

One stakeholder commented in support of rebasing to a 20mm, noting that as most customers have a 20mm meter, this should be used unless a better model is found.[110]

Our Issues Paper raised the option of setting prices based on actual meter size for all customers, which would generally mean houses and apartments paying different service prices. This is because the water networks are typically sized to meet peak demand, and the meter sizes provide a proxy for peak usage per property. The current method is to set a price per dwelling, and deeming each dwelling to have a particular meter size. Stakeholders had mixed views on setting different service prices for houses and apartments (Box 7.1).

107 Public Interest Advocacy Centre submission to IPART Issues Paper, October 2018, p 2.

108 This means that service prices for all other meter sizes = $\frac{(meter\ size\ in\ mm)^2 \times 20mm\ service\ price}{20^2}$.

109 Non-residential occupancies in mixed multi-developments are also deemed to have a 20mm meter to ensure that they are charged the same as residential dwellings

110 M. Redrup submission to IPART Issues Paper, October 2018.

Box 7.1 Stakeholder views on houses and apartments paying the same service prices

The Council and a number of stakeholders commented that they preferred equality between apartments and houses. Other stakeholders thought that houses should pay more than apartments as it was more cost-reflective.

The Council did not support having different charges for houses and apartments. It argued that:

- The difference between houses and multi-premise dwellings is becoming blurred as the sizes of housing blocks reduce resulting in smaller gardens whereas complexes have larger open spaces.
- As multi-premise dwellings become larger, they "are no longer the sole domain of a smaller number of people."
- Since the property developer decides the size of the meter installed in a multi-premise it is not truly reflective of the peak usage of the premises.

One stakeholder (M. Redrup) submitted that apartments and houses should pay the same to reflect the shared fixed costs of the entire system.

PIAC considered that apartments should pay less to reflect the lesser cost imposed on the system, but appreciates the Council's difficulties in defining which properties should pay lower prices, and the Council's preference for a common price and simplicity.

One anonymous stakeholder considers that apartments should pay less as they share a pipeline, and this would reflect the user pays principle.

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 152-154; M. Redrup submission to IPART Issues Paper, October 2018, p 3; Public Interest Advocacy Centre submission to IPART Issues Paper, October 2018 pp 2-3; and Anonymous submission to IPART Issues Paper. (W18/2540).

Given this mixed feedback, we consider it is appropriate to maintain the status quo – whereby all residential customers pay a standard fixed service price, regardless of the total capacity available to them. In Chapter 8 we outline that, on average, water consumption in apartments is less than in houses. However, we acknowledge the Council's view that the difference between the two dwelling types is becoming blurred and there would be variance within each category. Indeed, IPART's 2015 household survey found that household water usage varies due to several factors, including the number of people, block size and household income.[111]

Therefore, we have accepted the Council's proposal to rebase water service prices to a standard 20mm meter charge because this simplifies price structures and improves consistency in prices for equivalent sized non-residential connections.[112] A 20mm meter is more representative of residential properties and leads to a fairer split of costs between residential and non-residential properties.

111 IPART, Residential water usage in Sydney, Hunter and Gosford – result from the 2015 household survey, research paper, September 2016, p 4.

112 Under the current approach small businesses (with a single 20mm meter) and larger businesses (with multiple 20mm meters or larger meters) are not treated consistently.

7.3 Reducing the water usage price

We made a draft decision:

21 To set the maximum water usage price at $1.90 per kilolitre in real terms over the 3-year determination period from 2019-20 to 2021-22.

The current water usage price of $2.29 per kL is based on an estimate of the Council's long-run marginal cost (LRMC) of water supply (Box 7.2), which was calculated as part of the 2009 Determination and based on the Mardi to Mangrove pipeline.

Box 7.2 We favour setting water usage prices with reference to the LRMC

The LRMC of water supply is the additional cost to the Council of permanently increasing water supply by one unit. In practice, we have calculated LRMC with reference to the next efficient water supply augmentations (based on utilities' long run water management planning) that would be needed to ensure water supply capacity is able to meet demand over the long run.[113]

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, as this sends an appropriate signal about the cost of meeting sustained increases in water demand over the long term. However, we recognise that the objective of economic efficiency needs to be balanced with other objectives, including price stability and customer impacts.

For this review, the Council proposed lowering the water usage price to $2.20 per kL, equal to its estimate of the LRMC of water supply[114] which it based on two augmentations:

- The upgrade of the Mangrove Creek dam spillway[115]
- The construction of a desalination plant.

PIAC supported basing the water usage price on LRMC, and having a larger proportion of residential bills based on usage rather than fixed charges.[116] It considered that this approach would allow people more control over their bills and signal the value of water. However, it noted that moving to a greater usage component has potential problems, such as increasing bills for renters that only pay the usage charges. It also considered that the Council should undertake permanent water wise messaging programs (particularly targeted at large low income families who are most affected by bill increases and often have the least capacity to reduce usage).[117]

We found that the basic elements of the Council's LRMC model were sound. However, we consider its approach:

- Under-estimated the LRMC as it only included capital costs of supply augmentations, and not operating costs
- Over-estimated the LRMC as it does not reflect that demand growth can be met without supply augmentation for some time.

113 Thirty years or more.
114 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, pp 147-148, 154.
115 Without this augmentation the dam can only be filled to 80% due to dam safety regulations.
116 Public Interest Advocacy Centre submission to IPART Issues Paper, October 2019, p 4.
117 Public Interest Advocacy Centre submission to IPART Issues Paper, October 2019, p 2.

We re-estimated the LRMC of water supply using the Council's model, by adjusting to correct for the issues outlined above and updating the model inputs to reflect our draft decisions on water demand forecasts, the draft WACC, and the findings of our expenditure consultants. This resulted in an LRMC of $1.46 per kL. This suggests that the Council's proposed water usage price (of $2.20 per kL) would significantly overstate the economic cost of consuming additional water.[118]

Based on this analysis, we have decided to move the water usage price towards our estimate of LRMC by setting a price of $1.90 per kL. This represents a decrease in the water usage price of $0.39 per kL (or 17%).

We consider our draft water usage price balances the objectives of economic efficiency, price stability and customer impacts. It significantly improves the cost-reflectivity of the usage price, while recognising that there is some uncertainty with our LRMC estimate, for example in relation to system yield.[119] Furthermore, the reduction in the Council's revenue requirement for water services relates to a combination of lower fixed and variable costs. As such, it is appropriate that both the water usage and service prices decline to reflect this.

7.4 Removing the Climate Change Fund pass through mechanism

We made a draft decision:

22 Not to include a Climate Change Fund pass through mechanism in the 2019 Determination.

The 2013 Determinations for Gosford and Wyong Council included a Climate Change Fund (CCF) pass through mechanism. This is because the Minister for the Environment has previously required the Council to make contributions to the CCF.[120] The Council's last contribution to the CCF was in 2012-13 for $2 million, but this contribution was subsequently fully reimbursed by the Office of Environment and Heritage in 2013-14.[121] The Council has not forecast any contributions over the 2019 determination period.[122]

We consider that it would be reasonable to recover CCF costs through prices if the Council was directed to make a CCF contribution during the 2019 determination period that was not reimbursed by Government. However, we see benefit in applying this adjustment to prices as a true up in the next price review. This would allow IPART to assess whether the CCF contribution could be funded by other means, and assess the impact on customer bills.

We have therefore made a draft decision not to include a CCF pass through mechanism in the 2019 Determination. We would consider whether it is necessary to apply a true up as part of our next review of the Council's prices if the Minister made a contribution order during the determination period and this was not funded through other means.

118 A corollary to this is that it suggests that the Council's proposed water service prices are too low, since service prices are set to recover any remaining revenue that is not recovered through usage prices.
119 This will depend on prevailing weather patterns.
120 The Minister may issue a contribution order under the *Energy and Utilities Administration Act 1987* (NSW).
121 Office of Environment and Heritage, *NSW Climate Change Fund Annual Report 2012-13*, December 2013, p 38; and Office of Environment and Heritage, *NSW Climate Change Fund Annual Report 2013-14*, November 2014, p 24.
122 Central Coast Council Annual Information Return 2017-18.

8 Sewerage prices

The current structure of sewerage service prices varies by customer category. **Residential customers** pay a fixed sewerage service charge ($ per year), which includes the cost of 150 kL of deemed sewerage discharge. **Non-residential** customers pay a fixed sewerage service charge ($ per year), which includes the cost of 150 kL of deemed sewerage discharge, and a sewerage usage price ($ per kL) for actual sewerage discharge above 150 kL.[123]

Residential and small business[124] customers pay a standard sewerage service price, regardless of whether their property is a house or a unit in a multi-premise property. For larger non-residential customers, the service price depends on their meter size, and is set with reference to the 25mm meter price.[125]

Service prices also vary depending on whether a customer is in the former Gosford or Wyong council area, with prices in the former Gosford area being substantially higher. The higher prices in Gosford reflect higher underlying costs, which partly reflect the former Gosford Council's larger capital program in the lead up to the 2013 Determination. The capital program related to the location of suitable sewage disposal sites and the increased costs of complying with sewerage system licences. This increased the capital allowance in the NRR and thus increased prices.

For this review, the Council proposed to:

- Harmonise sewerage service prices across the Gosford and Wyong areas.
- Rebase sewerage service prices for all customer categories to a 20mm meter.
- Reduce the deemed discharge allowance included in sewerage prices for all customers from 150 kL to 112.5 kL, in line with 75% of average residential water usage.
- Reduce the sewerage usage price for larger non-residential customers from $0.83 per kL to $0.40 per kL, in line with its estimate of the short run marginal cost of supply of sewerage services.

The sections below summarise our draft decisions on sewerage prices, and then discuss these decisions in more detail, including our consideration of the Council's proposal and stakeholders' comments.

123 Some customers also face trade waste charges, which we discuss in Chapter 12.

124 In the 2013 Determination, small business customers were defined as non-residential customers serviced by a single 20mm meter.

125 This means that service prices for all other meter sizes = $\frac{(meter\ size\ in\ mm)^2 \times 25mm\ service\ price}{25^2}$.

8.1 Summary of draft decisions on sewerage prices

Table 8.1 and Table 8.2 set out our draft sewerage service prices for residential and non-residential customers respectively, and compare them to the current prices and the Council's proposed prices.

Table 8.1 Draft sewerage service prices (annual charge) for residential customers ($2018-19)

	Current prices 2018-19	Council proposed each year	IPART draft prices			Change (current to 2019-20)	Change from Council proposal
			2019-20	2020-21	2021-22		
Former Wyong LGA							
House	483.28	538.70	465.63	465.63	465.63	-4%	-14%
Multi-premises	483.28	538.70	428.28	428.28	428.28	-11%	-20%
Former Gosford LGA							
House	672.66	538.70	503.02	503.02	503.02	-25%	-7%
Multi-premises	672.66	538.70	465.67	465.67	465.67	-31%	-14%

Note: A 75% discharge factor has been applied to all residential prices. These charges also include the deemed discharge component, which is: 150 kL per annum for all residential properties in current prices; 112.5 kL per annum for all the Council's proposed prices; and 125 kL per annum for houses and 80 kL per annum for apartments in our draft prices.

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 11, and IPART analysis.

Table 8.2 Draft sewerage service prices (annual charge) for non-residential customers ($2018-19)

	Current prices 2018-19	Council proposed each year	IPART draft prices			Change (current to 2019-20)	Change from Council proposal
			2019-20	2020-21	2021-22		
Former Wyong LGA							
20mm meter[a]	358.78	448.70	482.50	482.50	482.50	34%	8%
25mm meter	319.48	771.41	445.31	525.78	621.48	39%	-42%
40mm meter	1,012.10	1,974.80	1,140.00	1,346.00	1,591.00	13%	-42%
50mm meter	1,651.44	3,085.63	1,781.25	2,103.13	2,485.94	8%	-42%
80mm meter	4,421.90	7,899.21	4,560.00	5,384.00	6,364.00	3%	-42%
100mm meter	6,979.25	12,342.52	7,125.00	8,412.50	9,943.75	2%	-42%
150mm meter	15,858.94	27,771.66	16,031.25	18,928.13	22,373.44	1%	-42%
Former Gosford LGA							
20mm meter	862.59	493.70	532.36	532.36	532.36	-38%	8%
25mm meter	1,417.83	771.41	831.81	831.81	831.81	-41%	8%
40mm meter	3,823.86	1,974.80	2,129.44	2,129.43	2,129.43	-44%	8%
50mm meter	6,044.81	3,085.63	3,327.25	3,327.23	3,327.23	-45%	8%
80mm meter	15,668.94	7,899.21	8,517.76	8,517.71	8,517.72	-46%	8%
100mm meter	24,552.75	12,342.52	13,309.00	13,308.93	13,308.93	-46%	8%
150mm meter	55,399.31	27,771.66	29,945.25	29,945.09	29,945.10	-46%	8%

[a] This is the sewerage service charge for a 20mm individual meter.

Note: All prices assume a discharge factor of 100%. The Council would apply each relevant customer's discharge factor on the prices it levies. For example, a discharge factor of 50% applied to the 40mm meter charge in 2019-20 would result in a price of $570 (that is 50% of $1,140). To compare the service charges, we have removed the deemed usage amount from the current and Council proposed prices. Our draft non-residential prices no longer include a deemed usage (this is discussed below).

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 11, and IPART analysis.

These prices reflect our decisions to:

- Not accept the Council's proposal to harmonise sewerage service charges, but to maintain separate sewerage service charges in the Gosford and Wyong areas. We consider that the Council has not adequately justified aligning prices. Maintaining separate prices also improves price stability, particularly as we see merit in setting prices on a catchment basis in future.
- Accept the Council's proposal to set sewerage service prices with reference to the 20mm meter price in the Gosford area, but to phase in this rebasing in the Wyong area to mitigate the price impacts of this change.
- Set the sewerage discharge factor for both houses and units in multi-premise properties at 75%.
- Not accept the Council's proposal to reduce the discharge allowance included in sewerage service prices for all customers from 150 kL to 112.5 kL, but to:
  - Reduce the allowances for houses and units in multi-premises to 125 kL and 80 kL, respectively.

- Not include any allowance in the service price for non-residential customers, and instead apply the sewerage usage charge to their total sewerage discharge.[126]

- Not accept the Council's proposal to reduce the sewerage usage price but to maintain this price at $0.83 per kL, in line with our view that sewerage usage prices should reflect both capital and operating costs.

8.2 Maintain separate sewerage service charges in the Gosford and Wyong areas

We made a draft decision:

23 Not to accept the Council's proposal to harmonise sewerage service prices across its area, and instead maintain separate sewerage service charges for Gosford and Wyong customers.

As noted above, the current sewerage service prices differ significantly between the Gosford and Wyong areas. For residential customers, these prices are 39% higher in Gosford than in Wyong, and for non-residential customers they are 247% higher.

The Council proposed harmonising these prices across these areas.[127] Our understanding[128] is that it considers this is justified because:

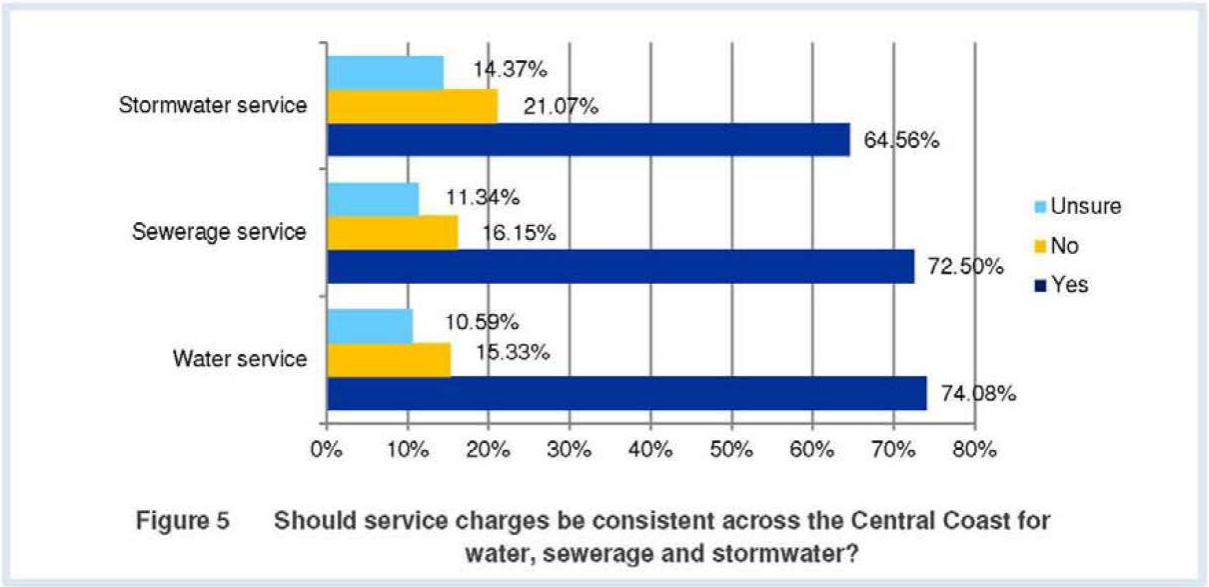
- **The current price differences are inconsistent with the overarching principle of its Community Strategic Plan, which is to create 'One Central Coast'.** It noted that Councillors have specifically stated a preference for removing differential pricing as soon as possible, and that most of the customers it surveyed considered that service charges should be 'consistent' across the Central Coast (Figure 8.1). Furthermore, it argued that "Based on the principle that all customers experience similar service levels, despite the intrinsic variation [in] costs from place to place, customers should pay a common price" [129].

- **Harmonised sewerage service prices would be administratively simpler** as differential pricing would require two sets of expenditure accounts and additional billing information. The Council noted that its billing system for rates is being integrated. It also noted that there are common costs that are difficult to allocate to the former Council areas. Given it is merging financial systems it considers there is a level of subjectivity in the breakdown of forecast expenditure for each of the former councils.

- **The current variance in the cost of providing sewerage services between areas will balance out over time.** It noted that while historically capital expenditure has been higher in the former Gosford area, this trend is likely to reverse. It anticipates a significant level of capital investment for renewal, refurbishment and upgrade in sewerage infrastructure in the Wyong area over the next 10 years. It also noted that operating expenditure is generally higher in the Wyong area and this gap is likely to grow.

126 Based on a percentage (the 'discharge factor') applied to their individual metered water consumption.
127 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 11.
128 Based on the Council's pricing submission and its response to a further information request on 23 November 2018.
129 Information provided by Council to IPART, 23 November 2018, p 3.

Figure 8.1 Council's customer survey: should service charges be consistent?



Note: The Council reported there were 1,339 responses to the survey.

Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 177, 266.

After considering the Council's views, we have decided not to accept its proposal for two main reasons:

1. We do not consider the Council has provided sufficient justification for its proposal to harmonise sewerage service prices, and in particular it has not demonstrated that its proposed prices reflect the costs of supplying the service in each area. Nor that its customers support the significant price increases it has proposed for Wyong customers.
2. We see merit in setting sewerage prices by catchment in future, meaning that harmonising prices could lead to unnecessary price volatility over time.

Each of these reasons is discussed in sections 8.2.1 and 8.2.2 below.

We also note, even if we accepted the Council's proposal to harmonise sewerage service prices in principle, that introducing this change from 2019-20 would lead to excessive price increases for Wyong customers, particularly non-residential customers. We consider that customers in both areas should benefit from the adjustments we have applied to the Council's operating and capital expenditure (discussed in Chapters 4 and 5).

Our expenditure consultant, Atkins Cardno, has advised on efficient sewerage operating and capital costs for the Gosford and Wyong areas separately. On the basis of Atkins Cardno's recommended prudent and efficient expenditure, we have established separate NRRs for sewerage services in the Gosford and Wyong areas in order to set prices (these are detailed in Appendices D and F).

8.2.1 The Council has not sufficiently justified harmonising prices

In our view, the key principle in assessing whether prices should be harmonised is cost-reflectivity. As acknowledged by the Council (and discussed below), its sewerage costs vary from catchment to catchment. This suggests that prices should vary according to underlying cost drivers, so that consumers can make decisions based on efficient price signals. In other words, we consider that, if the cost of supplying the same level of service varies by area, prices should reflect this variation.

In addition, we consider the response to the customer survey referred to by the Council does not provide sufficient evidence that customers support harmonised sewerage service prices. First, it is unclear that the survey was representative, or that customers responding to the survey understood the implications of their responses for their own bills. The survey did not include information on current price differentials between the Gosford and Wyong areas or the magnitude of price changes that would result from consistent prices.

For example, under the Council's proposal, sewerage service prices for customers in Wyong would increase by almost a third for residential and small business customers and more than double for larger non-residential customers and. Although the Council indicated that its proposed increases to sewerage service charges would be offset in customer bills by lower proposed water service charges, we note that this would only be the case for residential customers.

Second, the survey does not clearly explain what is meant by 'consistent' prices, making interpretation of results somewhat subjective.

Finally, we consider the Council's argument that the cost of providing sewerage services between areas changes over time provides a further reason to maintain separate prices for the areas. In particular, Gosford customers have paid higher prices over the 2013 determination period, reflecting significant capital investments. We do not agree that these customers should share in the refurbishment costs anticipated in the Wyong area in future if they do not create the need to incur or benefit from this expenditure.

8.2.2 We see merit in setting sewerage prices by catchment in future

As section 8.6 below discusses, we see merit in setting sewerage **usage** prices on a catchment basis, given that the Council has eight sewerage catchments with significant variance in unit costs. This would require the Council to gain a better understanding of its costs for each catchment. If sewerage usage charges were set by catchment in future, sewerage service charges could also be set to recover the remaining fixed costs on a catchment basis. This creates additional uncertainty about the benefit of transitioning to common sewerage service prices now.

The sewerage prices we set also provide a signal to potential market entrants – private water utilities – as to whether it is profitable to enter (for example, by providing services to new developments). If, in the long-term, these entrants' costs are lower than the prices we set, they would have an incentive to service customers at a lower cost.

Therefore, it is important that the prices we set provide an efficient signal of the costs of providing these services. If the Council's costs vary by location – including the Council's costs of expanding capacity in different sewerage catchment areas – then the prices we set should reflect these cost differences. Doing so would encourage efficient entry and potentially drive down costs in areas where the Council's cost of supply are high. And importantly, it would also discourage inefficient entry and keep costs low in areas where the Council's current and future costs are low.

We also note that setting sewerage prices on a catchment basis is consistent with a recommendation by Frontier Economics (in a report prepared for Infrastructure NSW) that IPART should evaluate the merits of publishing annual market guidance on the range of LRMC estimates for each water and wastewater supply area.[130]

8.3 Rebase sewerage service prices to 20mm meter price

We made draft decisions:

24 To accept the Council's proposal to set all sewerage service prices in the Gosford area to a 20mm meter equivalent basis from 2019-20 onwards (where all residential dwellings are deemed to each be one 20mm meter equivalent customer).

25 To transition all sewerage service prices in the Wyong area to a 20mm meter equivalent basis, over a 4-year path.

As for water prices, the Council proposed rebasing all sewerage service prices to a 20mm meter. This involves changing the current base from which non-residential meter-based charges are set from a 25mm meter to a 20mm meter, 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.

As with water service prices, we have accepted this proposal because this simplifies price structures and improves consistency in prices for equivalent sized non-residential connections.

However, we have decided to implement the change in the Gosford area from 1 July 2019, and transition prices in the Wyong area to a 20mm meter equivalent basis over a 4-year path. This is because our analysis shows that implementing this change from 2019-20 would result in lower prices for Gosford customers, but would lead to excessive price increases for Wyong customers, particularly non-residential customers.

Under our draft transition path, sewerage service prices for all customers in Wyong could be set to a 20mm meter equivalent basis from the first year of the next determination period.

8.4 Apply a 75% discharge factor for residential customers

We made a draft decision:

26 To set a 75% sewerage discharge factor for all residential properties.

130 Frontier Economics, *Economic regulatory barriers to cost-effective water recycling*, A report prepared for Infrastructure NSW, July 2018, p xii.

One of the factors that influences how much different customers pay for sewerage services is the 'discharge factor' for their customer type. The discharge factor is the estimated percentage of metered water consumption that the customer discharges to the sewerage system. As properties generally have no sewerage meter, discharge factors are applied to:

- **Water meters** as a proxy for sewerage connection size to calculate sewerage service prices.
- **Water consumption** as a proxy for sewerage discharges to calculate non-residential sewerage usage charges.

Like other water utilities we regulate, the Council sets its own discharge factors for different types of non-residential customers, as the amount discharged varies significantly across these customer types.[131] However, we generally set a standard discharge factor for all residential customers. For this review, the Council neither proposed nor applied a residential discharge factor.

We have decided to apply a 75% discharge factor for all residential customers, regardless of whether they are a house or a unit in a multi-premises. Data from the Council's water demand forecast model shows that the implied discharge factor ranges from 70-80% across different types of dwelling and different areas of the LGA (Table 8.3). This suggests a residential discharge factor of 75% is appropriate for all residential customers.

Table 8.3 Implied discharge factors from Council's demand forecast model

	2015-2016	2016-2017	2017-2018	2018-2019
House – Wyong	70%	70%	70%	70%
House – Gosford	73%	72%	72%	71%
Multi – Wyong	79%	78%	77%	76%
Multi – Gosford	77%	78%	79%	80%
House – CCC	72%	71%	71%	70%
Multi – CCC	78%	78%	78%	78%
All residential	**74%**	**74%**	**74%**	**73%**

Note: Calculated as forecast internal use as a percentage of forecast total use.
Source: Information provided by Council to IPART, 13 December 2018.

While implied discharge factors are slightly higher for apartments than houses, we do not consider the difference is sufficient to warrant setting separate discharge factors. This is because there would be variance in properties within each category. For example, the Council argued in its submission that the line between houses and apartments is blurring:

> In today's urban environment the difference between standalone houses and other residential dwellings, flats, apartment, town or terraced housing is becoming somewhat blurred as sizes of housing blocks are reducing resulting in smaller gardens whereas complexes of flats and apartments, town or terraced houses are having larger open spaces.[132]

131 IPART reviewed its approach to regulating non-residential discharge factors in 2014: IPART, *Discharge factors for non-residential customers*, December 2014.
132 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 152.

The most recent IPART Household Survey found that the percentage of outdoor water use for houses was 17% and for flats was 13%.[133] This suggests that the distinction between outdoor use by apartments and houses is relatively small. Given that outdoor use is a primary driver of the sewerage discharge factor, this supports setting a similar discharge factor for houses and apartments.

We also applied 75% residential discharge factors in our 2016 Sydney Water and Hunter Water price reviews. We consider that applying this discharge factor to all residential service charges in the Central Coast LGA will ensure consistent treatment between all properties once prices are rebased to a 20mm equivalent.

8.5 Reduce the discharge allowance for residential customers and remove this allowance for non-residential customers

We made a draft decision:

27 Not to accept the Council's proposal to reduce the discharge allowance in sewerage service prices from 150 kL to 112.5 kL for all customers, and instead:

- Reduce the allowance for residential customers to 125 kL for houses and 80 kL for units in multi-premises.
- Remove the allowance for non-residential customers, and apply the sewerage usage charge to all sewerage discharge (based on each non-residential property's water consumption multiplied by the relevant discharge factor).

Under the 2013 Determinations for the former Gosford and Wyong Councils:

- For residential customers, sewerage service prices included 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 included 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 applied to non-residential customers for discharges above 150 kL per annum (regardless of their meter size).

In our Issues Paper, we identified two concerns with this price structure: the deemed 150 kL discharge allowance for residential customers is too high; and the current method of factoring the deemed discharge amount into the non-residential service price means that customers with large meters overpay for the deemed amount.

8.5.1 Setting different deemed discharges for houses and apartments

The Council proposed lowering the deemed sewerage discharge for all customers from 150 kL to 112.5 kL, which reflects 75% of the average of residential water usage. It considered that residential and non-residential customers should have a consistent discharge allowance,

133 Based on analysis for Sydney, Hunter and Gosford combined. Wyong Council did not participate in the survey. Source: IPART *Residential water usage in Sydney, Hunter and Gosford: Result from the 2015 household survey. Water — Research Paper* September 2016, p 52.

noting it is unlikely that any non-residential customer's discharge would be below this allowance.[134]

Only one stakeholder submission (from PIAC) commented on this issue, stating that apartments use 30-50% less water than houses and the Council's proposed discharge allowance does not address this fact.[135]

Across the Central Coast, the average apartment consumes 62% of average house water consumption — compared to 73% in Sydney Water's area and 81% in Hunter Water's area.[136]

Given this, we have decided to apply the 75% discharge factor (discussed in section 8.4 above) to average usage for houses and apartments[137] respectively and set discharge allowances at:

- 125 kL per year for houses
- 80 kL per year for units in multi-premise dwellings.

We consider that applying separate deemed discharge allowances improves the cost-reflectivity of sewerage prices. Table 8.4 shows the resulting usage component of customer bills when our draft sewerage usage price ($0.83 per kL) is applied to the deemed discharge allowances above.

Table 8.4 Deemed sewerage discharge in annual residential price ($2018-19)

	$2018-19
Houses	103.75
Multi-premises units	66.40

As section 8.1 discussed, the remaining fixed service price would be common for houses and apartments. This is because, while we have evidence that apartments discharge less to the sewerage system than houses on average, at this stage we do not have evidence that they impose materially different fixed costs on the system.

8.5.2 Not including a discharge allowance in non-residential service prices

Currently, service prices for non-residential customers include a discharge allowance of 150 kL per year. All non-residential customers then pay a usage charge for any usage above the discharge allowance.[138]

We consider that non-residential sewerage prices would be simpler, more transparent and cost reflective without a discharge allowance. Instead, the sewerage usage charge would apply to **all** sewerage discharge.

134 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 157.
135 PIAC, submission to IPART Issues Paper, 11 October 2018 p 3.
136 IPART, *Review of prices for Sydney Water Corporation from 1 July 2016 to 30 June 2020*, Final Report, June 2016 p 8; *IPART, Review of prices for Hunter Water Corporation From 1 July 2016 to 30 June 2020, Final Report, June 2016*, p 7; and, Central Coast Council response to information request, 13 December 2018.
137 Over the 10 year period to 2023, typical water usage was 170 kL per year for houses and 105 kL per year for apartments. Source: Central Coast Council response to information request, 13 December 2018.
138 Based on each property's water consumption multiplied by the relevant discharge factor.

Under this approach, non-residential customers that discharge **less** than the discharge allowance of 112.5 kL proposed by Council would face more cost-reflective bills (as there is no assumed minimum discharge).[139] This could result in the Council facing a slightly higher degree of revenue volatility. However, in practice, the revenue volatility risk would be limited given that the Council stated that it would be rare that a non-residential customer consumed less than its proposed discharge allowance of 112.5 kL.[140]

8.6 Maintain the sewerage usage price in real terms

We made a draft decision:

28 To maintain the maximum sewerage usage price at $0.83 per kilolitre in real terms over the 3-year determination period from 2019-20 to 2021-22.

Currently, the Council's sewerage usage price is $0.83 per kL in both the Gosford and Wyong areas. The Council proposed lowering the sewerage usage price from $0.83 to $0.40 per kL (a 52% decrease), equal to its estimate of the short-run marginal cost (SRMC) of supplying sewerage services.[141]

We have not accepted this proposal because we do not support setting the sewerage usage prices equal to the SRMC, and we intend to set this price with reference to the LRMC of sewerage service supply when more information is available. In the meantime, we think it is appropriate to maintain the current price in real terms.

8.6.1 We do not support setting the price equal to SRMC

We do not support the Council's proposal to set the price equal to its estimate of SRMC from 1 July 2019 for several reasons.

First, the proposed change is significant, and would lead to a higher share of costs being recovered through fixed sewerage charges. This would result in a share of sewerage costs shifting from non-residential customers with higher discharge volumes onto residential customers. We consider that the Council has not provided sufficient evidence to support this change (particularly given the factors outlined below).

Second, SRMC estimates fluctuate over time. To recognise this, in the past we have set sewerage usage prices with reference to (but not equal to) SRMC estimates. The Council's current sewerage usage price of $0.83 per kL was set with reference to an SRMC estimate of around $0.30 per kL, estimated in 2010.

Third, setting usage prices with reference to the SRMC only signals the cost of variable operating costs. This is likely to understate the impact of an additional unit of discharge on the sewerage system because the capital costs of the sewerage system are significant. Therefore, we consider that transitioning the price towards the Council's SRMC of supply

139 Assuming that discharge factors multiplied by water usage is a reasonable indication of sewerage discharges.
140 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 157.
141 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, pp 7, 148-149.

would likely lead to a poorer price signal in most (if not all) catchments, as it does not recognise the capital costs of providing the sewerage service.

Finally, as outlined below, in future we see merit in setting sewerage usage prices with reference to estimates of the LRMC of sewerage supply. If we accepted the Council's proposed price, this would likely be a move away from what sewerage prices would be under an LRMC approach. Further, our review of the Council's SRMC estimate also suggests that $0.40 per kL is likely to be an underestimate, as the forecast sewerage volumes it used to calculate SRMC were too high, and it has not accounted for any labour costs varying at the margin.

8.6.2 We intend to set the price with reference to LRMC once more information is available

We consider the LRMC of supplying sewerage services is a more appropriate basis for setting sewerage usage prices. This is because setting sewerage usage prices with reference to LRMC would signal the full cost of an additional unit of discharge (including both the operating and capital costs over the longer term).

In our Issues Paper, we noted that setting sewerage usage prices with reference to the LRMC could improve price signals (and potentially encourage competition), especially if separate LRMCs could be estimated for each catchment. This could impact customer behaviour at the margin, particularly for larger non-residential customers. PIAC supported the use of the LRMC for sewerage usage pricing, but accepted the Council's position on using the SRMC because of the various costs between catchment areas and the community's desire for consistent pricing.[142]

Setting sewerage usage prices on an LRMC basis would be consistent with a recommendation by Frontier Economics that in the 2020 Sydney Water and Hunter Water price reviews, IPART set usage charges for both water and sewerage with regard to LRMC. Frontier considered that, even with a single sewerage usage price, "the losses in economic efficiency of charging too much for customers in wastewater catchments where the LRMC is low are likely to be outweighed by the efficiency costs of charging too little for those catchments that are becoming increasingly constrained".[143]

However, we note that LRMC estimates depend on modelling assumptions and can change over time.

The Council also currently has insufficient information about its costs, existing sewerage treatment capacity, or future augmentation options to allow us to assess what the efficient prices should be for each catchment area. This is borne out by the findings of our trade waste pricing consultants, Marsden Jacobs Associates (MJA).[144] These findings are pertinent to sewerage pricing as the costs of treating sewage and trade waste are related, given that discharges are treated at the same sewerage treatment plants. MJA found that:

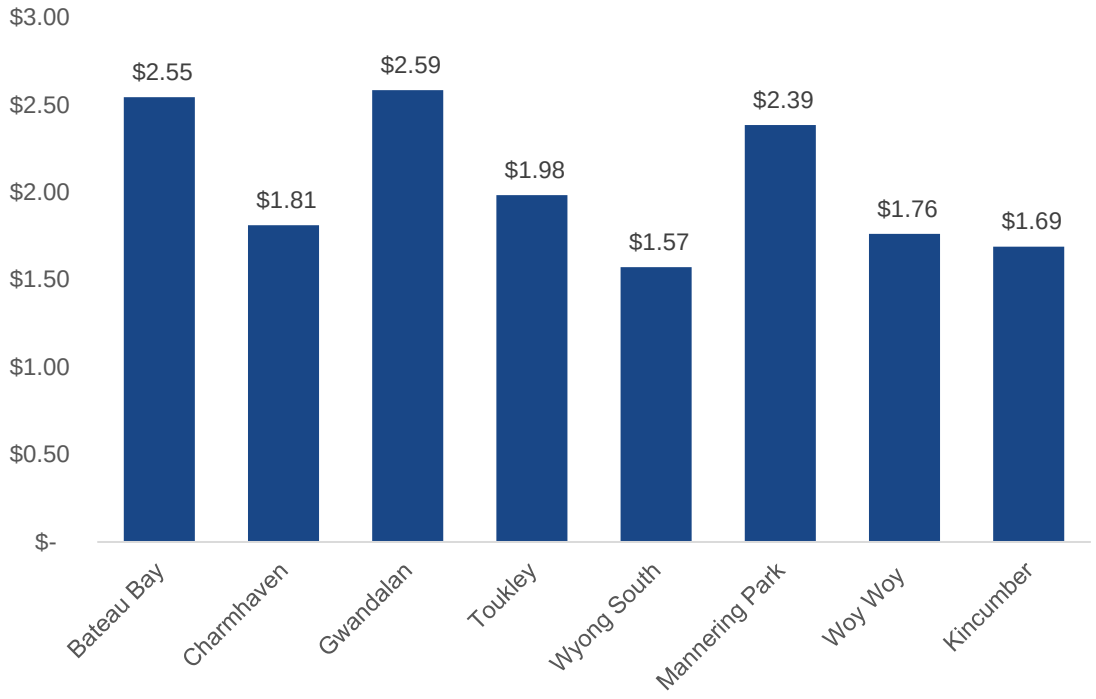
142 Public Interest Advocacy Centre submission to IPART Issues Paper, p 4.

143 Frontier Economics, *Economic regulatory barriers to cost-effective water recycling*, A report prepared for Infrastructure NSW, July 2018, pp xii-xiii, 77.

144 We engaged MJA to review the Council's proposed trade waste and miscellaneous service prices. We outline our decisions in relation to these prices in Chapter 12.

- There are significant differences in size, characteristics and treatment processes between the Council's eight sewerage catchments, which means that operating costs vary significantly by catchment (Figure 8.2).
- The Council needs to collect better information to be able to put forward trade waste prices on a catchment basis.[145]

Figure 8.2 Sewerage management costs per kL (opex/total treated volumes)



Data source: Marsden Jacob Associates, *Review of proposed prices for trade waste and miscellaneous services – Central Coast Council*, Final Report, February 2019, p 11.

To promote more cost-reflective prices for sewerage services (and trade waste services – discussed in Chapter 12), we consider that the Council should collect information on its sewerage and trade waste costs by catchment, as the costs of supplying these services are likely to be related (see Box 8.1 below). This information would facilitate estimating LRMC on a catchment basis.

We consider that maintaining the current price is warranted given uncertainty about how sewerage usage prices will be set in the future. This approach is consistent with the approach we adopted for Sydney Water and Hunter Water in 2016.

We recommend:

2 That the Council collect the information in Box 8.1 on its sewerage and trade waste costs, on a catchment basis, for the 2021-22 price review.

145 Marsden Jacob Associates, *Review of proposed prices for trade waste and miscellaneous services – Central Coast Council*, Final Report, January 2019.

Box 8.1 The Council should collect the following information on sewerage and trade waste costs

Ahead of the next price review period (2021-22), we recommend that the Council collects the following information on sewerage and trade waste costs, on a catchment basis:

- Current and forecast treatment volumes.
- Total treatment capacity of each catchment.
- Total costs of treating sewerage and trade waste.
- Operating and capital costs that vary at the margin.
- Augmentation options, and their expected timing and capital costs.

9 Stormwater prices

Stormwater prices were the most contentious issue for stakeholders who responded to our Issues Paper and attended the Public Hearing. Many stakeholders, especially farmers and rural property owners, strongly opposed the Council's proposal.

Currently, customers pay different prices for stormwater services depending on their location. All customers in the Gosford area pay a fixed price of $124.64. In most of the Wyong area, the price paid by residential customers depends on their property type (house or apartment) while for non-residential customers it depends on their meter size. However, customers located west of the M1 in the Wyong area are currently not charged for stormwater services.

These pricing differences reflect the different pricing practices of the former Gosford and Wyong councils. For this review, the now merged Council proposed to:

- Harmonise stormwater prices in the Gosford and Wyong areas.
- Set a lower price for residential customers in apartments relative to the price for those in houses.
- Introduce area-based prices for non-residential customers, with the option for these customers to apply for a reduced 'low-impact' price.
- Potentially levy stormwater charges on customers west of the M1 in the Wyong area.

The sections below summarise our draft decisions on stormwater pricing[146], and then discuss those decisions and our consideration of the Council's proposal and stakeholders' comments in more detail.

9.1 Summary of draft decisions on stormwater prices

We have accepted some of the Council's proposals, but made some significant amendments to limit the type of non-residential customers that are subject to area-based charging. Table 9.1 sets out our draft stormwater prices and compares them to the Council's proposed prices and the current prices. Below that, Figure 9.1 provides a summary of how we classified customer types, and we then explain how we came to our draft decisions.

146 Our draft stormwater prices would apply to the stormwater drainage services, if any, that the Council supplies in its capacity as a Water Supply Authority under the *Water Management Act 2000*.

Table 9.1 Draft stormwater prices ($2018-19)

Customer rating category	Council proposed ($/year)	IPART draft prices ($/year)			Change from current price[c] to draft 2019-20 price		Change from Council proposed to draft 2019-20
		2019-20	2020-21	2021-22	Gosford	Wyong	
Residential							
House	110.77	105.11	105.11	105.11	-16%	-18%	-5%
Multi-premise[a]	83.08	78.84	78.84	78.84	-37%	-18%	-5%
Vacant land		78.84	78.84	78.84			
Farmland	Various, area-based	105.11	105.11	105.11	-16%	N/A[b]	Various
Business and Mining							
Low impact	110.77	105.11	105.11	105.11	-16%	N/A[b]	-5%
Small (up to 1,000m^2)	110.77	105.11	105.11	105.11	-16%	N/A[b]	-5%
Medium (1,001 - 10,000m^2)	276.93	131.39	157.67	183.94	5%	N/A[b]	-53%
Large (10,001 - 45,000m^2)	1,716.96	359.13	613.15	867.17	188%	N/A[b]	-79%
Very Large (>45,000m^2)	5,427.81	946.00	1,786.90	2,627.79	659%	N/A[b]	-83%

[a] The term multi-premise refers to a property such as, but not limited to, apartments, units, flats, and town houses.

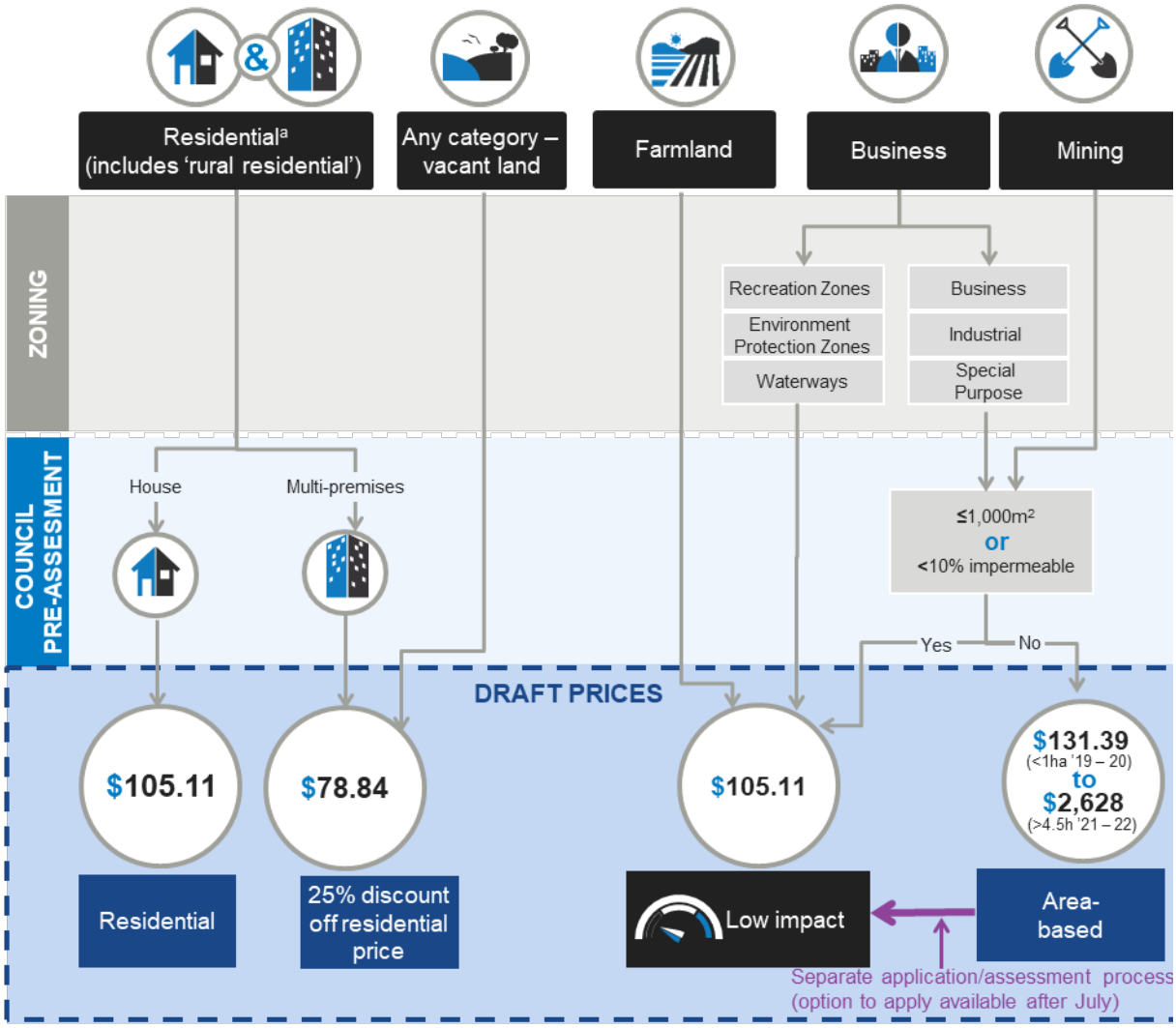
[b] The former Wyong Council levied charges based on water meter size. We are unable to easily compare the difference. Properties will have various combinations of land size and water meter size.

[c] The change in price is measured from current price levied in each of the former Council areas to the 2019-20 draft prices.

We have categorised most properties at the same low impact level (including farmland), reflecting that a basic need for stormwater management is created by all residents.

For a subset of non-residential customers, we consider that area-based stormwater charges are appropriate because this reflects the increased costs imposed on the stormwater system by properties with larger impervious surface areas. However, we have introduced a transition to area-based stormwater prices to avoid excessive price increases for customers with larger property area sizes.

Figure 9.1 Summary of how we classified customer types



[a] For stormwater prices, residential excludes retirement villages. They would be subject to area-based charges as a non-residential property. See Chapter 10 for further discussion.

These prices reflect our draft decision to accept the Council's proposal to harmonise stormwater prices across the Central Coast LGA. We consider this is appropriate as all customers create the need for and benefit from stormwater services, and there is little difference in the average cost of providing these services across the LGA.

Our draft prices for residential customers also reflect our decision to accept the Council's proposals to:

- Set a base or standard stormwater charge for all residential customers in houses.
- Provide a discount on this charge for all residential customers in multi-premise properties (such as apartments), to reflect their lower impact on the stormwater system.

Our draft prices for non-residential customers reflect our decision to **partially accept** the Council's proposal to introduce area-based stormwater prices for these customers. Specifically, we decided that:

- Area-based prices **should not apply** to non-residential customers with properties that typically have a low impact on the stormwater system – including farmland and other rural properties. Instead, these customers should pay a standard 'low impact' price in line with the price for residential customers with houses, without the need to apply for low-impact status.
- Area-based prices **should only apply** to properties classified as mining or business for rating purposes, and only where those properties do not meet:
  - Broad eligibility criteria for pre-assessment as low impact, or
  - The Council's assessment of a low-impact property (including a review of impervious surfaces, on-site rainwater collection and re-use).
- Area-based prices should be set as a multiple of the standard charge for residential customers in a house, in line with the Council's proposal and the approach used for Sydney Water and Hunter Water.
- Area-based prices should gradually transition to the full applicable charge over time, to protect customers from bill shock.

We consider our draft decisions improve the equity and cost-reflectivity of stormwater prices, while also addressing stakeholders' concerns that the Council's proposed prices were unaffordable.

9.2 Harmonise stormwater prices across former council areas

We made a draft decision:

29 To accept the Council's proposal to harmonise stormwater prices across the former council areas.

In making this decision, we also considered two alternatives for setting stormwater prices:

1. Continuing to set different prices for the customers of the former Gosford and Wyong LGAs to reflect the different average efficient costs of supplying services in each area.
2. Setting different prices for individual stormwater catchment zones to reflect the different costs of supplying services in each zone.

We found that the additional complexity of setting different prices for the former LGAs was not justified, as the difference between the average costs of supply in the areas was relatively low.[147] We also found that setting a separate stormwater price per catchment zone was unfeasible because there are 30 different zones in the Central Coast LGA, and the operating costs in specific catchment zones can be quite volatile year-to-year.

Further, we consider that all residents and businesses in the LGA benefit from stormwater management across this entire area, not just from the services supplied in their former LGA or local catchment zone, which further supports setting harmonised prices for the LGA.

147 Our analysis indicated that under this approach, there would be about a $20 per year difference (in the standard residential charge) between the prices we would set for the individual former LGAs compared to one common price structure for the Central Coast LGA (based on the efficient cost of providing the service to the two areas).

9.3 Draft prices for residential customers and vacant land

We made draft decisions:

30 To set a standard stormwater price for all properties categorised as residential for rating purposes of $105.11 per year in 2019-20 and maintain this price in real terms in 2020-21 and 2021-22.

31 To provide a 25% discount on the standard stormwater price for dwellings within multi-premise residential properties and all vacant land.

Residential customers are defined as all those whose property is classified as residential for rating purposes (including subcategories such as 'residential-rural'). Under our draft prices, these customers would pay a standard price per year for stormwater services.

One exception to this, however, is retirement villages. We have accepted the Council's proposal for retirement villages to be considered as non-residential establishments for water and sewerage pricing purposes and applied consistent treatment for stormwater pricing. The reasons for this are further discussed in Chapter 10.

Residential customers whose property is in a multi-premise property (eg, an apartment) would receive a 25% discount on this standard price, which is consistent with the Council's proposal. We found that a 25% discount is appropriate because:

- Multi-premise properties (eg, apartments) are likely to have a lower impact on the stormwater system than those in houses because they typically have less impervious surfaces per unit (ie, lower overall roof area per apartment compared to a house).
- The residents still create the need for and benefit from stormwater services (eg, from reduced flooding/increased access) so should continue to pay some charge.

A 25% discount is consistent with the current approach in the former Wyong Council area, and is simple to apply.

Customers whose land is vacant (ie, has no capital improvements and no impervious surfaces) would be charged the multi-premise charge, regardless of whether the land is categorised as residential or non-residential. This is because these properties would have less stormwater run-off than a block of land with a house on it.

Our draft decisions on stormwater pricing for residential customers are mostly consistent with the Council's proposal, but our draft prices for 2019-20 are 5% lower than proposed by the Council.

9.4 Draft prices for properties categorised as farmland

We made a draft decision:

32 To set a standard 'low impact' stormwater price equal to the price for residential customers, and apply this price to all properties categorised as farmland for rating purposes.

The Council's initial proposal did not explicitly state whether it would apply area-based prices to farmland and other rural properties. This caused much concern among farmers and rural property owners west of the M1 Pacific Motorway, who mainly argued:

- The proposed area-based prices are excessive and unaffordable.
- Their properties do not impact on Council infrastructure because, for example, they are largely grazing land or bushland (so stormwater is mainly absorbed into the ground, or runs off into creeks and streams), or they have significant on-site water management (dams and tanks) which they have self-funded.
- They receive no stormwater services from the Council so should not pay stormwater charges.
- It would be illegal for the Council to charge for stormwater services in the area west of the M1 freeway because it is not a declared drainage area.[148]

After considering these arguments, and obtaining further information from the Council, we found that the Council does provide stormwater services in rural areas, and therefore it is appropriate for customers in rural areas to contribute to the costs of stormwater services. We also found that as farmland and rural properties typically have a low impact on the stormwater system, these properties therefore should attract the same standard price as residential properties with houses. Finally, we agree with stakeholders that the Council could not levy stormwater charges on properties west of the M1 unless the Minister declares this area a drainage area under the *Water Management Act 2000*.

9.4.1 Customers in rural areas should contribute to the cost of stormwater services

In response to stakeholders' view that customers in rural areas do not receive any stormwater services, we asked the Council for further information about these services. The Council:

- Provided the location of stormwater infrastructure (culverts and pipelines) throughout its area of operations.
- Described the services it provides in rural areas, such as the maintenance of table top drains along roadsides to divert water away from the road to reduce flooding.
- Provided data showing that, in the last five years, it has spent around 5%-11% of its annual stormwater operating expenditure ($0.5 million - $1 million)[149] in areas west of the M1 (which are all rural), and this expenditure is forecast to continue (Table 9.2).
- Indicated that its proposed prices aim to recover 5-6% of stormwater revenue from customers in rural areas annually.[150]

Based on this information, we consider it appropriate for non-residential customers with properties categorised as farmland for rating proposes to contribute to the cost of stormwater services.

148 Over 100 submissions to the IPART Issues Paper commented on the stormwater prices, including from the Central Coast Plateau Chamber of Commerce, Mangrove Mountain Districts Community Group, NSW Farmers, W. O'Rouke, and many individuals.

149 Note that kerbside guttering is not considered stormwater drainage infrastructure and is not included in our review (it is 'roads' infrastructure and is funded separately through ordinary Council rates).

150 Information provided by Council to IPART, 25 January 2019.

Table 9.2 Proportion of stormwater expenditure in rural areas – west of the M1

	Actual					Forecast			
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opex % of total	7.1%	5.2%	8.7%	8.6%	10.9%	8.1%	8.1%	8.1%	8.1%
Capex % of total	0.0%	0.0%	7.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Information provided by Council to IPART, 25 January 2019.

9.4.2 Farmland or rural properties should pay the same standard price as residential customers with houses

Following the Public Hearing, we sought clarification from the Council on whether it proposed to apply area-based prices to customers with farmland. It considered that farmland properties should be charged the low-impact price, based on a desktop review it undertook of all farmland properties in its area.

We have accepted the Council's revised proposal. We consider the impermeable surfaces for farmland properties are comparable to a standard house, and the benefits of stormwater management are similar for these groups.

9.4.3 Council could only levy stormwater charges in declared drainage areas

We agree with stakeholders that the Council cannot currently charge for stormwater services in the area west of the M1 freeway, because the Minister has not declared this area a drainage area.[151]

We also note that the Council stated in its proposal that it intended to apply to the Minister to have this area declared a drainage area, and would only charge its proposed prices to customers if this application was successful.[152] If the Minister did not declare the area a drainage area, the Council would accept the revenue shortfall.[153]

At the time of writing, we understand that the Council has not progressed its application to the Minister. However, to provide clarity to stakeholders, we note that over the three years of the 2019 determination period:

- If the Minister did declare the area west of the M1 to be a drainage area, the Council could begin charging customers in this area in line with our final Determination. Under our draft prices, we calculate this would increase the Council's stormwater revenue about 1% each year.
- If the Minister did not declare this area to be a drainage area over this period, the Council could not charge these customers.

151 Sections 311(3) of the *Water Management Act 2000* provides that "a water supply authority may only levy drainage service charges on land that is within a drainage area". Section 308(2) states that the drainage area must be declared by the Minister.

152 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 9.

153 Central Coast Council *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 159 and correspondence with IPART.

9.5 Draft prices for non-residential properties categorised as mining or business

We made draft decisions:

33 To automatically apply the standard 'low impact' stormwater price for properties categorised as mining or business for rating purposes that meet one of the following eligibility criteria:

- small properties (less than 1,000m^2)
- medium to very large properties (greater than 1,000m^2) zoned 'environmental', 'recreation' or 'waterways', and
- other medium to very large properties where the Council has assessed that impermeable surfaces cover less than 10% of the land area.

34 To set an area-based charge:

- for properties categorised as mining or business for rating purposes that are not classified as low-impact
- as a multiple of the standard charge for residential customers in a house, and
- by gradually transitioning the area-based prices to the full charge applicable to the property's size over time.

35 To accept the Council's proposal that customers with medium to very large properties categorised as mining or business could apply to the Council for an assessment of their eligibility for the 'low impact' price.

36 To request the Council to:

- Publish the application process for eligibility for the 'low impact' charge on its website by 1 July 2019.
- Inform customers who are billed area-based charges that they may be eligible for the low-impact price, and where they can access information about the application process.

We consider it is appropriate to introduce area-based stormwater prices for properties categorised as mining or business for rating purposes. This is because area, and more specifically, impervious surface area, is a reasonable proxy for the impact on a property has on stormwater services, and by implication, the cost of those services. Box 9.1 provides more detail on our consideration of this issue.

We have decided to tailor the approach to reflect the mix of development within the Central Coast LGA to help ensure that business or mining properties that do not impose greater costs on the stormwater network than a residential house do not pay a higher stormwater price than a residential house.

Box 9.1 Why we decided on area-based prices

We have partially accepted the Council's proposal to set area-based prices and applied area-based pricing to a subset of non-residential customers. For those customers, our view is that land area is a good (and available) indicator of a customer's contribution to the need for the council to incur stormwater costs – consistent with the impactor pays principle.

To varying degrees, all residents and properties within the Central Coast LGA are impactors – imposing costs on the Council; as well as beneficiaries – deriving benefit from stormwater management across the LGA, as discussed below.

Our preferred funding hierarchy

When setting prices, we apply the following funding hierarchy to recover cost of services:

1. Preferably, the **impactor pays** (that is, the party that created the need to incur the cost should pay in the first instance).
2. If that is not possible, **the beneficiary** of the services should pay. Preferably, direct beneficiaries should pay, but if that is not possible then indirect beneficiaries should pay. In some cases, the impactor and the beneficiary are the same.
3. Where it is not feasible to charge either impactors or beneficiaries (for example, because of social welfare policy, public goods, externalities, or an administrative or legislative impracticality of charging), then the government (taxpayers) should pay.[a]

Consideration of 'impactor pays' approach

Assessing the impact from any one property is a complex task and there are a number of cost drivers and variables. We consider land area, in principle, to be the best available proxy for a customer's contribution to the need to incur stormwater management costs.

The key cost drivers for stormwater services are peak stormwater flows, total volume of water and pollutants. How much stormwater and how many pollutants each property contributes to the stormwater system is determined by a variety of factors including land size and slope, the extent of vegetation or proportion of impervious area, the land use and property management (litter and silt levels may differ greatly between residential and business properties, grassed and concreted properties, or properties undergoing construction).

Some properties have installed rainwater retention and/or reuse facilities, which lowers the cost imposed by these customers on the stormwater system by reducing peak flows.

Catchment wide factors also contribute to run-off, such as rainfall characteristics, topography and soil type, as well as layout and proximity to natural watercourses.

Determining a price for individual properties is unfeasible, however the information above supports that area, and in particular impermeable area, is a determinant of costs to a stormwater system. We have accounted for some of these factors influencing stormwater flows by only applying area-based stormwater charges to a subset of non-residential customers.

Area is also an easy method by which to categorise properties, it is transparent and the information is readily available.

Consideration of beneficiary pays approach

A 'public good' refers to goods and services where one person's consumption does not prevent others from consuming it, and it is difficult or not practical to charge consumers to use it. Examples of public goods include local roads, footpaths and parks.

Stormwater services have strong public good characteristics, because the management of stormwater run-off and reducing stormwater overflows within the Central Coast:

- Benefits everyone in its drainage area and no one can be excluded from receiving these benefits.
- Is such that one person's consumption and hence benefit from receiving stormwater services does not reduce another person's consumption and hence benefit received. For example, driving down an un-flooded road after a heavy rain event does not prevent another person also driving down that road.

There may also be external benefits of cleaner waterways, rivers and beaches; public safety and protection of assets by reducing the risk of flooding; and health benefits by minimising the quantity of stagnant water.

These public good characteristics and potential external benefits, suggest that setting a charge based on customers' capacity and willingness to pay may be appropriate. Under this approach, compared to the options of a fixed price or price based on meter size, we consider that land area is the most appropriate option we have available to set stormwater charges.

We also note that this analysis could support stormwater charges being recovered through council rates. This is discussed further in Section 9.6 below.

a IPART, *Final Report – Rural Water Cost Shares*, February 2019, p 23.

9.5.1 Automatically classify some properties as 'low-impact' if there is minimal impervious surface

In our view, area-based charges should only apply to properties categorised as mining or business if these properties have impervious surfaces covering at least 10% of the property's land area.

Further, business or mining properties that are smaller than 1,000m^2 are likely to be similar in nature to a residential property, and so we have set the price for small properties equal to the low-impact and residential rate.

To determine whether any other properties could be automatically eligible, we considered the types of properties included in the business rating category. This category includes land used for commercial purposes, as well as any land that "cannot be classified as residential, farmland or mining".[154] As this is a very broad definition, we examined the various Local Environment Plans (LEP) zonings[155] for land categorised as business for rating purposes. These zonings determine what improvements can be made to properties, and therefore can provide an indication of the likely proportion of impermeable surfaces.

154 Section 514, *Local Government Act 1993*.

155 LEP land zonings were developed by the Department of Planning and Environment in 2006 and are the same for all NSW Councils.

After considering the zonings used in the Central Coast LGA, we decided that land zoned as 'environmental', 'recreation', or 'waterways' would typically have less than 10% impermeable surfaces, and so the low-impact price should automatically apply to properties with these zones.

9.5.2 Other properties can apply to Council to be assessed as eligible for the low-impact price

We consider that area-based prices should apply as a default for all non-residential properties categorised as business or mining that do not meet the criteria outlined above. However, we recognise that some of these properties may include less than 10% impermeable surfaces. For example, property categorised as business and zoned for 'special purpose' could be used for a wide range of purposes, so the proportion of impermeable surfaces could vary widely.

Therefore, we accept the Council's proposal that non-residential customers be able to apply for an assessment of their eligibility for the low-impact price. We also accept the Council's proposal to assess the applications, based on its review of the Sydney Water process. This would include an assessment of impervious surface, primary activities, on-site rainwater capture and re-use. However, we also consider the Council should:

- Publish details of its low-impact assessment process on its website by 1 July 2019, including the application form.
- Take steps to make its customers aware that they are able to apply for a low-impact assessment, how they can do so, and how their application will be assessed.
- Complete its assessment of low-impact applications within 15 working days of receiving all the required information. We have made this an output measure (see Appendix B).

These measures will help ensure that customers are charged equitably based on a consistent approach.

9.5.3 Set area-based charges as a multiple of the standard price for residential customers in a house

We have decided to set area-based charges as a multiple or ratio of the standard price for a house, as the Council proposed. This method is sound, and is consistent with the approach we adopted for Sydney Water and Hunter Water. We also decided to accept the Council's proposed ratio of the standard price for each property size category (Table 9.3).

Table 9.3 Council's proposed ratios for setting area-based charges

	CCC proposed	Sydney Water	Hunter Water
House/low-impact	1.00	1.00	1.00
Non-residential:			
Small (up to 1,000m^2)	1.00	1.00	1.00
Medium (1,001 - 10,000m^2)	2.50	5.83	3.27
Large (10,001 - 45,000m^2)	15.50	25.90	20.77
Very Large (>45,000m^2)	49.00	64.75	66.00

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p150; IPART, *Review of prices for Sydney Water Corporation from 1 July 2016 to 30 June 2020 – Final Report,* June 2016, p 182; IPART, *Review of prices for Hunter Water Corporation From 1 July 2016 to 30 June 2020 – Final Report,* p183; and IPART analysis.

When considering the Council's proposed ratios, we found they are broadly in line with those used by Sydney Water and Hunter Water, but slightly lower for the large and very large property sizes. We concluded that the Council's proposed ratios are appropriate for the Central Coast LGA.

9.5.4 Gradually transition prices to full area-based charges over time

In setting our draft area-based prices, we decided to gradually transition prices to the full area-based charge (ie, reflecting the ratios discussed above). Implementing the full charges immediately would mean that many non-residential customers would face significant price increases. To manage the impact on these customers, we have decided to follow a transition path using the ratios shown below. If we decide to continue to follow this transition path beyond the 2019 determination period, area-based prices would reflect the full area-based charges in the sixth year.

Table 9.4 Ratios used to draft area-based prices for 2019 determination period

	2019-20	2020-21	2021-22
Small (up to 1,000m^2)	1.00	1.00	1.00
Medium (1,001 - 10,000m^2)	1.25	1.50	1.75
Large (10,001 - 45,000m^2)	3.42	5.83	8.25
Very Large (>45,000m^2)	9.00	17.00	25.00

Note: The Determination would only set prices for three years under our draft decision. A future Tribunal may decide to change to price structure and prices in the next Determination.

Another benefit of gradually transitioning to the full area-based prices is that it would give eligible customers time to apply for low-impact assessment before the charges increase too dramatically.

The impact of our draft area-based prices (shown in Table 9.1) on customers not eligible for the low-impact price is mixed. In the former Gosford area, those with larger properties would see significant price increases, of up to $821 (or 659%) in 2019-20. In the former Wyong area, the price impacts would depend on the customer's meter size and land area. Customers with a small meter and a large land area would experience the largest price impact, similar to that for Gosford customers with large land area. Customers in the former Wyong area with large meter sizes and small land would see a price reduction. The increase in stormwater prices

would be somewhat offset by the decreases in water and sewerage service charges. (The bill impacts of our draft prices are discussed in detail in Chapter 13.)

9.6 Should stormwater services by funded through general rates?

We consider there is a strong economic rationale that stormwater charges should be part of the Council's general rates and not levied separately with water and sewerage services. We are interested to hear the Council's and other stakeholders' views on this.

As discussed in Box 9.1, stormwater services have strong public good characteristics. This provides a strong case to fund the provision of stormwater services through taxation (such as council rates) rather than through user prices (ie, stormwater prices).

Funding through council rates would also align more generally with how most stormwater services are funded in other areas. For instance, in the Sydney Water and Hunter Water operational areas, the local councils typically own and operate most of the stormwater collection infrastructure, and the water utility owns and operates only the major drainage infrastructure referred to as 'trunk drainage'.[156] It could be considered that Sydney Water is not providing stormwater services to individual properties, but to Councils (and owners of road corridors). In these areas, the councils typically fund their share of the services through ordinary rates, whilst the water utilities fund their share through a charge to a subset of their customers.[157]

We seek feedback from the Council and stakeholders on whether stormwater services should be funded through stormwater prices, or instead, through ordinary council rates. If funded through rates, the Council could apply for a Special Variation to increase its maximum rates revenue to fund these costs. When we next review prices for the Council in 2021 under our draft decisions, we would consider this feedback.

If stormwater services are funded through rates in future, this would also result in different customer impacts, because the Council's rates structure is different from our draft price structure. The rates structure reflects a progressive taxation base (based on land value as a proxy for wealth), which we consider appropriate to the extent that stormwater services are a public good.

IPART seeks comment

1 Are there benefits of recovering the costs of stormwater services through separate charges or should these costs be recovered through Council rates?

156 See, for instance, Sydney Water and Hunter Water websites: https://www.sydneywater.com.au/SW/water-the-environment/how-we-manage-sydney-s-water/stormwater-network/index.htm and https://www.hunterwater.com.au/Water-and-Sewer/Stormwater/Our-Stormwater-Network.aspx

157 That is, only Sydney Water and Hunter Water customers that live in a drainage area are levied a stormwater charge by their utility.

10 Prices for specific customers

This chapter outlines how the draft prices we explained in the last three chapters would apply to:

- retirement villages
- temporarily unmetered properties, and
- properties that are not connected to the water and sewerage system.

10.1 Summary of our draft decisions on prices for specific customers

We have made draft decisions to:

- Continue to classify retirement villages as non-residential customers. This would result in residents in retirement villages facing lower service charges than other residential customers, even though they are not eligible for a pensioner discount. It would also minimise the discrepancy between retirement villages that are exempt from service charges and those which are not.
- Set the usage charge for (temporarily) unmetered properties based on daily usage over the previous 12 months.
- Set water and sewerage service charges for properties not connected to the water supply system to zero.

10.2 Prices to retirement villages

We made draft decisions:

37 To set water and sewerage prices for retirement villages based on their actual meter sizes, rather than based on the number of dwellings.

38 To set stormwater prices for retirement villages on an area basis.

In our 2013 review, we deferred our decision on changing the service price structure for retirement villages.[158] This means that under the 2013 Determinations, unlike other residential customers, retirement villages are charged on a similar basis to non-residential properties. That is, each village pays service prices according to the size of its water meter(s), rather than based on the number of retirement village units (or dwellings).

Applying meter-based service charges results in retirement villages paying significantly less than they would under dwelling based service charges (including if they were eligible for a pensioner discount). In other words, residents in retirement villages face lower service charges

158 We considered that it was not appropriate to restructure prices within the existing pensioner concession policy. See: 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.

than other residential customers, even though they are not eligible for a pensioner discount. This is shown in Table 10.1.

Table 10.1 Average service charge for retirement villages (service price per dwelling; $2018-19)

	Meter based prices		Dwelling based prices (our draft prices)	
	Current price levied by Council 2018-19	Draft decision 2019-20	No pensioner discount	Pensioner discount
Exempt properties	$0	$0	$0	$0
Non-exempt properties	$292	$142	$601	$426

Note: All numbers, except the first column which presents the Council's current prices, are calculated using our draft prices for the first year of the 2019 determination.

Source: Central Coast Council, email to IPART, 31 January 2019 IPART analysis.

The Council also reported that around 38% of retirement villages are exempt from service charges[159]. Given all retirement villages provide a comparable service, this is not competitively neutral – that is, retirement villages that are exempt from service charges receive a cost advantage compared to villages that are not exempt. Continuing with current arrangements results in a lower service charge (per customer), which reduces the discrepancy between retirement villages that are exempt and those which are not.

We acknowledge that prices for retirement villages are not consistent with other residential properties. Service charges for retirement villages would be lower than for other residential properties (which are each deemed a 20mm meter under our draft decisions). To the extent that retirement village dwellings are a substitute for standard residential dwellings, this creates a distortion in our prices. However, changing the current pricing approach would result in a significant price shock to retirement villages.

Given these factors, we have made a draft decision, on balance, to maintain current pricing arrangements for retirement villages. Our reasons are outlined in more detail below.

10.2.1 The Council proposed maintaining current pricing arrangements

The Council proposed continuing to charge retirement villages based on their meter size, on the same basis as non-residential properties. Comparatively, all other residential properties, whether stand-alone or part of a multi-premise property, pay a service charge per dwelling**.** The Council noted that retirement villages will generally have significantly lower prices than individual dwellings and units outside of these villages.[160] It also reasoned that:

> …some retirement villages are commercially based enterprises and Council considers that such villages should be billed as any other non-residential commercial customers.[161]

159 Under section 312 (1) of the Water Management Act, which allows for certain types of properties to be exempt from paying service charges (they still pay usage charges).

160 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 12.

161 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 152.

It also noted that retirement village residents who are pensioners, are not eligible for a pensioner rebate under the *Local Government Act 1993* because they do not individually receive a bill (Box 10.1). It considered that it would be too administratively burdensome to maintain a register of retirement village residents that are pensioners, and there is no guarantee that a retirement village operator would pass any rebate on to the appropriate pensioners.[162]

10.2.2 Stakeholder feedback was mixed

In response to our Issues Paper and the Council's submission, stakeholders highlighted that service charges for retirement villages are not consistent with service charges for other residential properties.

- The Hon David Mehan MP suggested that IPART should consider whether retirement villages might be more fairly priced, equivalent to residential flats and units.[163]
- PIAC suggested that, while meter-based pricing for retirement villages would provide lower prices for residents of retirement villages (compared to other dwellings), IPART should consider the cross-subsidisation issues that this creates.[164]
- One landlord of a property with 39 dwellings considered that the method of charging retirement villages is complicated and inequitable compared to other residential water and sewerage users.[165]

By contrast, submissions from retirement villages were generally in support of meter based charging, but argued pensioners in retirement villages should also be eligible for pensioner rebates.

At the public hearing, one stakeholder commented on the inequity from pensioners that live in retirement villages being ineligible for the pensioner rebate.[166] Box 10.1 summarises the legislative limits relating to council use of pensioner rebates.

162 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 153.
163 The Hon David Mehan MP submission to IPART Issues Paper, October 2018.
164 Public Interest Advocacy Centre submission to IPART Issues Paper, October 2018.
165 P. Cumming submission to IPART Issues Paper, October 2018.
166 C. Shappert, IPART, Public hearing transcript, 3 December 2019, p 24.

Box 10.1 Comparison of pensioner rebate between the Council and other major water utilities in NSW

The Council offers pensioner rebates under the Local Government Act 1993

The Local Government Act provides for pensioner concessions for water and sewerage rates up to a total of $87.50 for each service per year[a] ($175 in total). This does not include stormwater charges.

The rebates are available to pensioners that own their property, that is:

> an eligible pensioner is the person solely liable, or a person jointly liable with one or more other persons, for a rate or charge levied on land on which a dwelling is situated….[b]

The Council considers that as the pensioners in a retirement village do not receive a direct bill, they are not eligible for a pensioner rebate. It also considers it would be too administratively burdensome to maintain a register of pensioners that live in the retirement village, that other Councils do not charge less than the non-residential price to retirement villages, and that any discount provided may not be passed on to residents.[c]

Sydney Water and Hunter Water customers are eligible for a higher rebate than the Council's customers

Sydney Water and Hunter Water are not restrained by the Local Government Act and offer higher pensioner rebates. Sydney Water offers up to around $605 per year (calculated as a proportion of the service charges bill), and Hunter Water offers around $300 per year (variable as a proportion of the bill).

This creates inequity with customers that are provided water by a local water utility.

a Section 575(3), *Local Government Act 1993*.

b Section 575(1), *Local Government Act 1993*.

c Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p153.

In 2016, retirement village residents petitioned the NSW Government requesting a change to the Local Government Act to 'ensure that residents within retirement villages on the Central Coast receive the same level of eligibility for a rebate enjoyed by customers of Sydney Water and by those pensioner customers who do not live within retirement communities'.[167] The Government responded that:

- IPART was reviewing the NSW Local Government rating system, including the pensioner rebates, and
- The Council was reviewing the proposed pricing set out in IPART's determination and had advised that it was considering different options.[168]

We note that the pensioner rebate policy is a matter for the NSW Government to address. IPART has made recommendations about how financial assistance to pensioners should be provided, in relation to levying council rates, in our *Local Government Ratings Review*. We issued our Final Report to the NSW Government in December 2016.

167 David Mehan, MP, Petition To the Honourable Speaker and Members of Legislative Assembly of New South Wales, 21 June 2016. Petition available online: https://www.parliament.nsw.gov.au/la/petitions/Pages/tabled-paper-details.aspx?pk=68358

168 The Hon Paul Toole MP, Minister for Local Government, Letter to Ms Ronda Miller, 26 July 2016, available at: https://www.parliament.nsw.gov.au/la/papers/DBAssets/tabledpaper/PetitionResponse/68358/Govn%20response%20to%20500%2b%20petition%20on%20Central%20Coast%20retirement%20villages.pdf

10.2.3 We have maintained the status quo to avoid price shocks for retirement villages

We have assessed the price impacts of changing from meter-based to dwelling-based charges for 23 retirement villages that are subject to service charges. The Council identified 37 retirement villages, and provided comprehensive information. Of these, 14 are exempt[169] from service charges, and 23 are not.

As shown in Table 10.1, meter-based prices would be significantly lower than dwelling based, on average, under our draft prices:

- meter-based prices are around $142 per year per retirement village unit, and
- dwelling-based prices are around $601 per year per retirement village (or $426 with the pensioner discount applied).

Our analysis supports the Council's comment that meter-based pricing for retirement villages results in significantly lower prices than dwelling-based pricing.

Importantly, a move from current meter-based prices to dwelling-based prices would create a significant price shock on a per dwelling basis. Whilst this would initially be borne by the operator, it would likely be passed on (in part or in full) to residents through fees and charges (subject to protections of their contracts). This is exacerbated by the residents' inability to claim pensioner rebates under current policy.

We have therefore made a draft decision, on balance, to continue to treat retirement villages as non-residential customers for pricing purposes.

10.3 Prices for unmetered properties

We made a draft decision:

39 That when a property is temporarily unmetered, for the unmetered period it should be charged:

- the standard 20mm service charges for water and sewerage, plus
- the water usage price applied to the average daily usage over the previous twelve months, specific to that property, multiplied by the number of days that the property is unmetered, or
- zero if average daily usage data is unavailable.

169 Under section 312 (1) of the *Water Management Act* 2000, which allows for certain types of properties to be exempt from paying service charges (they still pay usage charges). This includes, but is not limited to, land belonging to and/or used for a public hospitals, charities, churches, schools and kindergartens, specific aged care facilities and land vested in the State regional or local Aboriginal Land Councils. This Council states that it exempts the specific retirement villages as "Land that belongs to any public hospital, public benevolent institution or public charity, and is used or occupied by the hospital, institution or charity for its purposes". Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 152.

The Council reported that, unlike in the Sydney Water area, all of its customers are required to have meters.[170] Consistent with this, it has not reported billing any unmetered water consumption during the 2013 determination period. However, occasionally customers may be temporarily unmetered, for instance, where the Council temporarily provides an alternative supply pending repairs to the mains.[171] In these cases, it would not be able to charge for actual water usage as it is not measured.

Under the 2013 Determinations, an unmetered customer's water usage is calculated differently depending on which former Council area they are in. In the Wyong area, usage during the unmetered period is based on a deemed consumption of 180 kL per annum.[172] In the Gosford area, usage is based on the property's previous two meter-reading periods.[173] During the 2013 review, Gosford Council argued that assuming 180kL annual consumption was not appropriate as it would unfairly impact customers that are temporarily unmetered because of circumstances outside their control.[174]

For the 2019 determination period, the Council proposed two approaches for unmetered properties:

1. That annual usage should be deemed at 112.5 kL (75% of the average annual residential usage for Central Coast customers) and pro-rated by the number of days that the meter is unavailable.[175]
2. To not charge unmetered properties for usage at all.[176]

We note that the Council did not provide reasons why the deemed amount should be 25% below average usage.

Regardless, we consider that applying a deemed usage amount is unnecessary when there is historical usage information available. Whilst Sydney Water and Hunter Water deem a usage amount, this is because some of their customers are permanently unmetered, which means there is no historical usage specific to each property. For the Central Coast, using an average for the specific property would more accurately reflect a particular customer's usage patterns.

Therefore, we consider that the Council should continue to use the former Gosford Council's method – to apply an average daily usage based on the past year (to account for seasonal patterns of water usage).[177] In the unlikely event that there is no historical usage, we consider a deemed usage amount of zero would be appropriate. In our view this method would be

170 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 155.
171 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 226.
172 This method applies in our 2016 Sydney Water and Hunter Water determinations.
173 This is the average of the past year as Gosford moved to bi-annual billing during the 2013 determination period.
174 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 116.
175 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 155.
176 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 226.
177 The former Gosford Council billed customers bi-annually, but the Council now proposes quarterly billing. If the Council implements quarterly billing this would mean the average should be calculated using the last four billing cycles.

relatively simple to implement, while more accurately accounting for actual usage for the relevant property.

10.4 Prices for unconnected properties

We made draft decisions:

40 To set water service charges for properties not connected to the water supply system to zero.

41 To set sewerage service charges for properties not connected to the sewerage system to zero.

The Council may levy water and sewerage service charges to unconnected properties under the *Water Management Act 2000*, as long as in the utility's opinion it is reasonably practicable for water and sewerage services to be provided to that land.[178] This approach is also adopted by other councils in NSW.

By contrast, water and sewerage service charges are set to zero for unconnected properties in the Sydney Water and Hunter Water 2016 Determinations.

Unconnected properties represent about 1.2% of the Council's customer base.[179] The Council currently charges service charges for vacant land, which are unconnected properties, and proposes to maintain its existing approach.

Our draft decision is that properties not connected to the water or sewerage system should not pay water or sewerage service charges.[180] We consider this to be a pragmatic approach which recognises:

- Properties that are not connected to the water or sewerage system are not directly imposing costs on the Council's network, and
- Properties that have been disconnected due to non-payment of fees should not continue to be levied water or sewerage service charges.

We note that the Council considered that the current approach should be maintained.[181] However, it also indicated that, when new land is subdivided and pipe works have been extended to that new subdivision, sometimes neighbouring vacant land becomes available to be connected to the system using the same pipe works. If so, this vacant land is charged applicable water and sewerage service charges. The Council noted that, if the owner chooses to connect the vacant land, there is an expectation that developer charges would not apply.

It appears in these instances that water and sewerage service charges to these vacant lands are operating as de-facto developer charges.

178 Section 311 of the *Water Management Act 2000* (NSW).

179 The Council currently has 1,705 properties not connected to the water and/or sewerage supply system but for which a connection is reasonably available (out of about 140,000 customers in total).

180 Under our draft decision, if a property is not connected to the sewerage system but is connected to the water supply system, then it would be charged an applicable water service charge, vice versa. Properties that are not connected to both the water and sewerage system, would not face any water and sewerage service charges.

181 Information provided by Council to IPART, 1 February 2019.

We consider prices would be more cost-reflective if developer charges applied to new connections, rather than annual water and sewerage service charges, and then annual service charges applied to properties that are connected.

Finally, we note that our draft approach would be revenue neutral for the Council, as its revenue requirement would be recovered from other customers (that is, those connected to the water and sewerage network). We estimate the impact on connected customers would be small, less than $10 per customer per year, on average.

11 Prices for water supplied to other utilities

This chapter considers prices for water that the Council supplies to other water utilities. The Council supplies water services to two WICA (*Water Industry Competition Act 2006*) licensees:

1. **Catherine Hill Bay Water Utility (CHBWU), operated by Solo Water**, which is outside the Council's area of operations (in Hunter Water's area of operations). Solo Water plans to supply over 500 properties.
2. **Narara Ecovillage (NEV)**, which is within the Council's area of operations. NEV plans to supply around 120 customers.

The Council also has a water trading arrangement with **Hunter Water**, under which either party can supply potable water to the other under a water supply contract. This agreement was developed as a drought resilience measure in 2006 when the Central Coast experienced a severe drought while the lower Hunter region had relatively full water storages due to significant rain.[182]

11.1 Summary of draft decisions on prices to other utilities

We have made draft decisions to:

- Apply non-residential prices to the water service supplied by the Council to CHBWU. This draft decision reflects that CHBWU is not within the Council's area of operations, which means that the competitive neutrality reasons that support a retail-minus approach for water services that are on-sold do not apply for this scheme.
- Defer regulating prices for services to the NEV scheme, as the supply arrangements remain uncertain. We consider that, in principle, a retail-minus pricing approach would be appropriate for services that are on-sold by NEV. However, we see benefit in the price(s) being privately negotiated between NEV and the Council. If the parties are unable to agree, either party may write to IPART at any time to seek a scheme-specific price.
- Maintain the current price, in real terms, for bulk water transfers between the Council and Hunter Water.
- To allow the Council to enter into unregulated pricing agreements (UPAs) with other water utilities, only.

11.2 Prices to WICA utilities – overview of current arrangements

The Council currently supplies water services to two WICA utilities. Box 11.1 briefly outlines the Council's supply arrangements with each utility. For pricing purposes, the Council currently treats these utilities as non-residential customers. That is, the two utilities each pay a fixed annual charge based on the size of the meter connection, and the standard water usage price per kilolitre consumed.

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

Box 11.1 Council's WICA supply arrangements

The key features of the Council's supply arrangements to WICA utilities are outlined below.

Catherine Hill Bay Water Utility

- Plans to supply over 500 Equivalent Tenements (ETs).[a]
- Receives a water service only from the Council (from a connection within Council's area), and supplies water, sewerage and recycled water services to its end users, which are in Hunter Water's area of operations (rather than the Council's).
- Has a single 200mm meter connection to the Council's water supply.
- Currently pays the Council non-residential prices which include: a fixed meter connection charge for its 200mm meter, $2.29/kL for water usage, and developer contributions under section 305 of the *Water Management Act 2000*.

Narara Ecovillage

- Plans to supply 120 ETs. It would supply water, sewerage and recycled water services to its end users (which are located within the Council's area).
- Currently, receives a water service only from the Council. It initially planned to receive temporary water supply for up to 18 months from when it reached 30 ETs. However, it may instead rely on the Council for water and sewerage services permanently.
- Has a single 50mm meter connection to Council's water supply.
- Currently pays the Council non-residential prices, which include: a fixed meter connection charge for its 50mm meter, and $2.29/kL for water usage.
- To date there have been no explicit developer charges associated with the site as it was previously owned by the NSW Government (before NEV purchased the site, the Council supplied water services and no augmentations have been required). However, the purchase agreement included the transfer of a parcel of flood plain land to the Council in lieu of developer contributions. We also understand that the Council and NEV have negotiated on head works charges associated with providing permanent potable water and sewerage services.

Forecast annual consumption for WICA utilities serviced by the Council (kL)

	2019-20	2020-21	2021-22	2022-23	2023-24
CHBWU	36,880	52,767	59,358	69,987	76,500
NEV	2,957	-	-	-	-

a **Equivalent tenement** is the measure of the demand a new development will place on water and sewerage infrastructure compared to an average residential dwelling.

Note: Forecast annual consumption based on the relevant developer staging plans.

Sources: Information provided by Council to IPART, 11 January 2019; Solo Water submission to IPART Issues Paper, October 2018; and Information provided by NEV to IPART 7 January 2019 and 14 March 2019.

The Council proposed continuing to treat these schemes as single non-residential customers. It considers it is not necessary to set separate 'wholesale' or 'retail-minus' prices for WICA utilities in its 2019 Determination in line with Sydney Water and Hunter Water.[183] It argues that this would create additional administrative burden, and considers its current approach is transparent.[184]

Both WICA utilities argued that lower prices would be appropriate:

- Solo Water noted the disparity between its usage price and the bulk water transfer price to Hunter Water (discussed below).[185]
- NEV considered it would be reasonable for the price to recognise its actual costs borne for retail and network operations, noting that these costs are significant for a customer base of 120 houses.[186]

Below, we outline our draft decision for each WICA scheme in turn. We first outline the feedback we received from stakeholders, and then our draft decisions and the reasons for them.

11.3 Pricing approach for Catherine Hill Bay Water Utility (Solo Water)

We made a draft decision:

42 To set the price for water services supplied by the Council to Catherine Hill Bay Water Utility:

- based on a non-residential water price
- without including any facilitation costs (or cost savings), and
- for three years, in line with all other prices in the 2019 Determination.

In this section we firstly outline feedback from Solo Water on the appropriate price for this scheme. We then outline the reasons for our draft decision to set a non-residential price for the Catherine Hill Bay scheme, and to not include any facilitation costs (or cost savings).

Solo Water contended its water usage price should be lower

Solo Water submitted that IPART should set a price for its scheme to ensure: transparency for suppliers and customers; a competitive private water market; equity for residential customers; and to avoid conflict of interest for water utilities setting prices levied on their competitors.[187]

It considers that a retail-minus pricing approach is not appropriate in its case, because: the Council charges developer contributions; Catherine Hill Bay is not in the Council's area of operations; and, it would create additional administrative burden.[188]

183 In 2017, we completed a review of prices for wholesale water and sewerage services supplied by Sydney Water and Hunter Water: IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017.
184 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019,* September 2018, p.13
185 Solo Water submission to IPART Issues Paper, October 2018.
186 Public Hearing Transcript, Tumbi Umbi, 27 November 2018, p 71.
187 Solo Water submission to IPART Issues Paper, October 2018.
188 Solo Water submission to IPART Issues Paper, October 2018, pp 4-5.

It highlighted the disparity between the current water usage price it faces ($2.29/kL – retail price) and the bulk water price for transfers between the Council and Hunter Water ($0.63/kL). It noted that, with its additional costs, its end-users pay $3.00/kL for water.

It considers the correct price lies between $0.63/kL and $2.29/kL, reflecting the cost of supplying water to its connection point. It argues a discount is warranted because:

- It owns significant assets downstream of the connection point and incurs costs to operate and maintain the bulk water transfer system. Whereas, under the conventional model, Council would own all assets up to the front gate of the customer's premises.
- Council charges the standard rate for all water that passes through the bulk water meter, including for uses that are typically classified as non-revenue water.[189] Whereas, under the conventional model, Council would not receive revenue for all water.

We asked Solo Water for more information regarding the costs it considers it avoids the Council. In response, it described the following costs it bears which it considers the Council has avoided:

- capital and operating expenditure associated with CHBWU's bulk water transfer system[190]
- the costs of non-revenue water
- operating cost savings due to reduced water usage, and
- costs of retail and customer service provision.[191]

The Council disagreed that a bulk discount is warranted

We asked the Council for its views on Solo Water's submission and it provided the following comments.[192]

- It noted that, under the conventional model, Hunter Water (and not the Council) would be supplying services to the area.
- It does not support the premise of a 'bulk discount' as it has around 25-30 separate customers with higher annual consumption after the CHBWU development reaches full yield. These customers include aged care facilities, shopping centres, power stations and food manufacturers.
- The costs of servicing the remote area should be borne by the developer and customers at Catherine Hill Bay, rather than by the Council's customers.
- It is unclear if Solo Water has accounted for the revenue it receives from its customers based on the difference between the non-residential 200mm annual water service charge it pays to Council, and the multiple residential service charges it can levy on end-users.

189 For example, water used in flushing, firefighting, stolen water, system losses and community water usage.
190 Including: a chlorine booster system, transfer pump power, chlorine, additional remote water quality monitoring and meter reading, flushing, maintenance, incident response, corridor track maintenance and asset renewal.
191 Information provided by Solo Water to IPART, 18 January 2019.
192 Information provided by Council to IPART, 11 January 2019.

In relation to the last comment above, we note that Solo Water's submission focused on the water usage price and did not address the potential margin relating to the water service price. Box 11.2 outlines the potential extent of the margin between service charges paid and received by CHBWU.

Box 11.2 Comparing service prices paid and received by Solo Water

Our draft annual water service prices for the Council are:

- $109 for a 20mm meter, and
- $10,916 for a 200mm meter.

This means that, if Solo Water applied the Council's service prices to its end-users, it would need to service one hundred 20mm-equivalent customers before breaking even on the 200mm service price it pays the Council. At full capacity, Solo Water plans to supply over 500 ETs, meaning it will recover a significant margin on the fixed component of the prices it charges its customers.

In practice, Solo Water charges its customers a higher annual water service price than the Council. We received a submission from a residential customer supplied by Solo Water which included a quarterly bill that suggests Solo Water levies annual water service charges of $325 on residential customers. This likely reflects its own additional costs, which would reasonably be higher for a smaller utility servicing a remote area.[a]

Moreover, some of the water supplied by the Council would be used as potable top up to Solo Water's recycled water plant (ie, as an input to the supply of recycled water). Solo Water also levies separate fixed and usage prices on its customers to recover its costs of supplying recycled water.

This means, based on its current charges, Solo Water would likely have a substantial service charge margin when it reaches capacity.

[a] We note that IPART does not currently regulate WICA utilities' prices to their end users, so we have limited information on Solo Water's actual costs of service.

Sources: Submission from R. Eggins (W18/2512).

We have made a draft decision to apply non-residential prices to Solo Water

CHBWU presents a different supply arrangement to those considered in our 2017 review of wholesale prices for Sydney Water and Hunter Water, because its end-users are located outside the Council's area of operations.

In our 2017 review of wholesale prices we concluded that – for services that are on-sold – efficient entry and competition would be encouraged if wholesale prices reflect the regulated retail prices.[193] Retail-minus pricing creates a margin for a new entrant (the minus) that reflects an estimate of the cost of the contestable service.[194] This ensures:

- The incumbent and new entrant compete on the basis of their respective efficient costs of supplying the contestable service, rather than on the basis of an arbitrage opportunity or artificial margin created by virtue of the nature of regulated retail prices.
- The entrant is not advantaged or disadvantaged by price regulations that apply to the incumbent.

193 For example, postage stamp pricing and differing residential and non-residential price structures.

194 The contestable service is the service the entrant is providing (or seeking to provide) to retail customers 'upstream' or 'downstream' of the services it has purchased from the incumbent.

In the case of CHBWU, we do not consider pegging the price to either the Council's or Hunter Water's retail prices would be appropriate, because:

- **For the Council:** Solo Water's end users are not located within the Council's area of operations, meaning the Council could not supply these customers and Solo Water is not competing with the Council to service them. We also note that in the 2017 review of wholesale prices, Sydney Water and Hunter Water agreed that services supplied out of area do not compete with their own services.[195]
- **For Hunter Water:** While Solo Water is supplying end users within Hunter Water's area of operations, it is not relying on Hunter Water's network to do so. Given this, in our view it is appropriate for Solo Water's end-users to face location-based price signals. For example, if Solo Water constructed its own dam rather than sourcing water from the Council, its costs would be recovered from its own end-users (rather than Hunter Water or its customers).

In our view, the Council's proposal to apply non-residential prices provides a reasonable basis for setting the price as it reflects the Council's average costs of providing its services, which is the best available proxy for its costs of providing services to Solo Water. Our draft water service prices are outlined in Chapter 7. We have set:

- A **water usage charge** of $1.90 per kL, set with reference to an up-to-date estimate of the long run marginal cost of supply, and
- A **water service charge** based on meter size, reflecting each customer's share of the remaining fixed costs of the Council's network (the draft 200mm service charge is $10,916).

We consider that these prices are the most readily available estimate of the costs of servicing CHBWU, as there is no evidence that the costs of servicing it are lower than for other large non-residential customers. Indeed, as it lies on the border of the Council's network, these costs could be higher than the Council's average costs for a similar customer in another area. In addition, the Council noted it services 25-30 non-residential customers that receive more water than CHBWU.

Finally, Solo Water noted that, with the addition of its own costs, its customers pay relatively high prices for water. We do not consider that this warrants an adjustment to the price levied by the Council. It is likely that the higher costs paid by customers in Catherine Hill Bay reflect the higher costs associated with a smaller utility servicing a comparatively remote area.

11.3.2 Are there other costs that need to be reflected in prices to Solo Water?

Our 2017 wholesale pricing framework also allowed for recognition of facilitation costs. Facilitation costs can be positive (costs) or negative (cost savings). For example:

- a **positive facilitation cost** may arise if an incumbent needs to upgrade or extend its water or sewerage network to provide services to an entrant, and
- a **negative facilitation cost** may arise if an entrant produces recycled water that allows the incumbent to defer its next scheduled water supply or sewage treatment augmentation.

195 Sydney Water submission to IPART Discussion Paper, May 2016, pp 2-5; and Hunter Water submission to IPART Discussion Paper, May 2016, pp 8-9.

We allowed for facilitation costs to be accounted for in setting prices for services supplied to WICA utilities where these costs were not reflected elsewhere in the price.

The Council considers there are no facilitation costs

The Council considers there are no facilitation costs (or savings) associated with supplying CHBWU. The Council put forward that:

- There were no additional augmentations required to supply CHBWU, and the minor physical connection works were funded via developer charges.[196]
- Catherine Hill Bay is located within Hunter Water's area, so all physical assets beyond the connection point are not owned by the Council, and customers supplied recycled water from the development are not within the Council's area.
- Additional administrative costs incurred by the Council to establish the two servicing arrangements are not included as facilitation costs (in line with IPART's 2017 wholesale framework).[197,198]

Solo Water argued that a number of its costs should be reflected in the price

Solo Water acknowledged that its developer charge takes into account the potable water demand reduction achieved by its recycled water plant. However, it argued that a number of its costs should be reflected in the price.[199]

First, it considers that it allows the Council to avoid costs associated with its assets downstream of the connection point (including the bulk water transfer system). However, as noted above, Hunter Water would be the alternative supplier rather than the Council.

Second, it notes that it pays the standard water usage price for non-revenue water. However, the Council does not recover the costs associated with non-revenue water through direct water usage charges; instead, these costs would be recovered through its fixed prices. Therefore, we do not consider it appropriate to reduce the water usage price to reflect non-revenue uses.

Third, it considers that it saves the Council operating costs due to reduced water usage. We consider that these operating cost savings are captured through the lower volume of water supplied as a result of the recycled water plant (resulting in lower volumetric charges).

We have not included any facilitation costs in prices for water supplied to CHBWU

We consider that applying non-residential prices will recover the full costs of delivering the service to CHBWU, consistent with the prices we have applied to other large non-residential customers. The Council has not incurred any costs of servicing CHBWU that are not already

196 Developer charges are intended to recover the difference between the incremental costs of servicing a new development and the revenue received from periodic charges (which reflect the average, system-wide, cost of supply).

197 In our 2017 review of wholesale prices for Sydney Water and Hunter Water we decided that administrative costs should be borne by each party and not included in prices. Source: IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017, p 65.

198 Information provided by Council to IPART, 11 January 2019.

199 Solo Water submission to IPART Issues Paper, October 2018.

reflected through its non-residential prices and developer charges. In our view the Council has also not avoided any costs as Solo Water's end users are outside the Council's area of operations – meaning the Council would not supply them directly.

11.4 Pricing approach for Narara Ecovillage

We made a draft decision:

43 To defer determining prices for water and sewerage services supplied by the Council to Narara Ecovillage.

We firstly outline feedback from NEV on the appropriate prices for its scheme. We then explain that, conceptually it would be consistent with our 2017 wholesale review to apply:

- retail-minus prices for services on-sold by NEV, and
- non-residential prices for services that are inputs to NEV's recycled water plant.

However, we explain that we have deferred setting prices for the services supplied by the Council to NEV as we encourage the parties to agree on prices through direct negotiation. If they are unable to agree, either the Council or NEV may write to IPART at any time to request a scheme-specific review. To provide information to inform their negotiations, we also outline some of the matters that we would consider in a scheme-specific price review.

11.4.1 NEV feedback on pricing approach

NEV did not make a submission to our Issues Paper, but attended the public hearing where it explained that it did not make a submission because it only planned to rely on Council services temporarily. It also noted that the changing nature of the scheme had led to discussion with the Council over the last five years about how it may be involved in water and sewerage services on the site at future stages.[200]

NEV subsequently provided an update to IPART that it now plans to receive water and sewer services from the Council on an ongoing basis.[201] It also indicated an intention to negotiate utility-to-utility bulk supply charges with the Council which are below standard residential supply charges as it saves the Council the costs of:

- water and sewer reticulation throughout the development, including fire hydrants
- water meters, meter reading, billing and collections
- customer complaint handling, and
- reticulation network repairs and maintenance.

200 Public Hearing Transcript, Tumbi Umbi, 27 November 2018, p 63.
201 Information provided by NEV to IPART, 12 March 2019.

11.4.2 We have made a draft decision to defer setting prices as we see benefit in the parties negotiating

We have made a draft decision to defer setting prices for the Council's water and sewerage services to NEV. We have deferred setting prices for services supplied to NEV because:

- at this stage the servicing arrangements remain uncertain, and
- private negotiation on prices between the two parties could improve outcomes for both parties.

We understand that, to date, the parties have negotiated supply arrangements and headwork costs. This makes them best placed to reach a mutually beneficial pricing agreement that takes account of the specific nature of (and any changes to) the servicing arrangements. We consider that setting a price at this stage bears the risk of unduly influencing any ongoing negotiations between the parties.

If they are unable to agree, either party may seek a scheme-specific review from IPART at any time. In a scheme-specific review we would consider the views and cost information put forward by the Council and NEV, and set maximum prices for the services supplied to NEV. Prior to requesting a scheme-specific review, we would expect the parties to have sought to reach agreement and negotiate in good faith. This would mean that the scheme-specific review could focus on key areas that have not been resolved during negotiations.

If requested to undertake a scheme-specific review, we would have regard to the framework established in our 2017 wholesale price review. In that review we made a decision that retail-minus prices should apply to services that are on-sold within the wholesale supplier's area of operations,[202] where the wholesale supplier is also providing the on-sold service to end-use customers, and is bound by regulated prices.

11.4.3 Issues that we would consider in a scheme-specific review

To provide additional information to the parties to inform negotiations, we outline some of the matters that we would consider in a scheme-specific review below. In particular:

- The appropriate pricing approaches based on the nature of the services that Council supplies (or may supply in future) to NEV.
- How the pricing approaches would be implemented.
- Whether any other costs or cost savings should be reflected in the price.

More information is available in the final report of our 2017 review of wholesale prices[203], and our *Guidelines for Scheme-specific Review Requests*, available at: https://www.ipart.nsw.gov.au/Home/Industries/Water/Setting-water-prices.

202 In this case, the Council's area.

203 IPART, Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation, Final Report, June 2017. Available at: https://www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Metro-Pricing/Wholesale-pricing-for-Sydney-Water-and-Hunter-Water

Nature of the services supplied

The Council supplies NEV water for on-selling, and also for potable top-up to NEV's recycled water plant. In future, the Council may also supply sewerage services to NEV. As NEV is within the Council's area of operations, competition is a relevant consideration.

Under our 2017 wholesale framework, the appropriate price for these services depends on whether the service is on-sold to end users that the Council could have otherwise supplied, or is used as an input to a different service (recycled water):

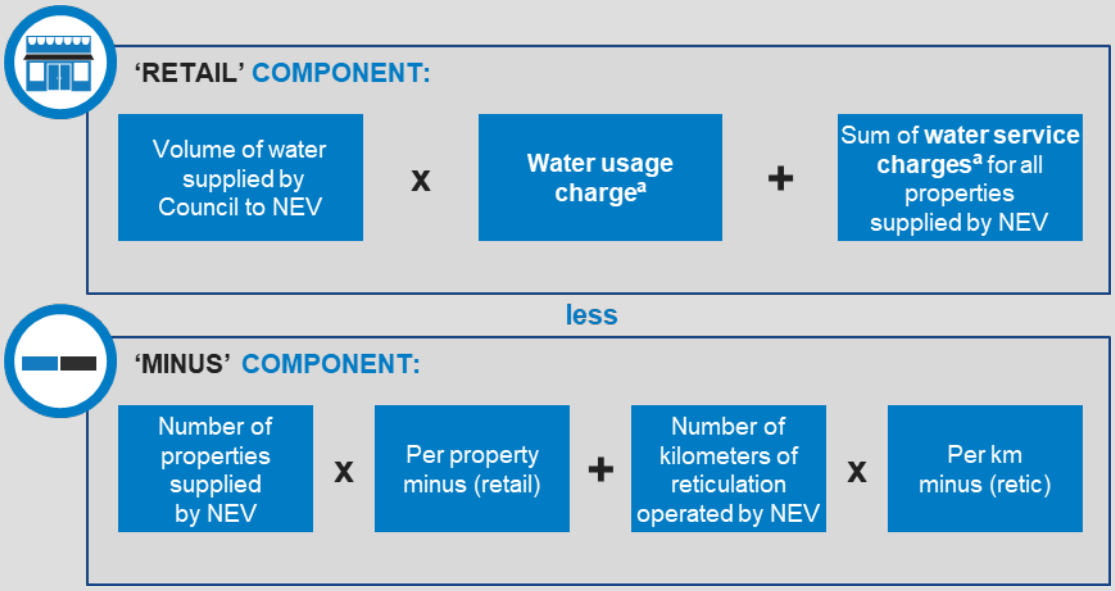
- **Retail-minus prices** should apply to any water or sewerage services on-sold to end-users by NEV. Examples of on-selling include purchasing drinking water to sell as drinking water to end users, or purchasing a sewerage service for the purpose of selling sewerage services to end-users. This is because NEV relies on Council's infrastructure to on-supply a service to end-users that the Council could have supplied directly, and where the Council would be restricted to charging IPART's regulated prices.[204] Box 11.3 outlines how a retail-minus price would be structured.
- **Retail non-residential prices** should apply to any water or sewerage services related to NEV's recycled water plant, including potable top-up to the recycled water plant and disposal of waste from the recycled water plant.[205] This is because NEV uses this water as an input to the supply of a different service (recycled water), rather than on-selling the same service in a market where the wholesale service provider also supplies that service to end-use customers and is subject to price regulation.[206]

204 For more information on this decision see Chapter 4 in: IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017.
205 Including trade waste prices where relevant.
206 For more information on this decision see Chapter 5 in: IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017.

Box 11.3 What is a retail-minus price?

Under a retail-minus approach, the wholesale price for on-selling a service would be based on the total retail prices that the Council would have recovered from end-users of that service, minus the 'reasonably efficient competitor' costs of the contestable service(s). The contestable service is the service NEV provides (or plans to provide) to retail customers 'upstream' or 'downstream' of the service it purchases from the Council. That is, the services between the wholesale connection point and the end-users. They often include reticulation and retail services.

Below, we provide an example of how the retail minus price would be calculated for water services that are on-sold. An equivalent approach would apply to sewerage services that are on-sold.



a Based on prevailing retail determination for Central Coast Council

Implementation of the pricing approaches

The pricing approaches above would raise two key implementation issues for a scheme-specific review. Namely:

- What minus would apply to water purchased for on-selling?
- How would the Council charge separately for potable top-up?

What minus would apply to water supplied to NEV?

In our 2017 review for Sydney Water and Hunter Water, we concluded that the minus should reflect the costs of a 'reasonably efficient competitor' (REC) of providing the contestable services, to promote dynamic efficiency.[207] We calculated typical system-wide minuses for Sydney Water and Hunter Water based on three example utilities with 2,000-10,000 customers each. We established system-wide minuses that represented estimates of minus values for REC costs of **retail** and **reticulation** functions performed by a wholesale customer.

In a scheme-specific review, we would request cost information from both parties in order to inform an assessment of the REC costs of servicing NEV's end users.

207 For more information on this decision see Section 4.4 in: IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017.

How would the Council charge NEV separately for potable top-up?

Currently, NEV receives water from the Council for two purposes: potable water for on-selling as potable water to end-users, and potable water top-up to NEV's recycled water plant. These should be subject to two separate prices under our wholesale pricing framework. However, NEV only has a single 50mm meter connection to the Council's network. In our 2017 review, we envisaged this scenario, and concluded that the recycled water plant should be deemed a 100mm meter.[208] However, we recognise that this approach would not be appropriate given the relatively small size of the Narara scheme, compared to those contemplated in the 2017 review. We would seek input from the parties to identify an appropriate approach to billing separately for water supplied to the recycled water plant.

Whether any other costs need to be reflected in the price

As outlined in Section 11.3, our 2017 wholesale pricing framework also allowed for recognition of facilitation costs. In response to information requests, the Council and NEV agreed there were no facilitation costs associated with supplying NEV as no augmentations had been required.[209,210]

As part of a scheme-specific review we would consider whether there were any costs or cost savings to the Council as a result of the NEV scheme. In particular, we would consider whether there are any savings to the Council resulting from NEV's recycled water plant that are not already reflected elsewhere in the price (such as through lower volumetric charges). While NEV is coming up to scale, its recycled water supply is not likely to impact the Council's water infrastructure expansion. However, if the scheme were to expand over time and continue drawing on the Council services in future, this may result in facilitation costs (costs, or cost savings) that need to be accounted for at a later time.

11.5 Price for bulk water transfers to Hunter Water

The Council has a water trading arrangement with Hunter Water, under which either party can supply potable water to the other. This agreement was developed as a drought resistance measure, prompted in response to the Millennium drought in the early 2000s when the Central Coast experienced a severe drought while the lower Hunter region had relatively full water storages due to significant rain. Box 11.4 provides some further information on bulk transfers.

IPART determines the maximum price (or prices) at which the utilities sell the water to one another. In this review, we are setting the price that the Council can charge to Hunter Water, and also the price that Hunter Water can charge to the Council.[211]

208 IPART, *Prices for wholesale water and sewerage services – Sydney Water Corporation and Hunter Water Corporation*, Final Report, June 2017, p 55.
209 Prior to the disconnection of the water supply connection once the site reaches 30 ETs.
210 Information provided by Council and NEV to IPART, January 2019.
211 We have also released a separate Draft Determination on the maximum bulk water transfer price between Hunter Water and the Council.

The current price was set in 2013 at the higher short-run marginal cost (SRMC) of the two utilities, and increased annually by inflation.[212] In our 2016 review of Hunter Water's prices, we maintained the price pending this current review of the Council's prices.[213]

Our draft decision is to continue to increase the current price by inflation. In summary, our draft decision balances stakeholder views – that a lower price based on updated estimates of SRMC would be appropriate – with our analysis that a higher price based on LRMC more correctly prices the opportunity cost of consuming water through the agreement. As discussed in Section 11.6, we have also decided to allow the Council to enter into an unregulated pricing agreement with Hunter Water.

We made draft decisions:

44 To set the price for bulk water transfers between the Central Coast Council and Hunter Water Corporation as $0.69/kL ($2018-19) plus inflation for 2019-20, to be increased annually by inflation.

45 To set the price for bulk water transfers between the Central Coast Council and Hunter Water Corporation for three years.

212 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 47.

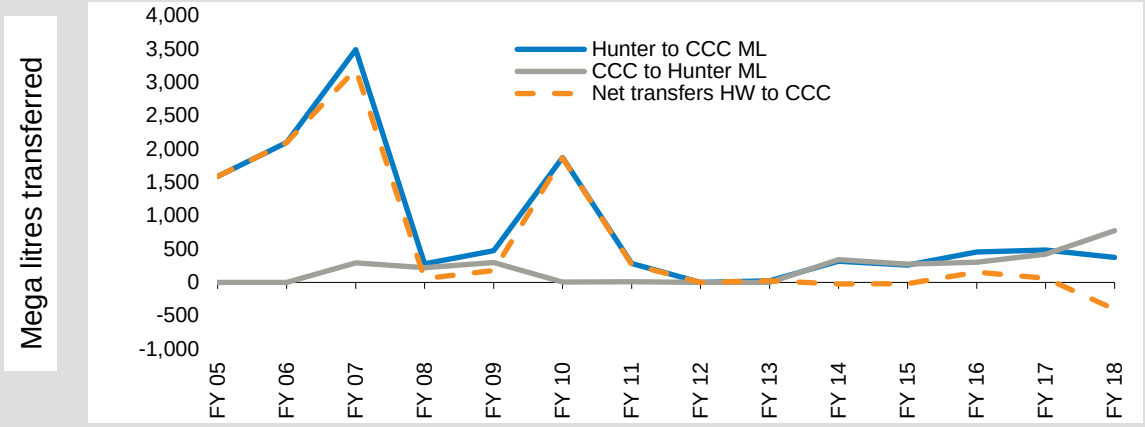
213 *Hunter Water Corporation: Maximum prices for water, sewerage, stormwater drainage and other services from 1 July 2016,* Final Report, June 2016, p 139.

Box 11.4 Bulk water transfers between the Council and Hunter Water

A pipeline connects reservoirs at Morisset (in the Hunter region) and Kanwal (in the Central Coast) and the agreement sets out the maximum daily transfer rates depending on the relative storage levels in each region, which changes as storage levels reduce. Water is also transferred for two reasons other than low storage levels – to run water through the pipeline for general maintenance (ie, to keep it clear), and to provide water to customers when construction in one area has restricted the water supply.

Figure 11.1 shows that the utilities have only used the pipeline to transfer water for consumptive use on three occasions when storages fell below agreed thresholds. The Council supplied water to Hunter Water in 2017-18, and received water from Hunter Water in 2006-07, and 2009-10. Other flows were for maintenance purposes or where there was construction on one network.

Figure 11.1 Annual transfers between the two regions 2004-05 to 2017-18



Data source: Information provided by Hunter Water to IPART, 25 January 2019.

11.5.1 Stakeholders supported a lower price

Both the utilities prefer to maintain the current **approach** to setting the price based on the higher SRMC of the two utilities, which, according to the Council's calculations, would result in a lower price for transfers.

The Council considered that the price should be set using the current approach because the agreement is not for commercial gain.[214] Hunter Water provided a number of reasons that it preferred to maintain the current approach, including that it:

- provides flexibility to manage the uncertainty of volumetric transfers
- is equitable in that the utilities' capital investment is recovered from their respective customer bases (given that it provides drought security for customers in both regions)
- is consistent with the objective of not constraining the transfer of water between the regions as a drought security response, and
- allows for revenue neutral outcomes when water is transferred only for maintenance purposes.[215]

Only one other individual responded to our Issues Paper on this matter. M. Redrup also supports the current approach, and that the price should be equal in both directions.

11.5.2 LRMC is the most efficient price in principle

In our Issues Paper, we put forward five methods that we considered could be reasonable approaches to setting the price, which were variations based on either the SRMC or the long run marginal cost (LRMC) of water supply. These are outlined in Box 11.5 below.

When we set prices, our overarching principle is that prices should be cost-reflective. For the bulk water transfer price, we think there are two main costs of transferring water through the pipeline to be recovered:

1. The direct costs of pumping water through the pipeline (eg, electricity costs, treatment costs and the cost transferring a small amount of water for maintenance purposes).
2. The opportunity cost of consuming water from the other utilities' network. That is, the cost of a reduction in one utility's supply in order to increase the other's supply.

Both the SRMC and the LRMC include the direct variable costs. The opportunity cost, however, is more difficult to price. We consider that the opportunity cost for a utility to draw a litre of water from another utility's network should be no different to the opportunity cost for a customer on that network, and our view is that LRMC is generally the best proxy for this cost. On this basis, we consider that the LRMC is a more efficient method to set prices than the SRMC (the current approach). Setting the transfer price at SRMC likely under-prices the cost of net transfers.

In principle, pricing for the opportunity cost based on LRMC could encourage better water supply planning by including the price of future network augmentations required to increase supply. It would send a better price signal of the cost of consuming an extra unit of water (although we note that any price signalling is to the other utility, rather than the end-use customers[216], which potentially reduces its effectiveness). Setting prices at SRMC creates a

214 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p.13.
215 Hunter Water, *IPART Review of Prices For Central Coast Council From 1 July 2019: Submission to Issues paper*, September 2018, p 11.
216 As the end-use customers of each utility would be subject to the Tribunal's determined prices, which might not be consistent with LRMC.

potential negative externality for customers of the other network – in that bulk water transfers might bring forward the need to fund the capital costs of capacity augmentation – whereas the LRMC approach prices this cost.

We do note that the terms of the agreement protect somewhat against these risks by setting transfer rates based on **relative** storage levels. For instance, if Central Coast storage levels trigger the agreement, Hunter Water will supply it with up to 32 ML per day. However, as Hunter Water's supply drops, the daily transfer rate also falls, in order to protect the available supply to Hunter Water customers. The water management of the two utilities is also guided by the Lower Hunter Water Plan. However, these terms do not change our argument that the opportunity cost of consuming water should be the same for end-use customers as it is for another utility consuming water through the pipeline.

We estimate the Council's LRMC at around \$1.50/kL,[217] which is significantly higher than the current SRMC. Hunter Water stated the LRMC would set a relatively high price in both regions, constraining the use of the transfer system, and argued that the SRMC approach is consistent with the objective of not constraining the transfer of water in times of drought. We agree that a price set using LRMC would be higher than a price set using SRMC, but we consider that the LRMC would send the better price signal, and we maintain that it is the more efficient pricing method.

Box 11.5 Options for pricing bulk water transfers

In our Issues Paper, we highlighted the following options for pricing bulk water transfers:

1. The current approach – ie, the higher of the Council's and Hunter Water's 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. (The Council's LRMC is a major input to our decisions on the retail price of water.)
5. Each utility's LRMC of water supply.

11.5.3 Our draft decision is to maintain current prices

When we set the price in our 2013 price review using the higher SRMC of the two utilities, we noted that it was simple to calculate and implement, as well as being transparent. We still consider that it is important to maintain a degree of simplicity in the prices we regulate.

We also noted in 2013 that using the SRMC method removes the need to estimate the transfer volume when forecasting prices, minimising the risk of any over or under-recovery. This is because a price based on SRMC recovers the relevant variable costs whenever a transfer happens. Hunter Water also made this point in support of its preference to have a price based on the SRMC. Transfers are inherently difficult to forecast because we are not able to accurately predict drought conditions. We agree that it is beneficial to avoid the need to

217 IPART estimate based on the Council's LRMC. We do not have a current estimate of Hunter Water's LRMC.

forecast transfer volumes because of the uncertainty, and a price based on the SRMC would be closer to the costs incurred.

Further, we are aware that, prior to the 2013 Determinations, we had set the price using three quite different approaches. We consider that there is value in regulatory consistency and predictability, and the utilities, in particular Hunter Water, have expressed a preference for maintaining the current approach.

For these reasons we have decided not to move to the LRMC approach at this stage.

11.5.4 The draft price would be the same in both directions

We also made the draft decision to set the same price for each utility. This is in line with maintaining the current approach as supported by both utilities. We agreed with Hunter Water's submission, which noted that setting a single price would minimise revenue transfers when water is only transferred for maintenance purposes. This means that the net revenue would be close to zero (as water transfers for maintenance are roughly the same in each direction).

We have also assumed that net transfers for both the utilities are zero. Assuming zero net transfers is a simple and transparent approach, and ensures that only efficient costs are recovered from customers, on average across both networks, if transfers are only for maintenance purposes.

11.5.5 We decided to set the price for three years

Our draft decision is to set the price for three years, because it is consistent with our draft decision for all of the Council's prices. This means we are also setting this price for Hunter Water for the next three years, as we did not set it at the last review of Hunter Water's prices. (Our next price review of Hunter Water's general prices will take place in 2019-20.) This decision would also allow a future Tribunal to re-assess the most appropriate methodology in three years' time, noting that our pricing decisions are generally moving towards LRMC.

In making our decision, we also noted that the relatively small amount of revenue associated with this price (given low historical transfers) translates to a relatively low risk in setting this price for a longer period, because there is low impact from cost fluctuations or uncertainty.

11.6 Unregulated pricing agreements

Our current form of regulation involves setting maximum prices that apply to all customers for each year of the determination period. In contrast, unregulated pricing agreements (UPAs) would allow the Council and certain customers to opt out of IPART's determined maximum price and enter into a separate pricing and service level arrangement. Allowing the option for unregulated pricing agreements should encourage parties to seek mutually beneficial service arrangements to improve overall efficiency.

We made a draft decision:

46 To allow the option for the Council to opt out of determined prices and enter unregulated pricing agreements with Hunter Water and Catherine Hill Bay Water Utility.

In principle, the option for unregulated agreements should encourage two parties to seek mutually beneficial arrangements that do not negatively impact on other parties. For example, mutually beneficial scenarios could be where:

- the customer is satisfied with a lower service level for a lower price, and the Council is willing to provide it, or
- a customer is willing to pay a higher price for a higher level of service, and the Council is willing to provide it.

There are some risks involved in such an agreement. If the Council enters UPAs which do not recover the full costs from unregulated customers, it could have a negative impact for the Council's broader customer base. If UPAs are not appropriately ring-fenced, the Council's broader customer base would effectively subsidise costs of a UPA that are not recovered from the unregulated customer (be it the water and sewerage customer base, or the ordinary rate base, which are almost identical groups).

For this reason, we limited the agreements to customers that are also water utilities. The unique systems and nature of the supply arrangements might make it simpler for the Council and customers to identify mutually beneficial outcomes, and for the Council to ring-fence the marginal costs of the particular services provided. Further, we consider these organisations would be able to negotiate on similar terms with the Council.

This is similar to our approach in the 2016 determinations for Sydney Water and Hunter Water. For these utilities, we allowed the option to enter an unregulated pricing agreement with customers using at least 7.3 ML of water annually (normally large industrial customers), this represents a broader customer base than our draft decision for the Council.

11.6.1 The Council did not support UPAs

In our Issues Paper, we asked whether we should allow the Council to enter into unregulated pricing agreements during the next Determination Period. The Council did not support introducing unregulated pricing agreements, because it considered that non-residential customers would only agree to prices lower than residential prices, which would:

- result in a subsidy from other users
- discourage water usage reduction
- discourage water recycling, and
- increase administration costs.[218]

We do not agree that customers would only agree to prices lower than residential prices. As noted above, there could be mutually beneficial augmentations to service provision.

218 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p.151.

We agree with the Council that each UPA would increase administrative burden to negotiate, manage and ring-fence the agreement. The Council should factor in these costs when considering an agreement, and if it does not foresee the benefit outweighing the cost, then it should not enter the agreement. The option of entering UPAs can exist in the determination at no cost if the Council chooses not to use it, however, we encourage the Council to seek mutually beneficial arrangements to drive overall efficiencies.

11.6.2 Stakeholder submissions were mixed

We received feedback from two other water utilities that are customers of the Council, showing some support for giving the Council the option to seek an unregulated agreement. Two other stakeholders opposed giving the Council this flexibility.

Hunter Water stated that it would be open to a UPA with the Council, and added that it would seek to negotiate the price for its bulk water transfer being the greater of the two utilities' SRMCs.[219] Solo Water also indicated at the public hearing that it would be willing to negotiate a price with the Council, but did not express a firm view either way – it did suggest that an IPART regulated price has the benefit of transparency.[220]

The Hon David Mehan MP (member for The Entrance) thought UPAs could lead to 'special pleading' and disputes.[221] M. Redrup considered unregulated pricing agreements would not work where there are also local political influences.[222]

We acknowledge stakeholders' concerns that there is a risk of external pressure.

With that said, we consider that the UPA framework would offer protection for customers. In particular, we would review the ring-fencing of costs, and could respond in the following determination period if costs are not appropriately ring-fenced. This should deter the Council from entering into an agreement where costs are not recovered from the customer receiving the service.

Furthermore, our draft decision to limit UPAs to other water utilities addresses, to some extent, the concerns of stakeholders and the Council.

11.6.3 Ring-fencing

If the Council enters into a UPA, it would need to ring-fence the costs associated with supplying an unregulated customer, including apportioning and ring-fencing any new costs.[223] Importantly, IPART would review the ring-fenced revenue and expenditure at the next pricing determination.

Ring-fencing is important to ensure that cross-subsidies do not occur. Cross-subsidies would happen if the Council enters an agreement that does not recover all costs associated with that

219 Mr Peter Shields, IPART, Public Hearing Transcript, 3 December 2018, pp 62-63.
220 Mr Brad Irwin, IPART, Public Hearing Transcript, 3 December 2018, p 71.
221 The Hon David Mehan MP (member for the Entrance), submission to IPART Issues Paper, 17 October 2018, pp 1-2.
222 M. Redrup, submission to IPART Issues Paper, 14 October 2018, p1.
223 Including a negotiated agreement with NEV, CHBWU or Hunter Water.

customer. Any costs the Council has not sufficiently factored into the agreement could be covered by the general customer base, which would create an inefficient outcome. Ring-fencing should help the Council to assess the cost of service and ensure this is recovered from the customer.

Ring-fencing also ensures that the regulated cost base and regulated prices continue to reflect the efficient costs of providing regulated services in the future. This information would be assessed and factored into resetting expenditure allowances at the next price review.

12 Trade water and miscellaneous prices

In this Chapter, we present and explain our draft prices for trade waste services, and for other miscellaneous services that the Council provides as a water supply authority.

These prices affect a small subset of customers and are charged separately from the water, sewerage and stormwater prices. We received very limited stakeholder feedback and are interested to hear stakeholder views in response to the draft prices.

We engaged a specialist consultant – Marsden Jacobs Associates (MJA) in partnership with Inside Infrastructure – to advise us in our review of these prices. The sections below summarise our draft decisions, the Council's proposal, MJA's assessment and our assessment. We then explain how the revenue from these prices is subtracted from the NRR.

12.1 Summary of our draft decisions on trade waste and miscellaneous prices

We have largely accepted the Council's proposed prices for trade waste and miscellaneous services. We have made minor adjustments:

- to make some charges more cost-reflective, following our consultant's recommendations, and
- to gradually transition to new prices, over three years, for one trade waste price (the annual fee for category 3 customers), and two miscellaneous service prices (the 'Water service connection short & long service' price for 20mm and 25mm customers).

12.2 Draft prices for trade waste services

Trade waste charges are levied on customers (usually industrial and commercial) whose discharge to the sewerage system is more highly contaminated than regular domestic sewerage. The Council has around 1,540 liquid trade waste customers.[224]

224 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 162.

Customers are placed into one of four pricing categories[225] depending on their type of waste and the level of risk it poses to the sewerage system. For each category, a number of different charges are levied for the various services. There are:

- **fixed prices**, which are application fees, annual fees, and re-inspection fees (all categories)
- **volume-based prices,** which reflect the additional costs of treating the higher sewerage discharge (Categories 2 and S only), and
- **mass-based prices**, which reflect the additional costs of treating specific contaminants either within each customer's approval limit or in excess of the approval limit (Category 3 only).

The Council reviewed its prices in the lead-up to IPART's review, and proposed revised fixed prices which it based on an assessment of costs of providing the service, and that these would be harmonised across the LGA. It also proposed to increase the current volumetric- and mass-based prices by inflation only (the two former Council areas set their volumetric and mass-based charges to default charges in the *Liquid Trade Waste Regulation Guidelines*[226], and increase these annually with inflation).[227]

12.2.1 Summary of our draft decisions

We engaged MJA to review the Council's proposed prices for consistency with our pricing principles (Box 12.1) and make recommendations on appropriate prices. Our draft decision accepts the Council's proposed prices with minor amendments. We decided to amend the labour allowance in the calculation of some annual fees and correct minor errors identified during the review.

We made draft decisions:

47 To harmonise trade waste prices across the Central Coast.

48 To set the trade waste prices as listed in Appendix G for 2019-20, to increase with inflation for 2020-21 and 2021-22.

As discussed in Chapter 7, we have also made a recommendation that the Council should collect better information on how its costs of providing trade waste services vary across different sewerage catchment areas, and what the cost drivers are. This would allow it to better monitor and manage its sewerage and trade waste services and help set more cost-reflective prices in a future determination.

225 **Category 1 and 2** customers are commercial customers such as retail food outlets, mechanics and medical laboratories. **Category 3** customers are industrial in nature or discharge 20 kL per day (except shopping complexes and institutions such as hospitals), such as food processing plants, meat/fish processing and abattoirs, plant nurseries, refineries, transport depots and terminals. There are 24 approved category 3 customers. **Category S** customers are those that discharge septic tank waste, pan waste and ship-to-shore pump-out to the sewerage system, including coaches, caravans and motorhomes, mooring and marina dump points, and portable chemical toilets. There are 40 approved category S customers.

226 NSW Government, Department of Water & Energy, *Liquid Trade Waste Regulation Guidelines April 2009.* These Guidelines now fall under the NSW Department of Industry.

227 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 212.

Box 12.1 Our pricing principles for trade waste prices

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 given for variations from the above pricing principles then sufficient evidence needs to be available to justify these variations. The basis for calculating a price above the cost of service, where environmental justifications exist, should also be supported by sufficient evidence.

12.2.2 Our draft decisions on fixed prices

We first considered whether prices should differ depending on the location of the customer. We then assessed whether the proposed prices were appropriate, before finally considering whether any price changes should be implemented gradually.

The fixed costs incurred by the Council include administrative tasks, and the costs are largely labour and materials. We consider that these costs would not vary depending on what area the customer is located in. Therefore, we have accepted the Council's proposal to harmonise prices, although for one price we have harmonised prices over three years to minimise price impacts.

As noted previously, a key principle that we apply in our price reviews is that prices should reflect the cost of providing a service. MJA reviewed the inputs that the Council used to reach each of its proposed prices, and found that the Council's proposed prices were generally cost-reflective. It recommended minor reductions to the proposed annual fees for Categories 1 and S, because it considered that the Council had allocated too many labour hours[228] (Table 12.1). We have accepted these recommendations.

Table 12.1 MJA's recommended adjustments to proposed trade waste fixed prices ($2018-19)

Category	Council's proposal	Draft price
Category 1 – annual fee	100.16	95.34
Category S – annual fee	165.93	150.86

Source: Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, pp 12-14.

228 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, pp 12-14.

In general, harmonising fixed prices would not result in significant price changes in absolute dollar terms for most customers (Table 12.2).

- **Category 1 and 2 customers.** Application fees for former Wyong customers would increase, by around $50 in 2019-20, and then remain constant in real terms. Annual fee changes would vary, with the most significant in amount being a $111.60 (or 48%) increase to Category 2 annual fees for customers in the former Gosford area. However, we consider these price impacts to be relatively modest, and do not warrant a transition.
- **Category 3 customers.** Annual fees would increase significantly in the former Wyong area. Therefore, we have harmonised these prices over three years to a common price of $1337.60 in 2021-22. Whilst application fees would increase significantly (more than threefold in the Gosford area, by 339%), this is a one-off charge so we have not applied a transition path.
- **For Category S customers**
  - The former Gosford Council did not have a Category S application fee or annual fees, and instead levied septic and septage effluent miscellaneous charges. It has proposed to incorporate these charges into the Category S charges (in line with the former Wyong Council).
  - Former Wyong customers would see their annual fees increase around $52 compared to current prices.

Table 12.2 Draft fixed trade waste prices ($2018-19)

Type of fixed fee	Current prices		Draft decision		
	Gosford	Wyong	2019-20	2020-21	2021-22
Category 1					
Application fee	126.63	52.19	95.33	95.33	95.33
Annual fee	73.52	91.29	95.34[a]	95.34	95.34
Category 2					
Application fee	211.27	66.43	120.68	120.68	120.68
Annual fee	234.44	365.16	346.04	346.04	346.04
Category 3					
Application	495.09	1,018.90	2,173.60	2,173.60	2,173.60
Annual fee - Gosford	1,968.86	N/A	1,758.44	1,548.02	1,337.60
Annual fee - Wyong	N/A	613.39	854.79	1,096.19	1,337.60
Category S					
Application fee	None	221.85	165.93	165.93	165.93
Annual fee	None	99.09	150.86	150.86	150.86
Re-inspection fee	118.31	85.60	110.42	110.42	110.42

[a] We note that the Category 1 annual fee recommended by MJA is very similar to the Category 1 application fee ($95.33). This is because - coincidentally - the efficient cost of supplying the two services is very similar.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, Appendix 4.4, and IPART analysis.

MJA also reviewed the impacts of the Council's proposed prices on customers, and generally found that they would be reasonable, given the nature of the customers. One exception, however, could be for Category S customers. Whilst most of these are likely to be industrial or business customers, the increases may fall upon domestic customers in some instances. MJA recommended that the Council should employ its hardship policies to manage increased costs to domestic customers after advising those customers of any changes.[229] Our draft decision is it to accept MJA's assessment.

We also did not receive feedback from stakeholders directly impacted by these prices. One individual commented about the magnitude of price increases, noting that she was not subject to these prices.[230] Further, it is unclear whether the Council engaged with these customers when preparing its proposal. We are interested in hearing the views of any customers in response to the draft prices.

12.2.3 Volumetric and mass-based prices

In assessing these prices, we first considered whether to accept the Council's proposal to have one set of prices, or whether catchment-based pricing would be more cost-reflective. We asked MJA to interrogate these issues, but it found that the Council had insufficient data to inform accurate decision making.

Our draft decision on harmonisation

Our draft decision is to adopt the Council's proposed prices, which would maintain current prices in real terms. Volumetric and mass-based prices are currently aligned in the two former Council areas.

The Council has eight trade waste catchments, of varying sizes and treatment capabilities, and we considered whether prices should vary based on these catchment areas. However, we were unable to determine whether there would be significant cost differences between the separate catchments to justify catchment-based pricing. MJA examined the Council's systems, but found that the Council had too little data to either:

1. Distinguish the individual costs of the eight treatment systems, or
2. Separate the costs of different treatment types.[231]

For this reason, we have adopted the Council's proposal to maintain the status quo.

Our draft decision on individual prices

We asked MJA to undertake a bottom-up analysis to assess the volumetric and mass-based prices, in particular to determine whether they reflect the efficient cost of providing the services. However, MJA was unable to determine cost-reflective prices. It found that the Council has too little historical information available to understand the cost drivers and

229 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 14.
230 Ms Maureen Baxter, Public Hearing Transcript, pp 72-73.
231 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, pp 10-12.

determine appropriate cost-reflective prices.[232] Instead, the Council has used the default prices provided in the *Liquid Trade Waste Regulation Guidelines,* which may not reflect its actual costs.[233]

MJA recommended accepting the Council's proposed prices in lieu of further information, and acknowledging that this is an undesirable situation that does not meet IPART's pricing principles.[234] We accepted MJA's recommendations for volumetric and mass-based prices, because we consider that the default prices provided in the *Liquid Trade Waste Regulation Guidelines* reflect the best estimates of cost, given available information. Further, these prices are adopted by a number of NSW councils.

MJA considered that the Council could collect a sufficient dataset over the next 12-24 months to better inform a future assessment of whether catchment based pricing is appropriate, and whether the prices are cost-reflective.[235]

Council to improve its dataset

In response to our Issues Paper, and in subsequent communications, the Council opposed a move to catchment-based pricing, stating that its network was too complex to accurately allocate costs to separate systems. It also challenged MJA's suggestion to increase its data collection, stating that the data collection process would be costly and may outweigh any benefit of catchment-based pricing.[236]

MJA provided guidance on the type of data the Council should collect in a cost effective way, including continuing with some sampling that the Council is currently conducting, and using industry data as a proxy for its own. It added that, as a separate matter to the IPART review, the Council could potentially improve its sewerage management once is has this type of data available. MJA also included advice on how the Council could derive reasonable results to limit the increase in its costs.[237]

We encourage the Council to adopt MJA's recommendations to improve its dataset. We consider that having better information on its costs could enable the Council to make more informed business decisions over time.

12.3 Draft prices for miscellaneous services

The Council also provides other miscellaneous and ancillary services as a water supply authority. These include one-off services provided by the Council, such as connections, inspections, accessing documents, and testing. Using the same approach to other prices, we first considered whether or not we should set harmonised prices across the LGA, consistent

232 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 5.
233 Ibid, pp 18-19.
234 Ibid, p 16.
235 Ibid, p 20.
236 Central Coast Council, *Response to MJA Draft report, Response to the Marsden Jacobs Associates review of Central Coast Council proposed prices for Trade Waste services*, 23 January 2019, p 5.
237 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 20.

with our principle of cost-reflectivity, and we then considered whether the proposed prices for each service reflect the costs to the Council.

The Council reviewed its prices for miscellaneous services in the lead-up to IPART's review, and proposed to consolidate the services offered across the LGA, discontinuing some services, and harmonising any price differentials between Gosford and Wyong. It proposed revised prices based on a recent assessment of costs for each service.

We also engaged MJA to undertake a thorough review of the Council's proposed prices against our pricing principles (Box 12.2). We made our draft decisions based on MJA's recommendations.

We made draft decisions:

49 To set the prices for miscellaneous service as listed in Appendix H, to increase with inflation.

50 To defer setting maximum prices for the miscellaneous services 'Relocate Existing Stop Valve or Hydrant', 'Raise/Lower Manhole – physical adjustment' and non-standard 'Location of water and sewer mains', which the Council will charge by quote.

Box 12.2 Our pricing principles for miscellaneous prices

Our principles for miscellaneous and ancillary services are as follows.

Charges should be cost-reflective.

The maximum charge should be set to reflect the full efficient cost of service delivery to customers in accordance with the formula below:

Miscellaneous charge = base cost + direct material cost

where

Base cost = [direct cost of labour (including on costs) + transport + equipment] + overhead costs

Direct material cost = cost of materials used in the service

Charges should reflect efficient costs. Charges should not include any allowance for a profit margin, any costs already recovered through maximum prices, or any other costs unrelated to the delivery of the service.

Changes to charges

On request, the business should be able to provide an estimate for the expected net revenue impact of a proposed price change.

Efficiency

The business should continue to pursue efficiency gains in service provision. The business should be continuously reviewing the manner of service delivery to ensure it is least cost, and that it meets the needs of customers.

Customer impacts

When the business proposes significant price changes and/or new charges, the business should undertake a customer impact analysis. A customer impact analysis should detail at least:

- the current cost of the service
- the proposed cost of the service
- the number of customers who use the service on average each year, and
- the type of customer who will be affected eg, residential, industrial, commercial customers.

Changes in the cost of service provision can be passed through to customers. However, the level and allocation of costs across customers may be monitored by IPART as part of its price review process to avoid price shocks. The business should have regard to the impact of any changes on vulnerable customer groups, for example low income families, and ensure that customer impacts are not unreasonable.

12.3.1 Draft decision to harmonise prices

We consider it is reasonable to set harmonised prices across the LGA rather than separate prices for the former Council areas. The nature of the costs involved in providing the services (eg labour and materials) means the costs are unlikely to change greatly based on the location

in which the service is provided. Some costs (such as transportation), would differ on a case-by-case basis, but we consider it is unfeasible to estimate these differences.

12.3.2 Draft decision on miscellaneous service prices

MJA assessed the miscellaneous prices, including a detailed assessment of the Council's 10 major miscellaneous prices, which make up approximately 95 per cent of total projected annual revenue from miscellaneous prices. It reviewed the prices against our pricing principles, and to the extent possible, it also compared the Council's proposed prices to those charged by the other public water utilities to identify anomalies.

MJA generally found the prices to be efficient for the services offered. It identified some minor inconsistencies, which the Council corrected with updated estimates (eg, inconsistent application of material cost estimates for meter connections). During the review, the Council also amended its proposal to include prices for water service connections for meters greater the 63mm, which it initially proposed to be quoted on a case-by-case basis.[238] MJA considered these prices were appropriate.

MJA found that the proposed prices do not include a share of the Council's overhead costs.[239] Including these costs would be more consistent with our pricing principles, and consistent with the prices charged by Sydney Water and Hunter Water for similar services. With that said, MJA considered that the Council first needs to consolidate its financial accounting system, as a merged council, in order to determine an appropriate allocation of overhead costs to these particular prices.[240] A simplified option may be to apply a common overhead percentage, however we consider this may not be appropriate given the varied nature of these services.

Our draft decision is to accept the Council's proposed prices without an allocation of overhead costs for this review, for two reasons. Firstly, consolidating prices across the two Council areas will already result in significant changes from current prices. Secondly, our expenditure review consultants (Atkins Cardno) ascertained that the Council plans to adopt activity-based costing, which would mean more accurate estimates for overhead costs would be available for the next determination.

We have deferred setting prices for three services

We would defer setting a price for two miscellaneous services: 'relocate existing stop valve or hydrant' and 'raise/lower manhole – physical adjustment'. We have insufficient information at this time to fix a maximum price for these services, in part, because these services are provided by the Council infrequently, and that the costs vary for individual customers receiving these services. For these services, the Council would charge by quote.

Further, we would defer setting the complete price for the service 'location of water and sewer mains'. The Council proposed a base price that includes the services of two crew members

238 In the lead up to the 2019 review, we asked the Council to aim towards establishing prices for services, rather than maintaining these services by quote.

239 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 6.

240 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 42.

for two hours, and added that additional plant and equipment costs would be by quote on a case-by-case basis. MJA considered this reasonable given the variability in costs and the small number of expected requests for these services.[241] Our draft decision is to accept the Council's proposal whereby we would set a base price, but not a price for the additional services.

12.3.3 Our assessment of customer impacts including price transition paths

We accepted MJA's recommendations on the efficient prices, however our draft decision is to also include a transition path for two of the prices to manage the impact on customers.

Our draft prices would result in mixed impacts on customers in 2019-20 compared to current prices. However, we note that the miscellaneous services are generally one-off services and ad hoc in nature. In broad terms, in the former Gosford LGA the price for most services would decrease, whereas in the former Wyong LGA, the price for most services would increase. This follows from significant differences in the way the prices are currently calculated.

The Council did not address the impact of price change on customers, and MJA found generally that as the charges are one-off and the unit costs reflect the cost to supply the service, it is reasonable to implement the prices from 2019-20. For some services it found that, while the dollar increase may be high, the main customers would be builders or developers[242] and the Council should communicate the change with these stakeholders. We agree with MJA that the Council should take measures to communicate price increases to these customers.

Transition path for two connection charges

After considering the price impacts, we made the draft decisions to transition two of the price changes over a three year period - the prices for 'water service connections - short & long service', in the 20mm and 25mm categories. These are one-off connection charges, but we consider the price increases are large and we note that they may apply to over 800 customers in a year, based on Council forecasts.

Table 12.3 compares the current price for these services and the Council's proposed price that we found to be cost-reflective. This shows that moving to the proposed price in 2019-20 would result in a large annual increase in the prices. In particular, prices for customers in the former Gosford LGA would increase by $975 for the 20mm service, and $1,208 for the 25mm service.

241 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 41.

242 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, pp 26 – 41.

Table 12.3 Significant proposed miscellaneous price increases ($2018-19)

	Current price - Wyong	Current price- Gosford	Council's proposed price	Forecast annual quantity
Water service connection short & long service (20 mm)	707.34	417.79	1,392.80	772
Water service connection short & long service (25mm)	707.34	417.79	1,626.30	41

Source: Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 27.

Note: The Council updated its prices for water service connections during our review, so these prices differ from those in its initial proposal.

Even though these are likely to be one-off charges, to reduce the impact on customers, we have decided to implement the price increase over three years, with the full price being charged in 2021-22. The annual prices under our draft decision for each year are shown in Table 12.4.

Table 12.4 Price transition of water service connection short & long service (20mm and 25mm) prices ($2018-19)

Charge	Council proposed price	Our draft prices		
		2019-20	2020-21	2021-22
Water service connection short & long service (20 mm)	1,392.80	707.34	1,050.07	1,392.80
Water service connection short & long service (25mm)	1,626.30	707.34	1,166.82	1,626.30

Note: The Council updated its prices for water service connections during our review, so these prices differ from those in its initial proposal.

Source: Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 27, and IPART analysis.

Whilst our draft decision includes some other large price increases (and decreases) in dollar terms, we note that these are likely to apply to very small numbers of customers annually. Further, as noted by MJA, these services generally are accessed by businesses in the construction industry. We consider that businesses in this industry generally have a higher capacity to pay increases of this magnitude, and because the prices are cost-reflective, the price increases are reasonable.

12.4 Total expected revenue for trade waste and miscellaneous services

As explained in Chapter 3, we use the building block model to set water, sewerage and stormwater prices (excluding trade waste and miscellaneous prices). This means that we determine the notional revenue required by the Council to deliver these services, and then recover this revenue from prices.

To ensure that the Council does not over-recover its efficient costs, we first estimate the total revenue that the Council is likely to receive from the trade waste and miscellaneous services, and subtract this from the relevant water, sewerage or stormwater NRR. We then set water, sewerage and stormwater prices to recover the Council's remaining costs.

We made a draft decision

51 To remove the revenue for trade waste and miscellaneous services in Table 12.5 from the notional revenue requirement (NRR).

Table 12.5 Forecast revenue from trade waste and miscellaneous services ($million, $2018-19)

Forecast revenue	2019-20	2020-21	2021-22
Trade waste services			
Council's proposal	2.68	2.68	2.68
Draft decision	2.68	2.73	2.79
Miscellaneous services			
Council's proposal	2.81	2.81	2.81
Draft decision	3.55	3.83	4.12
Total draft decision	**6.23**	**6.56**	**6.91**

Source: Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 6, and IPART analysis.

Our draft decision is higher than the Council's proposal. There are two major contributing factors.

First, during our review, the Council proposed set prices and corresponding volumes for a number of miscellaneous services that it had initially proposed to be quoted on a case by case basis and therefore had not forecast revenue from these services. We have included the updated volumes and revenue from these services. MJA found the Council's volumetric forecasts to be reasonable.[243]

Second, we also adjusted the Council's forecast trade waste volumes for growth. MJA found that the Council had not forecast growth in volume numbers and found this was not appropriate. It recommended adjusting trade waste volumes by:

- Growth in trade waste customers, based on annual applications, and
- Growth in total volume of trade waste, based on the population growth.[244]

We consider these recommendations are sound and have accepted them.

Our other adjustments to the forecast revenue result from our draft decisions discussed earlier in this chapter.

243 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, pp 31-42.

244 Marsden Jacob Associates, *Review of proposed prices for Central Coast Council trade waste and miscellaneous services*, February 2019, p 22.

13 Bill implications of our decisions

We have analysed the impacts of our draft decisions on prices for water, sewerage and stormwater services, including decisions to restructure these prices, for the Council's various customer groups. We have also considered the impacts of these decisions on the affordability of these services for various customer groups, including pensioners and vulnerable customers.

In this chapter, our findings on bill impacts are presented in terms of nominal dollar impacts – that is, all **bill impacts including the impact of forecast inflation**. This makes it easier for customers to understand the combined impact of our pricing decisions and inflation. In calculating the nominal dollar impacts, we have assumed inflation of 1.7% per annum in the first year of the determination period, and 2.5% per annum in the remaining two years.[245]

The sections below summarise our findings on the implications for residential customers and non-residential customers, then discuss the findings for customers within each category in more detail.

13.1 Summary of implications for customer bills

In general, our draft pricing decisions would result in:

- **Bill decreases for residential customers in 2019-20** and then increases in line with the inflation rate in the following two years. The size of the initial bill decrease would depend on a range of factors, including the customer's water usage, dwelling type and whether they are in the Gosford or Wyong area.
- **Bill decreases for water and sewerage services for most non-residential customers in 2019-20** and then increases in line with, or at a slightly higher rate than, the inflation rate in the following two years. The size of the initial bill decrease would depend on the customer's meter size and discharge factor, as well as their water and sewerage usage and whether they are in the Gosford or Wyong area.
- **Mixed bill impacts for stormwater services for non-residential customers,** depending whether or not they are eligible to pay the low-impact price. Most customers would experience stormwater bill decreases over the determination period. However, some mining and business customers with medium to very large properties would experience stormwater bill increases.

Some of the bill impacts in 2019-20 are due to **changes in the structure** of prices for water, sewerage and stormwater prices. These changes would affect different types of customers differently. However, they would not increase the total revenue the Council recovers from its customer base. Rather, they would remove cross-subsidies and improve equity between

245 Under these inflation assumptions, given no change to prices or bill structure (ie the total impact of inflation alone), bills would increase by 6.85% over the determination period.

customer groups. We consider that these price structure changes improve the simplicity, transparency and cost-reflectivity of the prices being charged.

The changes and their general impact on bills for different customers are summarised in Box 13.1. For more detail, including the analysis that underpins our draft decisions, see Chapters 7 to 9.

Box 13.1 Understanding the impact of price structure changes on bills

Reducing the water usage charge. Under our draft decisions, the water usage charge would come down to $1.90 per kL. This is $0.39 per kL (or 17%) lower than the current usage charge. This change would particularly benefit larger users of water.

Rebasing water and sewerage service charges. The water and sewerage service charges would be rebased so that they all reference the charge for a 20mm meter. For water service charges, this change would reduce residential prices relative to non-residential prices. For sewerage service charges, the impacts are mixed, as this rebasing:

- Increases residential prices relative to non-residential prices in the Gosford area
- Decreases residential prices relative to non-residential prices in the Wyong area.

The impacts of rebasing sewerage charges would be largest for some non-residential customers in the Wyong area with larger meters. To reduce bill shock, prices for these customers would be gradually transitioned to the rebased prices.

Changing the calculation of sewerage service charges. The sewerage service charge and usage charge would be more clearly separated. This would reduce bills for non-residential customers with large meters, who currently pay too much for sewerage discharge.

Setting a discharge factor for residential customers. A 75% discharge factor would be applied to residential customers for the first time. This change would ensure consistent treatment between residential and non-residential customers and reduce residential sewerage service charges.

Setting a deemed sewerage discharge for residential customers. The sewerage service charge for residential customers would include a deemed sewerage discharge of 125kL per year for houses, and 80kL per year for apartments. This would improve the consistency of sewerage usage pricing between residential and non-residential customers.

Removing the sewerage discharge allowance for non-residential customers. The current 150 kL discharge allowance for non-residential customers would be removed, meaning customers sewerage usage charges would be calculated using the best available estimate of their actual usage.

Introducing area-based stormwater charges for some mining and business customers. Stormwater charges for some non-residential customers with medium to very large properties would be based on their land area, to better reflect the contribution that each property makes to stormwater costs. However, these customers could also apply for a low-impact price. The move to area-based prices would increase stormwater bills for some of the affected customers. To avoid bill shock for customers, these prices would gradually increase over the 3-year determination period.

13.2 Implications for residential customers

Under our draft decisions, residential prices for water, sewerage and stormwater services in 2019-20 would be substantially lower than the current prices in real terms:

- The water usage price would be 17% lower for all customers.
- The residential water service price would be 45% and 34% lower in the Gosford and Wyong areas, respectively.
- The residential sewerage price would be:
  - 25% and 31% lower for houses and apartments, respectively, in the Gosford area
  - 4% and 11% lower for houses and apartments, respectively, in the Wyong area.
- The residential stormwater price would be:
  - 16% and 37% lower for houses and apartments, respectively, in the Gosford area
  - 18% lower for all dwelling types in the Wyong area.

This means that bills for water, sewerage and stormwater services would decrease in nominal terms in the first year of the determination period (given a forecast inflation rate of 1.7% in 2019-20), and then increase at the rate of inflation in the second and third years (estimated to be 2.5%per year).

The sections below analyse the different bill impacts for residential customers with different levels of water usage in the Gosford and Wyong areas, including pensioners. The water and sewerage bills discussed in these sections were calculated using the prices set out in Chapters 7 and 8. The bills for pensioners were calculated using all the current rebates available to eligible pensioners, as prescribed by the Local Government Act. These are:

- a water rebate to a maximum of $87.50
- a sewerage service charge rebate to a maximum of $87.50
- for a total bill rebate of $175.

13.2.1 Bill impacts for residential customers in the Gosford area

Table 13.1 shows indicative bills for residential customers in the former Gosford LGA with a range of water usage under our draft prices. For comparison, it also shows indicative bills for those customers under the current prices and the Council's proposed prices. It indicates that under our draft prices:

- **A customer owning a house with average water usage (170 kL per year)** would see their:
  - Water bill decrease by $148 or 25% in 2019-20 and decrease by $125 or 21% over the 3-year period. This is a larger bill reduction compared to the Council's proposed $67 (or 11%) decrease over the 3-year period.
  - Water and sewerage bill decrease by $309 or 25% in 2019-20 and decrease by $261 or 21% over the 3-year period. The Council proposed a decrease of $164 (or 13%) over the 3-year period.
  - Total bill decrease by $326 or 24% in 2019-20 and decrease by $273 or 20% over the 3-year period. The Council proposed a decrease of $170 (or 12%) over the 3-year period.

- **A customer owning an apartment with average water usage (105 kL per year)** would see their:
  - Water bill decrease by $124 or 28% in 2019-20 and decrease by $108 or 25% over the 3-year period. This is a larger bill reduction compared to the Council's proposed $70 (or 16%) decrease over the 3-year period.
  - Water and sewerage bill decrease by $323 or 29% in 2019-20 and decrease by $284 or 26% over the 3-year period. The Council proposed a decrease of $168 (or 15%) over the 3-year period.
  - Total bill decrease by $368 or 30% in 2019-20 and decrease by $324 or 27% over the 3-year period. The Council proposed a decrease of $203 (or 16%) over the 3-year period.

Table 13.2 shows indicative bills for a residential customer who is a pensioner in the former Gosford LGA. It indicates that under our draft prices:

- **A pensioner owning a house with average water usage (170 kL per year)** would see their:
  - Water and sewerage bill decrease by $309 or 28% in 2019-20 and decrease by $261 or 24% over the 3-year period. This is a larger bill reduction compared to the Council's $164 (or 15%) decrease over the 3-year period.
  - Total bill decrease by $326 or 27% in 2019-20 and decrease by $273 or 23% over the 3-year period. The Council proposed a decrease of $170 (or 14%) over the three 3-period.
- **A pensioner owning an apartment with average water usage (105 kL per year)** would see their:
  - Water and sewerage bill decrease by $323 or 35% in 2019-20 and decrease by $284 or 30% over the 3-year period. This is a larger bill reduction compared to the Council's $168 (or 18%) decrease over the 3-year period.
  - Total bill decrease by $368 or 35% in 2019-20 and decrease by $324 or 31% over the 3-year period. The Council proposed a decrease of $203 (or 19%) over the three 3-period.

Table 13.1 Indicative bills for residential customers in the Gosford area under IPART draft prices (including inflation)

Water use	2018-19 Current	2019-20	2020-21	2021-22	Change 2018-19 to 2021-22	Council proposed 2021-22
Water only						
105 kL pa	438	314	322	330		368
% change		-28.4%	2.5%	2.5%	-24.7%	-16.1%
170 kL pa	587	440	450	462		521
% change		-25.1%	2.5%	2.5%	-21.4%	-11.3%
250 kL pa	770	594	609	624		709
% change		-22.9%	2.5%	2.5%	-19.0%	-8.0%
Water and sewerage – house						
105 kL pa	1,111	825	846	867		943
% change		-25.7%	2.5%	2.5%	-21.9%	-15.1%
170 kL pa	1,260	951	975	999		1,096
% change		-24.5%	2.5%	2.5%	-20.7%	-13.0%
250 kL pa	1,443	1,106	1,133	1,162		1,284
% change		-23.4%	2.5%	2.5%	-19.5%	-11.0%
Water and sewerage – apartment						
105 kL pa	1,111	787	807	827		943
% change		-29.1%	2.5%	2.5%	-25.5%	-15.1%
170 kL pa	1,260	913	936	959		1,096
% change		-27.5%	2.5%	2.5%	-23.8%	-13.0%
250 kL pa	1,443	1,068	1,094	1,122		1,284
% change		-26.0%	2.5%	2.5%	-22.3%	-11.0%
Water, sewerage and stormwater – house						
105 kL pa	1,236	932	956	980		1,062
% change		-24.5%	2.5%	2.5%	-20.7%	-14.1%
170 kL pa	1,384	1,058	1,084	1,112		1,215
% change		-23.6%	2.5%	2.5%	-19.7%	-12.3%
250 kL pa	1,568	1,213	1,243	1,274		1,403
% change		-22.6%	2.5%	2.5%	-18.7%	-10.5%
Water, sewerage and stormwater – apartment						
105 kL pa	1,236	868	889	912		1,032
% change		-29.8%	2.5%	2.5%	-26.2%	-16.5%
170 kL pa	1,384	993	1,018	1,044		1,185
% change		-28.3%	2.5%	2.5%	-24.6%	-14.4%
250 kL pa	1,568	1,148	1,177	1,206		1,373
% change		-26.8%	2.5%	2.5%	-23.1%	-12.4%

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018 and IPART analysis.

Table 13.2 Indicative bills for pensioners in the Gosford area under IPART draft prices (including inflation)

Water use	2018-19	2019-20	2020-21	2021-22	Change 2019 to 22	Council proposed 2021-22
Water only						
105 kL pa	351	226	234	242		280
% change		-35.5%	3.5%	3.4%	-30.9%	-20.1%
170 kL pa	500	352	363	374		433
% change		-29.5%	3.1%	3.1%	-25.1%	-13.3%
Water and sewerage – house						
105 kL pa	936	650	671	692		768
% change		-30.5%	3.2%	3.2%	-26.0%	-17.9%
170 kL pa	1,085	776	800	824		921
% change		-28.5%	3.1%	3.0%	-24.0%	-15.1%
Water and sewerage – apartment						
105 kL pa	936	612	632	652		768
% change		-34.6%	3.2%	3.2%	-30.3%	-17.9%
170 kL pa	1,085	738	761	784		921
% change		-32.0%	3.1%	3.1%	-27.7%	-15.1%
Water, sewerage and stormwater – house						
105 kL pa	1,061	757	781	805		887
% change		-28.6%	3.1%	3.1%	-24.1%	-16.4%
170 kL pa	1,209	883	909	937		1,040
% change		-27.0%	3.0%	3.0%	-22.6%	-14.0%
Water, sewerage and stormwater – apartment						
105 kL pa	1,061	693	714	737		857
% change		-34.7%	3.1%	3.1%	-30.5%	-19.2%
170 kL pa	1,209	818	843	869		1,010
% change		-32.3%	3.0%	3.0%	-28.2%	-16.5%

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018 and IPART analysis.

13.2.2 Bill impacts for residential customers in the Wyong area

Table 13.3 shows indicative bills for residential customers in the former Wyong LGA with a range of water usage under our draft prices. For comparison, it also shows indicative bills for those customers under the current prices and the Council's proposed prices. It indicates that under our draft prices:

- **A customer owning a house with average water usage (170 kL per year)** would see their:
  - Water bill decrease by $114 or 21% in 2019-20 and decrease by $92 or 17% over the 3-year period. This is a larger bill reduction compared to the Council's proposed $33 (or 6%) decrease over the 3-year period.
  - Water and sewerage bill decrease by $124 or 12% in 2019-20 and decrease by $78 or 8% over the 3-year period. The Council proposed an increase of $59 (or 6%) over the 3-year period.
  - Total bill decrease by $146 or 12% in 2019-20 and decrease by $94 or 8% over the 3-year period. The Council proposed an increase of $49 (or 4%) over the 3-year period.
- **A customer owning an apartment with average water usage (105 kL per year)** would see their:
  - Water bill decrease by $91 or 23% in 2019-20 and decrease by $75 or 19% over the 3-year period. This is a larger bill reduction compared to the Council's proposed $37 (or 9%) decrease over the 3-year period.
  - Water and sewerage bill decrease by $139 or 16% in 2019-20 and decrease by $101 or 11% over the 3-year period. The Council proposed an increase of $55 (or 6%) over the 3-year period.
  - Total bill decrease by $155 or 16% in 2019-20 and decrease by $113 or 11% over the 3-year period. The Council proposed an increase of $48 (or 5%) over the 3-year period.

Table 13.4 shows indicative bills a residential customer who is a pensioner in the former Wyong LGA. It indicates that under our draft prices:

- **A pensioner owning a house with average water usage (170 kL per year)** would see their:
  - Water and sewerage bill decrease by $124 or 14% in 2019-20 and decrease by $78 or 9% over the 3-year period. The Council proposed an increase of $59 (or 7%) over the 3-year period.
  - Total bill decrease by $146 or 15% in 2019-20 and decrease by $94 or 9% over the 3-year period. The Council proposed an increase of $49 (or 5%) over the 3-year period.
- **A pensioner owning an apartment with average water (105 kL per year)** would see their:
  - Water and sewerage bill decrease by $139 or 19% in 2019-20 and decrease by $101 or 14% over the 3-year period. The Council proposed an increase of $55 (or 8%) over the 3-year period.
  - Total bill decrease by $155 or 19% in 2019-20 and decrease by $113 or 14% over the three 3-period. The Council proposed an increase of $48 (or 6%) over the 3-year period.

Table 13.3 Indicative bills for residential customers in the Wyong area under IPART draft prices (including inflation)

Water use	2018-19	2019-20	2020-21	2021-22	Change 2019 to 22	Council proposed 2021-22
Water only						
105 kL pa	405	314	322	330		368
% change		-22.5%	2.5%	2.5%	-18.6%	-9.2%
170 kL pa	554	440	450	462		521
% change		-20.7%	2.5%	2.5%	-16.6%	-6.0%
250 kL pa	737	594	609	624		709
% change		-19.4%	2.5%	2.5%	-15.3%	-3.9%
Water and sewerage – house						
105 kL pa	888	787	807	827		943
% change		-11.4%	2.5%	2.5%	-6.9%	6.2%
170 kL pa	1,037	913	936	959		1,096
% change		-12.0%	2.5%	2.5%	-7.5%	5.7%
250 kL pa	1,220	1,068	1,094	1,122		1,284
% change		-12.5%	2.5%	2.5%	-8.1%	5.2%
Water and sewerage – apartment						
105 kL pa	888	749	768	787		943
% change		-15.6%	2.5%	2.5%	-11.4%	6.2%
170 kL pa	1,037	875	897	919		1,096
% change		-15.6%	2.5%	2.5%	-11.4%	5.7%
250 kL pa	1,220	1,030	1,055	1,082		1,284
% change		-15.6%	2.5%	2.5%	-11.4%	5.2%
Water, sewerage and stormwater – house						
105 kL pa	1,017	894	917	940		1,062
% change		-12.0%	2.5%	2.5%	-7.6%	4.4%
170 kL pa	1,166	1,020	1,045	1,072		1,215
% change		-12.5%	2.5%	2.5%	-8.1%	4.2%
250 kL pa	1,349	1,175	1,204	1,234		1,403
% change		-12.9%	2.5%	2.5%	-8.5%	4.0%
Water, sewerage and stormwater – apartment						
105 kL pa	985	830	850	872		1,032
% change		-15.7%	2.5%	2.5%	-11.5%	4.8%
170 kL pa	1,133	955	979	1,004		1,185
% change		-15.7%	2.5%	2.5%	-11.5%	4.5%
250 kL pa	1,317	1,110	1,138	1,166		1,373
% change		-15.7%	2.5%	2.5%	-11.4%	4.3%

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018 and IPART analysis.

Table 13.4 Indicative bills for pensioner customers in the Wyong area under IPART draft prices (including inflation)

Water use	2018-19	2019-20	2020-21	2021-22	Change 2019 to 22	Council proposed 2021-22
Water only						
105 kL pa	318	226	234	242		280
% change		-28.7%	3.5%	3.4%	-23.7%	-11.7%
170 kL pa	466	352	363	374		433
% change		-24.5%	3.1%	3.1%	-19.8%	-7.2%
Water and sewerage – house						
105 kL pa	713	612	632	652		768
% change		-14.1%	3.2%	3.2%	-8.6%	7.7%
170 kL pa	862	738	761	784		921
% change		-14.4%	3.1%	3.1%	-9.0%	6.8%
Water and sewerage – apartment						
105 kL pa	713	574	593	612		768
% change		-19.5%	3.3%	3.2%	-14.2%	7.7%
170 kL pa	862	700	722	744		921
% change		-18.8%	3.1%	3.1%	-13.7%	6.8%
Water, sewerage and stormwater – house						
105 kL pa	842	719	742	765		887
% change		-14.5%	3.1%	3.1%	-9.2%	5.4%
170 kL pa	991	845	870	897		1,040
% change		-14.7%	3.0%	3.0%	-9.5%	4.9%
Water, sewerage and stormwater – apartment						
105 kL pa	810	655	675	697		857
% change		-19.1%	3.2%	3.1%	-14.0%	5.9%
250 kL pa	958	780	804	829		1,010
% change		-18.6%	3.1%	3.0%	-13.5%	5.4%

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018 and IPART analysis.

13.3 Implications for non-residential customers' water and sewerage bills

Under our draft decisions, non-residential prices for water and sewerage services in 2019-20 would be substantially lower than the current prices in real terms for most customers:

- The water usage price would be 17% lower.
- For customers on an individual 20mm meter the non-residential water service price would be 45% and 34% lower in the Gosford and Wyong areas, respectively.
- For customers with a common 20mm meter or with a meter 25mm or higher, the non-residential water service price would be 38% and 25% lower in the Gosford and Wyong areas, respectively.
- For customers on an individual 20mm meter the non-residential sewerage service price would be 3% lower in the Gosford area and 34% higher in the Wyong area.
- For customers with a common 20mm meter or with a meter 25mm or higher, the non-residential sewerage price would be between 38% and 46% lower in the Gosford area, but between 1% and 79% higher in the Wyong area.

This means that, even though the impact of our draft prices on specific non-residential customers would depend on their water and sewerage usage and their meter size and discharge factors, the combined water and sewerage bills for **almost all non-residential customers would decrease**. For example, small business customers with an individual 20mm meter, consuming 170kL per annum, a discharge factor of 75% and a small-sized property would face the same reductions in their water and sewerage bill as residential customers.

We also analysed the indicative bill impacts for a range of 'typical' industrial and commercial customers, using the assumptions we have used for previous price reviews (Table 13.5).

Table 13.5 Assumptions used to analyse bill impacts on industrial and commercial customers

Customer segment	Type	Meter size (mm)	Average annual usage (kL)	Discharge factor (%)
Industrial	Low	20	200	82%
	Medium	40	5,800	77%
	High	80	26,000	69%
Commercial	Low	20	310	83%
	Medium	50	6,700	82%
	High	80	21,000	82%

Source: IPART analysis.

This analysis shows that under our draft prices, water and sewerage bills for these customers in 2019-20 would be between 11% and 26% lower than currently, and in the next two years would increase:

- In line with the rate of inflation (estimated to be about 2.5%) for customers in the Gosford area.
- By slightly more than the rate of inflation (up to 4.1%) for customers in the Wyong area. Bills for these customers would fall in year 1 of the period because the decrease in water prices is greater than the increase in sewerage prices. However, bills would rise in years two and three because of our sewerage price transition path for these customers.

Total water and sewerage bills for the 3-year period would be between 4% and 23% lower for these customers. The bill reductions for customers in the Gosford area would be greater than those in the Wyong area (noting that current prices in the Gosford area are higher than those in Wyong).

Table 13.6 and Table 13.7 set out our findings on water and sewerage bill impacts for commercial and industrial customers in Gosford and Wyong, respectively.

Table 13.6 Indicative bill impacts for industrial and commercial customers in the Gosford area under IPART draft prices (including inflation)

	2018-19	2019-20	2020-21	2021-22	Change 2018-19 to 2022-22
Industrial – low	1,465	1,080	1,107	1,135	
% change		-26.3%	2.5%	2.5%	-22.5%
Industrial – medium	20,736	17,089	17,516	17,954	
% change		-17.6%	2.5%	2.5%	-13.4%
Industrial – high	88,154	73,137	74,965	76,839	
% change		-17.0%	2.5%	2.5%	-12.8%
Commercial – low	1,794	1,377	1,411	1,446	
% change		-23.3%	2.5%	2.5%	-19.4%
Commercial – medium	26,066	21,053	21,579	22,118	
% change		-19.2%	2.5%	2.5%	-15.1%
Commercial – high	78,160	63,993	65,593	67,233	
% change		-18.1%	2.5%	2.5%	-14.0%

Note: Sewerage service charges for non-residential customers are based on water meter size. The applicable meter charge is set using the formula: (meter size)^{2}x20mm meter charge/400.

Non-residential prices also assume various meter sizes, discharge factors and consumption amounts (shown in Table 13.5), therefore bills will depend on actual meter sizes, discharge factors and consumption amounts for individual customers.

Source: IPART analysis.

Table 13.7 Indicative bill impacts for industrial and commercial customers in the Wyong area under IPART draft prices (including inflation)

	2018-19	2019-20	2020-21	2021-22	Change 2018-19 to 2022-22
Industrial – low	1,242	1,038	1,064	1,091	
% change		-16.4%	2.5%	2.5%	-12.2%
Industrial – medium	18,448	16,314	16,887	17,511	
% change		-11.6%	3.5%	3.7%	-5.1%
Industrial – high	79,903	70,359	72,711	75,251	
% change		-11.9%	3.3%	3.5%	-5.8%
Commercial – low	1,571	1,335	1,368	1,402	
% change		-15.1%	2.5%	2.5%	-10.8%
Commercial – medium	22,272	19,763	20,533	21,381	
% change		-11.3%	3.9%	4.1%	-4.0%
Commercial – high	68,447	60,693	62,915	65,346	
% change		-11.3%	3.7%	3.9%	-4.5%

Note: Sewerage service charges for non-residential customers are based on water meter size. The applicable meter charge is set using the formula: (meter size)^{2}x20mm meter charge/400.

Non-residential prices also assume various meter sizes, discharge factors and consumption amounts (shown in Table 13.5), therefore bills will depend on actual meter sizes, discharge factors and consumption amounts for individual customers.

Source: IPART analysis.

13.4 Implications of area-based stormwater prices

As Chapter 9 discussed, under our draft decisions only a subset of non-residential customers would pay area-based stormwater charges. These are customers whose land is larger than 1,000m^2 and categorised as mining for rating purposes, or categorised as business and zoned as 'commercial', 'industrial' or 'special purpose'.[246] The analysis in this section is for these customers only. This is because, for all other customers, the implication of our draft stormwater prices would be a further bill reduction.

Below, we analyse the bill impact of our draft prices for the **customers subject to area-based pricing**. We do this separately for customers in the former Gosford LGA (section 13.4.1) and then the former Wyong LGA (section 13.4.2). For simplicity, in this section we focus on changes in the combined **service charges**. That is, we have not included the impact of water usage and sewerage usage, and we have assumed a 100% discharge factor for the sewerage service price. The bills presented in this section would tend to over-estimate the bill impact that customers would actually experience. This is because a proportion of a customer's bill is water usage (we have made a draft decision to reduce water usage prices by 17%) and because the customers would actually have a discharge factor of less than 100% applied, which would reduce the applicable sewerage service price. [247]

246 All customers whose property is categorised as farmland, or less than 1,000m^2, or categorised as business and zoned as 'environmental', 'recreation' or 'waterways' would automatically pay a standard low-impact price, and other non-residential customers would be able to apply to pay this price.

247 Table 13.5 presents the discharge factors we assumed earlier in this chapter.

Non-residential customers who would pay a low-impact stormwater price would experience a further bill reduction. Therefore, we have not presented any further bill analysis for these customers.

13.4.1 Bill impact of area-based prices in the Gosford area

The tables below show the percentage change in the total service charge bill for customers in the Gosford area for 2019-20 compared to 2018-19 (Table 13.8) and for 2021-22 (the third year of our draft transition path) compared to 2018-19 (Table 13.9).

These tables indicate that the majority of customers would experience total service charge bill decreases under our draft prices, despite the increases in some stormwater prices. The only customers who would face a significant bill increase are those that have a very large land area. These customers will face a much higher stormwater charge than currently and will not experience a large offsetting reduction in their water and sewerage service charge (due to the small size of their meter).

Table 13.8 Percentage change in total service charge bill, 2018-19 compared to 2019-20, under IPART draft prices (including inflation) – Gosford area

	20mm	25mm	26-50mm	51-100mm	>100mm
Medium (1,001 - 10,000m^2)	-21%	-41%	-43%	-44%	-44%
Large (10,001 - 45,000m^2)	2%	-29%	-38%	-42%	-43%
Very Large (>45,000m^2)	62%	2%	-25%	-39%	-43%

Note: This analysis does not include any usage charges. The total service charge bill consists of a meter-based water service charge, a meter-based sewerage service charge (assuming a 100% discharge factor) and an area-based stormwater charge.
Source: IPART analysis.

Table 13.9 Percentage change in total service charge bill, 2018-19 compared to 2021-22, under IPART draft area-based prices (including inflation) – Gosford area

	20mm	25mm	26-50mm	51-100mm	>100mm
Medium (1,001 - 10,000m^2)	-11%	-35%	-39%	-40%	-41%
Large (10,001 - 45,000m^2)	62%	3%	-23%	-37%	-40%
Very Large (>45,000m^2)	251%	100%	16%	-27%	-37%

Note: This analysis does not include any usage charges. The total service charge bill consists of a meter-based water service charge, a meter-based sewerage service charge (assuming a 100% discharge factor) and an area-based stormwater charge.
Source: IPART analysis.

We consider our draft prices to be appropriate because:

- It is likely that many of the customers facing higher stormwater bills would be eligible for the low-impact stormwater charge, as we would expect a large property with a small meter to have fewer capital improvements and a higher percentage of permeable surfaces.
- We consider that area-based stormwater prices are appropriate for a subset of non-residential customers, because it more accurately reflects the cost of providing stormwater management.

13.4.2 Bill impact of area-based prices in the Wyong area

Stormwater prices for non-residential customers in the former Wyong council area are currently meter-based. This means the impact of our draft area-based stormwater prices on their total service charge bill would be dependent on both their meter size **and** their land area size.

The tables below show the percentage change in the total service charge bill for customers in the Wyong area for 2019-20 compared to 2018-19 (Table 13.10) and for 2021-22 (the third year of our draft transition path) compared to 2018-19 (Table 13.11).

These tables indicate that, compared to the Gosford area, more customers in Wyong would face total service charge bill increases, but that the transition path we have implemented would manage these bill impacts for many customers.

Table 13.10 Percentage change in total service charge bill, 2018-19 compared to 2019-20, under IPART draft prices (including inflation) – Wyong area

	20mm	25mm	26-50mm	51-100mm	>100mm
Medium (1,001 - 10,000m^2)	-34%	-13%	-22%	-27%	-28%
Large (10,001 - 45,000m^2)	-5%	14%	-12%	-24%	-27%
Very Large (>45,000m^2)	68%	82%	15%	-17%	-25%

Note: This analysis does not include any usage charges. The total service charge bill consists of a meter-based water service charge, a meter-based sewerage service charge (assuming a 100% discharge factor) and an area-based stormwater charge.

Source: IPART analysis.

Table 13.11 Percentage change in total service charge bill, 2018-19 compared to 2021-22, under IPART draft prices (including inflation) – Wyong area

	20mm	25mm	26-50mm	51-100mm	>100mm
Medium (1,001 - 10,000m^2)	-9%	20%	6%	-1%	-2%
Large (10,001 - 45,000m^2)	81%	103%	38%	7%	0%
Very Large (>45,000m^2)	314%	319%	123%	28%	6%

Note: This analysis does not include any usage charges. The total service charge bill consists of a meter-based water service charge, a meter-based sewerage service charge (assuming a 100% discharge factor) and an area-based stormwater charge.

Source: IPART analysis.

A small number of customers would experience a large bill increase

Under our draft decisions, the stormwater bill impacts for non-residential customers would depend on their meter size, land area size and land zoning. To investigate these impacts further, we requested data from the Council on meter size and land area size, and used publicly available information on land zoning. The Council was able to provide full information on meter sizes and land area for about half of the non-residential properties in the Wyong area.

Based on this information, we expect that, of customers subject to area-based pricing, a small number would experience a very large bill increase, and most others would experience a modest or small increase. Of the customers subject to area-based pricing in the former Wyong LGA:

- **Around 5% would see a price increase of more than 100%** over the 3-year period. These customers would face a much higher stormwater charge than currently and would not experience a large offsetting reduction in their water and sewerage service charge (due to the small size of their meter). However, it is possible that these customers may be eligible for the low-impact stormwater charge (which is a much lower price, fixed at $105.11), as we would expect a large property with a small meter to have fewer capital improvements and a higher percentage of permeable surfaces.
- **Almost 40% would see a large increase** in service charges of 20% or more over the 3-year period. This is a result of facing higher sewerage and stormwater service charges. However, this increase would be offset by the reduction in the water usage price.
- **About 35% would experience a modest increase** in their total service charges over the 3-year period, but this would likely be offset by the reduction in the water usage price.
- **Around 20% would see no change or a decrease** in their total service charges over the 3-year period (including inflation assumed to be 2.5%).

14 Implications of our decisions for the Council and other matters

This chapter outlines the impact of our draft pricing decisions on the Council as well as the implication of our draft pricing decisions on other matters we must consider under section 15 of the IPART Act (see Appendix A). In making our draft decisions, we considered the impact on:

- the Council's service standards
- the Council's financial viability
- general inflation, and
- the environment.

We are satisfied that our draft determination achieves an appropriate balance between these matters.

14.1 Implications for the Council's service standards

Under our draft determination, we expect the Council to achieve operating efficiency savings. We are satisfied that the Council can achieve these efficiency savings and thus can generate sufficient revenue to achieve service standards at or above those expected by customers, required under its licences[248] and to comply with the relevant guidelines.[249]

In its review of the Council's operating and capital expenditure for the current determination, our expenditure consultant, Atkins Cardno, noted that the Council performed well over the 2013 determination period in terms of water quality, mains bursts and sewage chokes.[250] Atkins Cardno found that Council's performance showed that:

> Expenditure over the current determination period has been relatively stable throughout all asset classes with no apparent decline in service performance or unacceptable decline in asset condition.[251]

Additionally, we did not include a reduction to the Council's operating expenditure, recommended by Atkins Cardno, to reflect the scope for the Council to achieve 'catch-up' efficiencies. We acknowledged that – over a 3-year determination period – the Council may not have the capacity to identify and implement these efficiency savings as a newly merged Council.

248 The Council does not have an operating licence. The Council has a number of Environmental Protection Licences issued by the NSW Environmental Protection Authority under the *Protection of the Environment Operations Act, 1997* and almost 200 water access licences issued by the NSW Department of Industry – Water.

249 These include, for example, the Australian Drinking Water Guidelines (National Health and Medical Research Council [NHMRC], *Australian Drinking Water Guidelines Paper 6; National Water Quality Management Strategy*, October 2011) and NSW Department of Industry – Water, *Best Practice Management of Water Supply and Sewerage Guidelines*, August 2007.

250 Atkins Cardno, *Central Coast Council Expenditure Review – Final Report,* March 2019, p 9.

251 Atkins Cardno, *Central Coast Council Expenditure Review – Final Report,* March 2019, p 12.

In its pricing submission, the Council proposed no change in its output measures from the 2013 determination period, ie, to set constant targets for its output measures over the 2019 determination. Atkins Cardno reviewed the Council's proposed expenditure, with consideration of the Council's past performance, and recommended to gradually lift the targets for these measures in line with its capital programme. We have made a draft decision to adopt Atkins Cardno's revised output measures, which include new measures that track the progress of capital projects and address risks of non-compliance. These will assist us to identify how expenditure proposals have enabled the Council to meet its regulatory requirements and service standards. A list of output measures for the Council (and their targets) is set out in Appendix B.

14.2 Impact on the Council's financial viability

Before we finalise our pricing decisions, we undertake a financeability test to assess how our price decisions are likely to affect the business's financial sustainability and ability to raise funds to manage its activities, over the upcoming regulatory period.

In 2018, we reviewed the financeability test we use as part of our price regulation process.[252] In the financeability test review, we decided to:

- conduct a financeability test if the prices we set determine the revenues of the business and if the business has, or is part of an entity with, a distinct capital structure
- broaden the test by calculating financeability tests for both the benchmark and actual business
- adjust the target ratios we use to assess financeability
- clarify the process to identify any financeability concerns, and
- tailor the remedy for a financeability concern based on its source.

The 2018 financeability test will apply to pricing decisions on or after 1 July 2019.

To assess the Council's financeability over the 2019 determination period, we analysed its forecast financial performance, financial position and cash flows for both the benchmark and actual business. We then forecast financial ratios for both tests and assessed the Council's financial ratios against our target ratios.

The three financial ratios we include in our financeability test and the target ratios are summarised in Table 14.1.

Table 14.1 Target ratios for the benchmark and actual test

Ratio	Benchmark test (real cost of debt)	Actual test (actual cost of debt)
Interest cover	>2.2x	>1.8x
Funds From Operations (FFO) over Debt	>7.0%	>6.0%
Gearing	<70%	<70%

Source: IPART, *Review of our financeability test*, November 2018, p3.

252 IPART, *Review of our financeability test*, November 2018.

The financeability test is done for the Council's water, sewerage and stormwater business only

We have conducted the financeability tests using the costs and revenues for the Council's water, sewerage and stormwater services only (as opposed to the Council as a whole). This is consistent with our draft decisions for the Council's tax allowance and post-tax WACC parameters.

The benchmark test indicates no financial concern for the Council

In the benchmark test, we have used the real cost of debt we adopt in our Weighted Average Cost of Capital (WACC) decisions to calculate the financial ratios. To make this clear, in the benchmark test we have referred to the Interest Coverage Ratio (ICR) as the Real Interest Coverage Ratio (RICR), and the Funds From Operations (FFO) over Debt ratio is named the Real Funds From Operations over Debt ratio.

Council is forecast to outperform the RICR and gearing benchmark targets over the regulatory period (see Table 14.2).

Table 14.2 Financial ratios for the benchmark test

Ratio	Target	2019-20	2020-21	2021-22
Real Interest cover	>2.2x	2.8	2.9	3.0
Real FFO over Debt	>7.0%	5.8%	6.2%	6.3%
Real Gearing	<70%	60%	60%	60%

Source: IPART analysis

The Real FFO over Debt is forecast to slightly underperform against the benchmark target during the regulatory period. However, we do not consider this constitutes a financeability concern because:

- The business does not need to meet all ratios in all years to be financeable. Taking all three measures together, we consider the business meets the target ratios, overall.
- The underperformance in the FFO over Debt ratio reflects limitations in the asset lives proposed by the Council, which it is aiming to address in future pricing reviews.

The results for the FFO over Debt ratio reflect limitations in the asset lives proposed by Council

All else equal, a higher asset life results in a lower FFO over Debt ratio. This is because a higher asset life, all else equal, results in a lower depreciation allowance, which in turn reduces the businesses cashflow (FFO), as a percentage of its assets.[253]

The Council proposed that all new water, sewerage and stormwater assets would have an asset life of 100 years. As discussed in Chapter 5, we consider that 100 years does not reflect the actual economic lives of assets being created. We have made a draft decision to adopt slightly shorter asset lives of 75 years for water and sewerage assets, and 95 years for

253 IPART, *Review of our financeability test*, November 2018, Appendix B, see Figure B.1 p 75.

stormwater assets for this price review, as an interim measure. Going forward, the analysis supports a better disaggregation of the Council's RAB into asset classes that more closely reflect the underlying economic lives of these assets. The Council agrees, and is aiming to propose more granular asset categories (and asset lives) in future pricing reviews, which would better reflect the lives of its assets. We consider it likely that if the Council does disaggregate its RAB accordingly, the weighted average asset life of all regulated assets would be lower. Accordingly, the FFO over Debt ratio may improve further if the Council proposes asset lives that better reflect the underlying economic lives of its assets.

The actual test indicates no financial concern for the Council

Using the Council's actual financial information, the Council is forecast to exceed the target ratios for all three financial metrics (see Table 14.3). This reflects the Council's low gearing ratio (20%).

Table 14.3 Financial ratios for the actual test

Ratio	Target	2019-20	2020-21	2021-22
Interest cover	>1.8x	3.5	3.7	3.6
FFO over Debt	>6.0%	17.0%	17.1%	17.0%
Gearing	<70%	19%	20%	21%

Source: IPART analysis.

For this modelling, we applied a 30% tax equivalent rate and a 70% dividend payout ratio to represent the dividends and other payments made to general Council funds (consistent with our approach for State Owned Corporations).

Implications for the Consolidated Fund

Under section 16 of the IPART Act, where we have decided to increase the Council's maximum prices, we are required assess and report on the likely annual cost to the NSW Government's Consolidated Fund if prices were not increased to the maximum permitted.

The Council's water, sewerage and stormwater services are separate to the NSW Government and the Council does not pay dividends to the NSW Government. For that reason, if the Council charged below the maximum prices provided for in the determination, we would not expect there to be an impact to the Government's Consolidated Fund, unless the Government decided to compensate the Council for this foregone revenue.

14.3 Implications for general inflation

Under section 15 of the IPART Act, we are required to consider the effect of our determinations on general price inflation. As the Australian Bureau of Statistics (ABS) does not collect data on the Council's water and sewerage impact on the consumer price index, we have derived an estimate of their impact on general price inflation using the ABS estimate of Sydney Water's impact on the consumer price index (CPI).

Currently, water and sewerage prices in Sydney contribute 0.76% towards the CPI (all groups, eight capital cities).[254] Using the Council's customer numbers (around 140,000) relative to Sydney Water's (around 1,900,000) we estimate the relative contribution of the Council's water and sewerage towards the general price level to be about 0.06%.

Under our draft report prices, the Council's annual average water and sewerage bill for a residential customer consuming 170 kL per annum **decreases** by 7.5% (in real terms). Despite this moderate decrease, we expect that the impact on general price inflation would be negligible (approximately -0.005% points).

14.4 Implications for the environment

The Government is responsible for determining any negative environmental impacts and imposing standards or requirements on the Council to address them. For instance, the Environment Protection Authority (EPA) is responsible for setting standards for, and monitoring the environmental impacts of, the effluent the Council discharges from its sewage treatment plants and sewerage systems.

IPART allows the Council to fully recover, through its prices, the costs it efficiently incurs in meeting its environmental obligations.

Examples of the Council's environmental related programs include:

- **Kincumber sewage treatment plant (STP) major upgrade and transient relief structure works.** This project, driven by the EPA Pollution Reduction Program (specifically under Council's licence condition U1 PRP 3), is to remove pollutants, address reliability and risk issues and reduce odours of the anaerobic digesters at the Kincumber sewerage treatment plant.[255, 256]
- **Charmhaven STP major augmentation works.** This project is a major upgrade to the STP that is currently operating at the limit of its aeration capacity due to population growth in the catchment.[257]
- **Bateau Bay STP process improvements.** This upgrade to the STP is to minimise the risk of future discharge quality and load limit licence breaches, as well as to expand capacity ahead of the next major augmentation of the plant.[258]

254 Australian Bureau of Statistics, Consumer Price Index 17th Series Weighting Pattern (cat. no. 6471.0), September 2017.
255 Atkins Cardno, *Central Coast Council Expenditure Review – Final Report*, March 2019, p 105.
256 Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, pp 235 & 244.
257 Ibid, p 230.
258 Ibid, pp 127-128 & 231.

- **Sewer mains renewals and upgrades**. This includes upgrades of treatment assets at Kincumber, Woy Woy, Gwandalan, Mannering Park and Toukley.[259]

IPART's approach to addressing environmental issues in its price determinations is further explained in Chapter 2 of our Final Report accompanying the 2016 Sydney Water price determination.[260]

259 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 128.

260 IPART, *Review of prices for Sydney Water Corporation From 1 July 2016 to 30 June 2020, Water- Final Report,* June 2020, pp 40-41.

Appendices

A Matters to be considered by the Tribunal 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).

Table A.1 outlines the sections of the report that address each matter.

Table A.1 Consideration of section 15 matters by IPART – Central Coast Council

Section 15(1)	Report reference
a) the cost of providing the services	Chapter 3 and Appendix F set out the total efficient costs the Council requires to deliver its water, sewerage and stormwater services. Further detail is provided in Chapters 4 and 5 on prudent historical expenditure and efficient forecast expenditure.
b) the protection of consumers from abuses of monopoly power	We consider our draft decisions would protect consumers from abuses of monopoly power, as they reflect the efficient costs the Council requires to deliver its services. This is addressed throughout the report, particularly in Chapters 4 and 5 (where we establish the prudent historical costs and efficient forecast costs) and Chapter 7, 8 and 9 (where we set out our draft pricing decisions).
c) the appropriate rate of return and dividends	Chapter 3 outlines that we have allowed a market-based rate of return on debt and equity which would enable a benchmark business to return an efficient level of dividends. This is further detailed in Appendix E.
d) the effect on general price inflation	Section 14.3 outlines that the impact of our draft prices on general inflation is negligible.
e) the need for greater efficiency in the supply of services	Chapters 4 and 5 set out our draft decisions on the Council's prudent historical expenditure and efficient forecast expenditure. Further, Chapter 4 discusses our draft decision to include an 'efficiency carryover mechanism' to encourage the Council to identify further efficiencies.
f) ecologically sustainable development	Chapters 4 and 5 set out the Council's prudent historical expenditure and efficient forecast expenditure that allows it to meet all of its regulatory requirements, including its environmental obligations. Section 14.4 discuss the implications for the environment resulting from our draft decisions.
g) the impact on borrowing, capital and dividend requirements	Chapter 3 explains how we have provided the Council with an allowance for a return on and of capital; and section 14.2 contains our assessment of the Council's financial viability by applying our financeability test.
h) 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	Chapters 4 and 5 determine the Central Coast Council's forecast expenditure over the 2019 determination period, including the efficient costs of any contractors.
i) need to promote competition	Chapter 11 discusses competition elements with regard to private utilities operating under the WIC Act which are customers of the Council. In determining efficient costs, we have been mindful of relevant principles such as competitive neutrality (eg, we have included a tax allowance for the Council as explained in Chapter 3).
j) considerations of demand management and least cost planning	Chapter 7 outlines how that have set water usage prices with reference to marginal cost to send price signals to consumers about the impact of their demand on the Council's supply capacity. Chapter 6 outlines our approach to forecasting the volume of water sales, and our draft decision to include a demand volatility adjustment to manage large fluctuations in water demand.

		Chapters 4 and 5 outline how we have assessed the Council's prudent historical and efficient forecast expenditure required to manage its supply capacity at least cost.
k)	the social impact	Chapter 13 considers the potential impact of our draft pricing decisions on customer bills.
l)	standards of quality, reliability and safety	Chapters 4 and 5 detail our assessment of the Council's prudent historical and efficient forecast costs so that it can meet the required standards of quality, reliability and safety in delivering its services. Section 14.1 discusses implications of our draft decisions on the Council's service standards, and Appendix B provides the output measures (ie, service indicators) linked to the revenue allowances.

B Draft output measures

We set output measures for the water utilities we regulate to inform us and stakeholders' judgements on whether planned capital expenditure is consistent with any need to bring current levels of service in line with targets. This is important because we set prices to enable the utility to recover the forecast costs of meeting these plans. Moreover, an ongoing inability to meet output measure targets could indicate that the required levels of service, to which we have linked our prices, are not being met and there is a deficiency in the planning and delivery of capital projects.

While meeting output measure targets is important, strict conclusions about the Council's performance should not be drawn on the basis of whether or not it has met these targets. There may be reasonable explanations why it does not meet certain targets. We note that some of the output measures that the Council proposed are subject to external factors, such as prevailing climate conditions. Also, as circumstances evolve over a determination period, changing a target may result in a better outcome for customers. In such cases, the output measures can provide a reference point for articulating changes in priorities.

We presented the Council's performance against past output measures in Appendix G of our Issues Paper. We received a comment from one stakeholder who stated that the Council's long term under-expenditure in the 2013 determination reflects a non-optimal level of performance, for which it has not been held accountable[261], and that:

> More appropriate output measures might include:
>
> - a measure of the proposed asset refurbishment/replacement budgets compared to the asset base of the various asset categories, against expected allocations based on sound asset management practice
> - a measure of asset management budgets allocated compared to the actual delivery of the proposed programs for each asset class.[262]

Section B.1 presents our draft output measures for the 2019 determination period. Section B.2 outlines our views on the Council's approach to output measures going forward.

B.1 Draft output measures for the 2019 determination period

In its pricing submission, the Council proposed stable output measures that, in some cases, were less ambitious than its recent performance.[263] Our expenditure consultant, Atkins Cardno, noted these did not change between 2020 and 2023 and were not linked to proposed capital expenditure or improved performance. Atkins Cardno considered that the Council's output measures should exhibit gradual improvement over time. In response, the Council

261 We note that we outline our response to the Council's recent capital underspending in Chapter 5.
262 M. Redrup, *Submission to IPART Issues Paper*, p. 2.
263 Central Coast Council (2018), *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, Appendix 2.

provided Atkins Cardno with an addendum outlining year-on-year targets for each proposed output measure.

B.1.1 Water and sewer output measures for the 2019 determination period

Atkins Cardno reviewed the Council's proposed water and sewerage output measures against its recommended prudent and efficient expenditure, and recommended adjustments to the performance targets for unplanned interruptions, water main breaks and sewerage odour complaints, to bring these in line with the Council's recent performance.[264]

It also recommended four additional measures — three relating to projects and one additional output measure related to supply interruptions to take account of the impact of these interruptions on customers.

The three project milestones are to track delivery of projects that:

- improve water resource availability and resilience (and make up a significant portion of the capital program), and
- address risks of non-compliance with current EPA licence requirements.

The purpose of the additional supply interruptions measure is to improve understanding and performance relating to the impact of the loss of supply to customers from planned or unplanned interruptions, rather than only measuring the frequency of interruptions.[265]

Our draft decision is to accept Atkins Cardno's recommended output measures for water and sewerage services. These are presented in Table B.1, Table B.2 and Table B.3.

Table B.1 Water output measures for the Council's 2019 determination

Output or activity measure	Current target	Target for 2020	Target for 2021	Target for 2022	Target for 2023
1. Water quality complaints per 1000 properties	9.9	9	8	8	7
2. Average frequency of unplanned interruptions per 1000 properties	151.8	115	115	115	115
3. Water main breaks per 100km main	23.7	16	16	16	14
4. Compliance with Australian Drinking Water Guidelines – microbial guideline values (%)[a]	100	100	100	100	100
5. Compliance with Australian Drinking Water Guidelines – chemical guideline values (%)[a]	100	100	100	100	100

[a] 100% in measure 4 and 5 means fully compliant with corresponding values in Australian Drinking Water Guidelines.

Note: We have presented the full five years of output measures recommended by Atkins Cardno. However, we will review the Council's output measures as part of our next price review. In the event that our next price review is deferred, these output measures would continue to apply.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, Table 6-1.

264 Atkins Cardno, *Review of Central Coast Council's Expenditure*, March 2019, pp 9-10.
265 Atkins Cardno (2019), *Review of Central Coast Council's Expenditure*, March 2019, p 9-10

Table B.2 Sewerage output measures for the Council's 2019 determination

Output or activity measure	Current target	Target for 2020	Target for 2021	Target for 2022	Target for 2023
1. Wastewater overflows per 100 km main	32.6	32	30	28	26
2. Wastewater overflows reported to the environmental regulator per 100km main	1.6	1.6	1.5	1.4	1.3
3. Wastewater odour complaints per 1000 properties	1.9	1.7	1.7	1.5	1.3
4. Wastewater main breaks and chokes per 100km main	35.6	35.6	34	32	30
5. Compliance with EPL concentration, load limits.	N/A	Yes	Yes	Yes	Yes

Note: We have presented the full five years of output measures recommended by Atkins Cardno. However, we will review the Council's output measures as part of our next price review. In the event that our next price review is deferred, these output measures would continue to apply.

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, Table 6-2.

Table B.3 Draft additional output measures for the Council's 2019 determination

Output Measure	Output
Water	
Project milestone: Mangrove Creek Spillway Dam Upgrades	Mangrove Creek Spillway Dam Upgrade project to be 100% complete by 30 June 2024
Project milestone: Mardi to Warnervale Trunk Main	Mardi to Warnervale Trunk Main project to be >75% complete by 30 June 2024
Customer Service: Supply Interruptions	Total customer minutes lost to supply interruptions (both planned and unplanned) to remain stable or improving over the determination period. Council reports data to NPR (frequency and average duration of unplanned interruptions) which can be used as an input to this measure, but it is not available for the current year.
Sewerage	
Project milestone: Charmhaven STP	Charmhaven STP upgrades to be 100% complete by June 2024

Source: Atkins Cardno, *Central Coast Council Expenditure Review*, March 2019, Table 6-3.

B.1.2 Stormwater output measures for the 2019 determination period

Atkins Cardno did not propose any output measures for stormwater, noting that there were no identified schemes greater than $2 million in value, and the Council had not provided enough detail on the overall stormwater program to identify an output measure. Instead, Atkins Cardno recommended that the Council develop a specific output measure in the first year of the determination period to set a baseline and measure performance throughout the remainder of the period.

Atkins Cardno recommended the following potential output measure for the Council to consider:

- The length of assets renewed, refurbished or upgraded
- Flooding incidents due to asset failure
- Customer survey results on the Council's performance related to stormwater.[266]

We consider that the Council should, at the very least, apply Atkins Cardno's recommendation in developing its stormwater expenditure program and output measures for the next review of its prices.

We also introduced one output measure relating to the Council's low-impact assessment process for stormwater charges. The Council did not provide a timeframe for assessing the applications. We have therefore established an output measure to assess the percentage of low-impact assessments that are completed within 15 working days of receiving a complete application.

Table B.4 Sewerage output measures for the Council's 2019 determination

Output Measure	Output
Low-impact application process	Percentage of low-impact applications completed within 15 working days of receiving a complete application.

B.2 Council's output measures going forward

Finally, we note that the Council's proposed output measures were adopted from its national performance reporting requirements and are therefore not developed in tandem with customer consultation on service levels and its capital work program.

Our draft view is to approve these output measures as the best available measures of the performance standards the Council intends to achieve. However, we note that some of the measures are relatively subjective or dependant on external factors (such as weather patterns).

We consider that for the next determination, the Council should seek to develop output measures that closely relate to the outputs it plans to deliver through its capital program. Further, its capital program, in turn, should be based on an understanding of customer preferences and willingness to pay for different levels of service.

For example, Box B.1 provides an extract of some of the output measures we included in Sydney Water's 2016 determination. We note that these align closely with Sydney Water's capital program and provide a quantifiable point of reference for the delivery of its proposed capital expenditure.

266 Atkins Cardno, *Review of Central Coast Council's Expenditure*, February 2019, pp 9-10.

Box B.1 Extract of Sydney Water's 2016 output measures

Table G.2 Output Measures over 2016 determination period

Output (or activity) Measure	Description of indicator of activity
Water services	
Critical water mains renewal	47 km
Large valve renewals	120
Reticulation water mains	180 km
Reservoir reliability program	33 reservoirs renewed
System reliability	15 pumping stations renewed 16 HV upgrades
Renewal of customer water meters	471,500 meters
Wastewater services	
Large wastewater mains	34 km 80 deep maintenance hole and vent stacks 4 km pressure mains
Dry weather flows	112 km
Wastewater treatment plant renewals	163 wastewater treatment 41 chemical system renewals 11 odour control 82 solids treatment
Wastewater pumping stations	19 major renewals 37 pump renewals
Stormwater services	
Stormwater assets	7 km conduit renewal 3 km open channel renewal 160 km condition assessment

Source: Atkins Cardno, *Sydney Water Corporation - Expenditure Review*, December 2015, pp 56-57.

Source: IPART (2016), *Review of prices for Sydney Water Corporation: Final Report*, June, p. 282.

C Efficiency Carryover Mechanism

In this Appendix, we explain why an Efficiency Carryover Mechanism (ECM) would remove an incentive for the utility to delay efficiency savings it identifies during a regulatory period until the beginning of the following period. It provides worked examples of how the ECM removes this incentive by identifying efficiency savings that are permanent, and allowing the utility to retain permanent efficiencies savings for the same amount of time, regardless of when they are implemented by the utility. For example, for a 3-year determination, any permanent efficiency savings would be retained for three years.

Sections C.1 and C.2 below compare the 'profits' that a utility would enjoy if it implemented a permanent efficiency saving under the current regulatory framework, with those available under the ECM. Section C.3 explains how the ECM is applied. Section C.4 explains why we implement the ECM with a 1-year lag.

C.1 Current regulatory framework

The three tables in Figure C.1 show the profits that a regulated utility retains after making an efficiency improvement **decrease** the further into a regulatory period that the efficiency is made. The efficiency is then incorporated into the regulatory allowance – in the form of lower prices to customers – in the next determination period and the utility gains no more profit from that efficiency. This creates the incentive for the utility to delay efficiencies to the first year of a new regulatory period.

Figure C.1 How the current framework incentivises delaying efficiencies

Permanent saving made in year 1

	Regulatory Period 1			Regulatory Period 2		
Year	1	2	3	4	5	6
	$	$	$	$	$	$
Allowance	100	100	100	80	80	80
Actual	80	80	80	80	80	80
Annual profit	20	20	20	-	-	-
Total profit in period		**60**				

Permanent saving made in year 2

	Regulatory Period 1			Regulatory Period 2		
Year	1	2	3	4	5	6
	$	$	$	$	$	$
Allowance	100	100	100	80	80	80
Actual	100	80	80	80	80	80
Annual profit	-	20	20	-	-	-
Total profit in period		**40**				

Permanent saving made in year 3

	Regulatory Period 1			Regulatory Period 2		
Year	1	2	3	4	5	6
	$	$	$	$	$	$
Allowance	100	100	100	80	80	80
Actual	100	100	80	80	80	80
Annual profit	-	-	20	-	-	-
Total profit in period		**20**				

Note: Regulatory period 2 does not necessarily have to be the same length as previous regulatory period. We have not made a decision on the length of the subsequent regulatory period. The numbers in this figure are illustrative only.

C.2 How the ECM removes the incentive to delay savings

The ECM removes the incentive to delay savings by allowing the utility to retain profits for each permanent saving as though the saving were made in year 1 of the determination period in the scenario above. That is, the total profit for the utility is the same regardless of which year the efficiency was made.

The three tables in Figure C.2 demonstrate the ECM for a 3-year determination. Using the same example as in Figure C.1, the utility retains a $60 profit regardless of which determination year it makes the saving in.

After three years, the saving is passed onto customers.

Figure C.2 How the ECM removes incentives to delay efficiencies

	Regulatory Period 1			Regulatory Period 2		
Permanent saving made in year 1						
Year	1	2	3	4	5	6
	$	$	$	$	$	$
Base allowance	100	100	100	80	80	80
Actual	80	80	80	80	80	80
Permanent saving	20	20	20	-	-	-
Incremental saving	20	20	20	-	-	-
Carryover calc	N/A	N/A	N/A			
Net allowance	100	100	100	80	80	80
Annual profit	20	20	20	-	-	-
Total profit in period		60				
Permanent saving made in year 2						
Year	1	2	3	4	5	6
	$	$	$	$	$	$
Base allowance	100	100	100	80	80	80
Actual	100	80	80	80	80	80
Permanent saving	-	20	20	-	-	-
Incremental saving	-	20	20	-	-	-
Carryover calc			20	20		
Net allowance	100	100	100	100	80	80
Annual profit	-	20	20	20	-	-
Total profit in period		40			20	
Permanent saving made in year 3						
Year	1	2	3	4	5	6
	$	$	$	$	$	$
Base allowance	100	100	100	80	80	80
Actual	100	100	80	80	80	80
Permanent saving			20			
Incremental saving			20			
Carryover calc				20	20	
Net allowance	100	100	100	100	100	80
Annual profit	-	-	20	20	20	-
Total profit in period		20			40	

Note: Regulatory period 2 does not necessarily have to be the same length as previous regulatory period. We have not made a decision on the length of the subsequent regulatory period. The numbers in this figure are illustrative only.

C.3 Applying the ECM

If the utility decides to apply the ECM, the utility would need to calculate the following values:

- **Under (over):** first the utility identifies the difference between the base allowance set by IPART to its actual expenditure.
- **Outperformance:** second, the utility only reports where it underspends against our allowances (overspends are omitted).
- **Permanent gain:** working backwards from year 3 to year 1, the utility then determines how much of the outperformance in year 3 also occurred in year 2, how much of the outperformance that occurred in both year 3 and 2 occurred in year 1.

- **Incremental gain:** working forwards from year 1 to 3, it then determines the first year that a permanent saving occurred. It is this 'incremental gain' in each year that would be carried forward for three years through the ECM calculation that follows.
- **ECM calculations:** ensures that any incremental gain is carried forward and held for three years.

At the next determination period, we would consider these calculations, and decide whether the savings identified by the utility are permanent.

C.4 Why there is a lag in implementation

In practice, there is a complicating factor. That is, at the time we undertake our review, we do not know the final year actual expenditure in order to fully implement the ECM.

The discussion below is based on a hypothetical scenario that relates to a four-year determination, but the concept remains the same for any determination length.

There are two adjustments we would make

In practice, at the time we undertake our review, we only have a forecast of expenditure in the final year of the determination period.

To address this limitation, we make three adjustments.

First, we lag the implementation of the ECM by one year. For example, with a 4-year determination period, we apply the ECM calculation to the first three years of the current determination period (years 1, 2, and 3), and to the final year of the previous regulatory period (ie, year 0). Efficiency savings in the final year of the current period (year 4) would be included in the ECM calculation for the following determination period.

Second, we assume an efficiency saving made in year 3 is permanent. Therefore, the benefit is held in year 3 and year 4, and the ECM allows the benefit to be carried forward in years 5 and 6.

Figure C.3 the first two adjustments. In this example, the two regulatory periods are years 1 to 4 (regulatory period 1), and year 5 to 8 (regulatory period 2). The ECM is then applied to operating expenditure in Years 0 to 3 in the first regulatory period, and years 4 to 7 in the second.

Figure C.3 ECM is lagged one year so that it is based on actuals

		Regulatory Period 1				Regulatory Period 2			
	ECM1				ECM2				
Year	-	1	2	3	4	5	6	7	8
	$	$	$	$	$	$	$	$	$
Base allowance	100	100	100	100	100	80	80	80	80
Actual	100	100	100	80	80	80	80	80	80
Under (over)	-	-	-	20	20	-	-	-	-
Outperformance	-	-	-	20	20	-	-	-	-
Performance gain	-	-	-	20					
Incremental gain	-	-	-	20					
ECM1 calc									
- year 0	-	-	-	-	-				
- year 1		-	-	-	-	-			
- year 2			-	-	-	-	-		
- year 3				20	20	20	20	-	
ECM benefit						20	20		
Total allowance		100	100	100	100	100	100	80	80
Total gain (loss)		-	-	**20**	**20**	**20**	**20**	-	-

Note: The numbers in this figure are illustrative only.

The third adjustment made is to ensure that any efficiency made in the final year of a determination period is only retained for one regulatory period, in present value terms. This is because we review efficiency savings made in the final year of a determination in the following period. For example, with a 4-year determination period, it is five years before we review this expenditure. Therefore, the utility would have retained these cost savings for five years.

Figure C.4 shows that we would calculate a 'year 0 adjustment' to ensure permanent savings made in the last year of a determination are only held for the length of the determination period, in this example for four (and not five) years.

In this example, a permanent efficiency saving of $20 is made in Year 0. Without an adjustment factor, the business would retain this saving for five years. The 'Year 0 adjustment' offsets the fifth year of benefit (received in year 4) with a corresponding negative adjustment to the allowance in the first year of the next regulatory period (ie, year 5). Note that we are inflating this adjustment term by the WACC[267] in order to ensure incentives are fully equalised in present value terms (because the WACC represents our view of the appropriate discount rate).

267 If cash flows are assumed to occur at the end of each year, this should be the WACC used for regulatory period 2.

Figure C.4 ECM adjustment to ensure savings are held for no longer than determination

		Regulatory Period 1				Regulatory Period 2			
	ECM1				ECM2				
Year	-	1	2	3	4	5	6	7	8
	$	$	$	$	$	$	$	$	$
Base allowance	100	100	100	100	100	80	80	80	80
Actual	80	80	80	80	80	80	80	80	80
Under (over)	20	20	20	20	-	-	-	-	-
Outperformance	20	20	20	20	-	-	-	-	-
Performance gain	20	20	20	20					
Incremental gain	20	-	-	-					
ECM1 calc									
- year 0	20	20	20	20	20				
- year 1		-	-	-	-	-			
- year 2			-	-	-	-	-		
- year 3				-	-	-	-		
- year 0 adjustment						-21			
ECM benefit						-21	-	-	-
Total allowance		100	100	100	100	59	80	80	80
Total gain (loss)	20	20	20	20	20	-21	-	-	-

Note: We have assumed a real WACC of 5% in this example. The numbers in this figure are illustrative only.

Retaining the saving for five years would be inconsistent with the purpose of the ECM of equalising incentives over time. The business may have an incentive to delay savings until the last year of a determination period in order to maximise returns.[268]

The adjustment term only applies to a permanent efficiency saving that is made in the final year of a regulatory period. Because the business receives this benefit for five years initially (years 0, 1, 2, 3, and 4), the adjustment term inflates the fifth year of this benefit (received in year 4) by the WACC and returns it to customers in year 5.

268 This incentive already exists under the current form of regulation.

D Allowances for return on RAB, return of RAB and tax

This Appendix outlines how we calculated the capital allowance, and the tax and working capital allowances.

To calculate the capital allowance, we need to determine three key inputs:

- The value of the Council's RAB, in each year of the determination. This represents the economic value of the assets used to deliver the regulated services.
- The asset lives and depreciation method for the Council's RAB.
- The appropriate rate of return (eg, the WACC) on the Council's RAB.

After making our draft decisions on the Council's prudent and efficient capital expenditure, and the appropriate economic lives for the Council's assets, we applied our standard approach to establish the RAB and depreciation allowances. We then applied our WACC method to establish the rate of return.

We established a tax asset base to estimate a benchmark tax allowance and applied our 2018 working capital policy to set the working capital allowance.

The sections below provide an overview of our calculations.

D.1 Value of the regulatory asset base

The RAB represents the value of the Council's assets on which we consider it should earn a return on capital and an allowance for regulatory depreciation.

In its proposal, the Council rolled forward the RAB values at 1 July 2012 to 30 June 2019 for the former Gosford and Wyong LGAs separately. The Council then combined the separate 2019 RAB values and remaining lives to represent the opening RAB values for the Council as a merged entity at 1 July 2019. These combined values are then roll forward for each year of the 2019 Determination period.[269]

We agree with the Council's conceptual approach to roll forward the RABs of the former Gosford and Wyong LGAs separately to 30 June 2019, and then consolidate the separate RAB's at 1 July 2019 to represent the RAB values of the merged entity as a whole. We have essentially adopted this approach; however, in determining the value of the RAB over the 2019 Determination period, we have:

- merged only the RAB values at 1 July 2019 of water and stormwater services of the former Gosford and Wyong LGAs into combined values as prices for these services are harmonised on 1 July 2019, but

[269] Information provided by Council to IPART, 26 October 2018

- maintained separate sewerage RAB values for Gosford and Wyong as sewerage prices are continued to be set separately.

Calculating the opening RAB

In calculating the opening RAB, we separately rolled forward the RAB of the former Gosford and Wyong LGAs over the 2013 determination period.[270] This involved using the determined RAB as at 1 July 2012[271] and then:

- adding prudent and efficient capital expenditure (see Chapter 5)
- deducting cash capital contributions
- deducting the regulatory value of asset disposals
- deducting the regulatory depreciation we allowed at the 2013 Determination, and
- adding the annual indexation of the RAB.

This determines the opening RAB for the 2019 determination period. The calculation of the opening RAB for the former Gosford and Wyong LGAs are set out in Tables D.1 and D.2 below. Table D.3 compares our draft decision on the RAB values at 30 June 2019 to that proposed by the Council.

Our decisions regarding the treatment of historical cash contributions and asset disposals are discussed later in this chapter.

Table D.1 IPART's opening RAB calculation for the former Gosford LGA ($'000, $nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Opening RAB	**525,699**	**574,924**	**623,807**	**657,738**	**679,508**	**713,017**	**728,361**
Plus: Actual prudent and efficient capex	46,333	42,885	36,351	26,897	36,901	18,265	29,114
Less: Cash capital contributions	2,844	3,565	3,153	2,004	7172	6,010	2,960
Less: Asset disposals	359	297	276	814	0	3993	0
Less: Allowed regulatory depreciation	7,039	7,973	8,596	9,007	9,413	9,413	9,413
Plus: Indexation	13,134	17,883	9,604	6,697	13,193	16,494	18.536
Closing RAB	**574,924**	**623,807**	**657,738**	**679,508**	**713,017**	**728,361**	**763,638**

Source: IPART analysis.

270 Including the financial years ending on 30 June 2018 and 30 June 2019 for which the 2013 Determination were extended.

271 When we set the RAB at our 2013 Determination, the figures we used for 2012-13 were forecasts. Therefore, we need to adjust the 2012-13 figures for our actual figures including our decisions on capital expenditure for 2012-13.

Table D.2 IPART's opening RAB calculation for the former Wyong LGA ($'000, $nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Opening RAB	**399,932**	**426,029**	**453,228**	**470,936**	**486,987**	**498,400**	**505,183**
Plus: Actual prudent and efficient capex	24,708	22,875	22,068	24,643	22,266	13,151	14,784
Less: Cash capital contributions	2,297	2,854	4,975	6,539	10,919	10,269	7,059
Less: Asset disposals	2	10	16	225	2,195	514	0
Less: Allowed regulatory depreciation	6,180	5,892	6,296	6,629	7,078	7,078	7,078
Plus: Indexation	9,867	13,081	6,927	4,799	9,338	11,491	12,726
Closing RAB	**426,029**	**453,228**	**470,936**	**486,987**	**498,400**	**505,183**	**518,556**

Source: IPART analysis.

Table D.3 Comparison of the Council's and IPART's closing RAB at 30 June 2019 ($'000, $nominal)

Council	IPART	$ difference	% difference
1,310,879	**1,282,194**	**28,685**	**2.2**

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p. 144; and IPART analysis.

Our calculation of the RAB results in a value at 30 June 2019 that is $28.7 million (or 2.2%) lower than the Council's proposal. This is mainly due to:

- The updating of data - subsequent to the Council's initial proposal - for actual and estimated capital expenditure, cash capital contributions and disposals for the period to 2019. This reduced the closing RAB by $3.6 million.
- Correcting the tax treatment of past cash capital contributions, which reduced the RAB by $18.5 million. The Council only deducted 70% of past cash capital contributions in its modelling, whereas the full amount should be deducted as the Council had already been provided a tax allowance for cash capital contributions in the 2013 Determination.
- IPART's decisions on efficient past capex and disposal for the period to 2019 (which reduced the opening RAB by $5.3 million).

Calculating the RAB over the 2019 determination period

For the 2019 Determination period, we consolidated the opening RAB values at 1 July 2019 for water and stormwater services of the former Gosford and Wyong LGAs into combined values for the Council as a merged entity. We have however maintained separate (Gosford and Wyong) RAB values for sewerage services.

Table D.4 below shows the closing RAB values at 30 June 2019 for water, sewerage and stormwater of the former Gosford and Wyong LGAs.

Table D.4 IPART's closing RAB calculation at 30 June 2019 by services ($'000, $nominal)

	Water	Sewerage	Stormwater	Total
Former Gosford	320,760	412,068	30,810	763,638
Former Wyong	252,209	195,069	71,278	518,556
Total	**572,970**	**607,137**	**102,087**	**1,282,194**

Note: Columns may not sum due to rounding.

Source: IPART analysis.

The closing RAB values and corresponding remaining asset lives for water and stormwater were then combined to derive the total opening RAB values for the Council as a whole whilst those for sewerage services were kept separate, as if the former Gosford and Wyong LGAs were still separate entities. The combined opening RAB for water and stormwater services and the separate RABs for sewerage services are shown in Tables D.5 and D.6 respectively.

Table D.5 IPART's combined opening RAB and remaining lives at 1 July 2019 for water and stormwater services

		Water	Stormwater	Total
Combined RAB	($'000, $nominal)	572,970	102,087	675,057
Remaining asset lives[a]	(Years)	77.0	80.8	N/A

a The remaining lives were calculated using RAB values for Gosford and Wyong at 30 June 2019 as weightings. For water services, the separate lives were 77.2 (Gosford) and 76.7 (Wyong). For stormwater services, they were 94.8 (Gosford) and 74.7 (Wyong).

Source: IPART analysis.

Table D.6 IPART's opening RAB and remaining lives at 1 July 2019 for sewerage for Gosford and Wyong

		Gosford	Wyong
Sewerage RAB	($'000, $nominal)	412,068	195,069
Sewerage remaining lives	(Years)	77.2	71.2

Source: IPART analysis.

To calculate the RAB in each year of the 2019 determination period, we rolled forward the opening RAB values as shown above to 2021-22 by:

- adding prudent and efficient forecast capital expenditure over the period (which is discussed in Chapter 5),
- deducting forecast cash capital contribution, and
- deducting regulatory depreciation.

This gives the forecast RAB for each year of the 2019 determination period, which we use to generate the allowances for the return on capital and regulatory depreciation in the notional revenue requirement.

The RAB roll-forward over the 2019 determination period for the Council's water and stormwater services, Gosford sewerage services and Wyong sewerage services are shown respectively in Tables D.7, D.8 and D.9 below. With the exception of prudent and efficient forecast capital expenditure (discussed in Chapter 5), we discuss our decisions on the various RAB adjustments in further detail in the sections below.

Table D.7 IPART's RAB for Council's water and stormwater services for the 2019 Determination ($'000, $2018-19)

	2019-20	2020-21	2021-22
Opening RAB	**675,057**	**684,531**	**711,320**
Plus: Forecast prudent and efficient capex	23,924	42,411	35,791
Less: Cash capital contributions	5,633	6,467	8,591
Less: Asset disposals	0	0	0
Less: Allowed regulatory depreciation	8,817	9,155	9,554
Plus: Indexation	0	0	0
Closing RAB	**684,531**	**711,320**	**728,966**

Note: Columns may not sum due to rounding.

Source: IPART analysis.

Table D.8 IPART's RAB for sewerage services of the former Gosford LGAs for the 2019 Determination ($'000, $2018-19)

	2019-20	2020-21	2021-22
Opening RAB	**412,068**	**415,824**	**420,659**
Plus: Forecast prudent and efficient capex	14,952	15,538	13,719
Less: Cash capital contributions	5,797	5,174	8,539
Less: Asset disposals	0	0	0
Less: Allowed regulatory depreciation	5,399	5,529	5,633
Plus: Indexation	0	0	0
Closing RAB	**415,824**	**420,659**	**420,206**

Note: Columns may not sum due to rounding.

Source: IPART analysis.

Table D.9 IPART's RAB for sewerage services of the former Wyong LGAs for the 2019 Determination ($'000, $2018-19)

	2019-20	2020-21	2021-22
Opening RAB	**195,069**	**198,515**	**202,279**
Plus: Forecast prudent and efficient capex	9,487	9,889	12,405
Less: Cash capital contributions	3,259	3,259	3,259
Less: Asset disposals	0	0	0
Less: Allowed regulatory depreciation	2,781	2,867	2,972
Plus: Indexation	0	0	0
Closing RAB	**198,515**	**202,279**	**208,452**

Note: Columns may not sum due to rounding.

Source: IPART's analysis.

Our calculation of the RAB for the 2019 determination period results in the RAB being $84.9 million (or 5.9%) lower at the end of the determination period than the Council's proposal (Table D.10). This is mainly due to:

- A lower opening RAB at 1 July 2019 calculated by IPART (a $28.7 million reduction, as explained above).
- A reduction of $107 million in forecast capex for the three years 2020 to 2022, offset by:
  - Not accepting the Council's proposal to exclude $90 million of capital expenditure from the RAB, which was made via a cash capital contribution (net of tax), and an updated stormwater cash capital contributions forecast by the Council (a $49.6 million increase).
  - Lower forecast regulatory depreciation mainly due to lower opening RAB at 1 July 2019 (a $1.2 million increase).

Table D.10 IPART's and the Council's proposed closing RAB for the 2019 Determination ($'000, $2018-19)

	2019-20	2020-21	2021-22
Council proposed	1,339,848	1,397,739	1,442,476
IPART draft decision	1,298,870	1,334,257	1,357,625
Difference	-40,978	-63,482	-84,851

Note: Columns may not sum due to rounding.

Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 144; IPART's analysis.

D.2 Cash capital contributions

Cash capital contributions that a utility receives from third parties towards its capital expenditure, such as government grants, are netted off capital expenditure (ie, they do not enter the RAB). This ensures that customers do not pay a return on assets or regulatory depreciation for capital expenditure that the utility has already had funded from other sources.

We received information from the Council on its historical cash capital contributions (Table D.11) and its forecast cash capital contributions (Table D.12). After reviewing this information, we have accepted the Council's historical and forecast cash capital contributions, and subtracted these values from the RAB.

The Council reported a total of $72.6 million cash contributions for the period FY2013 to FY2019,[272] representing approximately 19% of the gross capital expenditure for the same period. The tax impact of forecast contributions was included as income in the calculation of the tax allowance building block for the former Gosford and Wyong Councils for the period 2013-17. Therefore, when we establish the opening RAB values at 1 July 2019, the full historical cash contributions, as shown in Table D.11, need to be deducted from the RAB. This ensures that the tax allowance on cash contributions is not recouped from customers twice.

Table D.11 IPART's and the Council's proposed historical cash contributions ($'000, nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Gosford	2,844	3,565	3,152	2,004	7,172	6,010	2,959
Wyong	2,296	2,854	4,975	6,539	10,919	10,269	7,059
Council total	5,141	6,419	8,128	8,543	18,091	16,279	10,019

Note: The table presents the total cash contributions for water, sewerage and stormwater

Source: Central Coast Council, *Annual Information Return,* 20 December 2018.

The Council has proposed a total $71.4 million cash contributions for the three years FY2020 to FY2022, comprising of $36.7 million from developers and $34.7 million in government subsidies (Table D.12).

Table D.12 IPART's and the Council's proposed forecast cash contributions ($'000, $2018-19)

	2019-20	2020-21	2021-22
Developers	12,230	12,230	12,230
Government Subsidy	8,754	9,057	16,898
Council total	20,984	21,287	29,128

Note: Columns may not sum due to rounding.

Source: Central Coast Council, *Annual Information Return,* 20 December 2018; IPART's analysis.

Our understanding is that the Council forecasted contributions from developers by multiplying developer charges by the forecast number of equivalent tenements. We consider this approach to be appropriate. In addition, we also found that the Council's yearly forecast cash capital contributions from developers is approximately the same as the five year historical average (about $12.4 million,[273] $2018-19).

272 Values for 2013 to 2018 are actual, 2019 is an estimate.

273 IPART's analysis based on cash capital contribution data for the years 2015 to 2019

The Council's forecast cash contributions for the 2019 Determination period also includes a NSW Government subsidy for upgrades to water and sewer networks in the Gosford CBD. The Council stated in its proposal that it has been successful in obtaining this funding.[274]

For these reasons we accept the Council's proposed forecast cash capital contributions as shown in Table D.12 above.

The Council has also proposed to exclude about $93 million[275] of capital expenditure from the RAB, by including this amount as cash capital contributions in its calculation of the RAB values for the 2019 Determination; thereby reducing the RAB values on which the return on capital and of capital is given. We have decided to exclude this amount (i.e. not reducing the RAB), because we instead made a decision to reduce the Council's NRR by $10.3 million over the 3-year determination period to reflect the impact of capital expenditure underspends. Our reasons for this decision are explained in Chapter 5.

D.3 Adjustments for asset disposals

Asset disposals can include asset sales, write-offs and write-downs. The value of any regulatory assets the Council disposed of during the 2013 determination period, as well as any assets it proposes to dispose of during the 2019 determination period, are deducted from the RAB. This ensures customers are not charged a return on assets or regulatory depreciation for assets that are no longer used to provide regulated services.

We applied our 2018 asset disposals policy[276] in this review to deduct asset disposals from the RAB. Under this policy, we regard disposals as significant if they attract capital gains tax or account for more than 0.5% of the opening RAB value of the relevant service in the year in which the disposal occurred. The key principles of our disposal policy are:

- Significant asset write-offs are considered on a case by case basis.
- The treatment of significant asset sales depends on whether the assets are 'pre line-in-the sand' or 'post line-in-the-sand'.
  - The regulatory values of pre line-in-the-sand assets to be deducted from the RAB are estimated by multiplying the sale values by RAB to depreciated replacement costs (DRC) ratio at the time the initial RAB value is established.[277] For the former Gosford and Wyong LGAs, this was the year 2000, the point in time that is considered to be 'line in the sand'.
  - The regulatory value of post line-in-the-sand assets is estimated as the sales value of the asset, based on the information available to us.
- For non-significant asset write-offs, we do not deduct any value from the RAB, except as deemed necessary on a case by case basis.

274 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, pp. 123, 124 and 129.
275 Central Coast Council, *Final Tariff model for IPART 20180913*, provided to IPART, 26 October 2018.
276 IPART's asset disposal policy – for water businesses, February 2018.
277 It is possible to estimate the regulatory value of pre line-in-the sand assets as the initial RAB value for the former Wyong Council was established in 2000 using a discounted cash flow valuation method. Hence, we can use RAB to DRC ratio at 2000 to estimate the regulatory value of individual pre line-in-the-sand assets.

- For non-significant sales, we deduct the sales values from the RAB, net of efficient sales costs.

As part of its proposal, the Council provided information on the value of assets it had disposed for the period 2013 to 2018 and forecast to dispose in 2019. We assessed this information, and additional information provided to us upon subsequent requests, and found that:

- There were non-significant disposals of about $1.8 million for the period 2013 to 2019 (representing about 0.2% of the RAB value at 30 June 2012).
- There are significant asset sales, write-offs and removal totalling $6.9 million for the same period.

Table D.13 shows the total value of asset disposals we have deducted from the RAB over the 2013 to 2019 period. We discuss each of these disposals, in turn, below.

Table D.13 IPART's asset disposals to be removed from the RAB for the period 2013 to 2019 ($'000, $nominal)

	Total
Non-significant disposals	1,752
Significant sales	447
Significant write-offs	2,509
Significant asset removal	3,993
Total	**8,701**

Source: IPART analysis based on data in Central Coast Council, *Annual Information Return*, 20 December 2018 and on information provided by Council to IPART, 1 and 7 February 2019.

Non-significant disposals

Table D.14 shows the total sales values of all the disposals that were assessed to be non-significant. In accordance with our policy, we deducted these sales value from the RAB of the year in which the sale occurred.

Table D.14 IPART's non-significant asset disposals ($'000, $nominal)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Total	361	307	292	592	201	0	0

Sources: IPART's analysis based on data in Central Coast Council, *Annual Information Return*, 20 December 2018 and on information provided by Council to IPART, 1 and 7 February 2019; IPART's analysis.

Significant historical asset sale

The former Gosford council sold a parcel of land in 2016 for about $0.5 million[278] (or 2.7% of the opening RAB for stormwater assets). This asset was brought into service in 2014 at a cost of $0.4 million, and this value[279] would have been added to the forecast RAB values on which a return on capital was provided to Gosford Council in the 2013 determination. In accordance

278 Information provided by Council to IPART, 7 February 2019.
279 Or its forecast equivalent

with our policy on significant post line-in-the-sand sales, we deducted the purchase value of this land ($0.4 million) from stormwater RAB. The purchase value is taken as a proxy for regulatory value as land does not depreciate.

Significant historical asset write-offs

The former Wyong LGA had asset write-offs in FY2017 and FY2018 of $4.6 million and $1.2 million respectively.[280] This is considered a significant write-off under our policy,[281] which means it is assessed on a case-by-case basis.

Further information from the Council revealed that (a) these assets were 'pre-line-in-the sand' assets, having been brought into service in 1975, 1978, 1986 and 1999 respectively, and (b) these assets were written-off because they were replaced or partially replaced.[282]

IPART considers that an estimated regulatory asset value should be deducted from Wyong's RAB to ensure that customers do not pay any further return on and of capital for these assets, which are no longer in service and have been replaced by other assets that customers also fund via prices.

However, these are 'pre-line-the-sand' assets, which means that regulatory values for individual assets are unable to be determined as the initial RAB value was established for Wyong LGA as a whole. In such cases our policy is to estimate regulatory values of individual assets by applying the RAB to DRC ratio to the write-offs value, which in this case is $5.8 million.[283] This results in a total value of $2.5 million[284] that we deducted from Wyong's RAB ($2 million in FY2017 and $0.5 million in FY2018).

Significant asset removal

Prior to the merger, the accounting for plant and fleet assets differed between the former Gosford and Wyong LGAs. Wyong charged the various services (water, wastewater and stormwater) the costs of plant and fleet assets, including depreciation, as operating expenditure, whereas Gosford accounted for them as capital expenditure.

In 2018, the Council aligned plant and fleet accounting policy across the merged councils by adopting Wyong's approach, ie, these costs are treated as operating expenditure. As a result, plant and fleet values (about $3.3 million)[285] were removed from Gosford total accounting asset values.

The initial values of these assets was $3.8 million - $1.8 million in water and $2 million in wastewater – and was reported by the Council as having been in service since 2013.[286] Since

280 Central Coast Council, *Annual Information Return*, 20 December 2018; Information provided by Council to IPART, 7 February 2019.
281 These write-offs account for about 1.9% (FY2017) and 0.6% (FY2018) of the opening RAB values of the relevant asset classes.
282 Information provided by Council to IPART, 7 February 2019.
283 Information provided by Council to IPART, 1 and 7 February 2019.
284 This applying a ratio of 0.43 as per IPART's asset disposal policy – for water businesses, February 2018.
285 Information provided by Council to IPART, 7 February 2019.
286 Information provided by Council to IPART, 7 February 2019.

these assets have been removed from the asset base of water and wastewater services and their remaining capital values are recouped as operating expenditure going forward, we consider that the approximate regulatory values of these assets should be removed from the RAB to ensure that the remaining regulatory capital values (ie, depreciation) are not recovered twice by the Council.

We have estimated the regulatory values as at June 2018 by applying (a) the regulatory asset lives determined under the 2013 price determination to remove the depreciation thus far recouped by the Council, and (b) indexation to account for inflation. The total value we deducted from the RAB is $4.0 million.[287]

D.4 Regulatory depreciation

An allowance for regulatory depreciation is included in the revenue requirement (and used in calculating the value of the RAB, as discussed above). This is intended to ensure that the capital invested in the regulatory assets is returned over the useful life of each asset.

To calculate this allowance, we applied our draft decision on asset lives, and decided to use a straight-line depreciation approach.

The Council has used the straight-line approach to depreciation in its calculation of proposed revenue requirement. This is the same approach we used in previous reviews and for this Determination, we have decided to continue with it as we consider it is preferable to other methods in terms of simplicity, consistency and transparency.

Our allowance for the return of capital (regulatory depreciation) is lower than the Council's proposed allowance (Table D.15). This reduction reflects mainly the reduction to opening RAB at 1 July 2019 and reduction in forecast efficient capex but offset by lower regulatory lives.

Table D.15 IPART's and the Council's proposed return of assets ($'000, $2018-19)

	2019-20	2020-21	2021-22	Total
Council proposed	16,965	17,563	18,244	52,773
IPART draft decision	16,651	17,193	17,788	51,633
Difference	-314	-370	-456	-1,139

Note: Columns may not sum due to rounding.

Source: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 146.

287 This is greater than the initial capitalised value because indexation is greater than depreciation (which was 1% per year); IPART's analysis based on information provided by Council, 7 February 2019.

D.5 Return on capital

We include an allowance for a return on assets in the notional revenue requirement. This represents our assessment of the opportunity cost of the capital invested to provide the Council's regulated services. Our approach ensures that the business can continue to make efficient capital investments in the future.

To calculate this allowance, we multiply the value of the RAB in each year of the determination period by an appropriate rate of return. As for previous reviews, we have determined the rate of return using an estimate of the WACC.

We applied our 2018 WACC method, which was developed in consultation with stakeholders.[288] This results in a real post-tax WACC of 4.2%.

The WACC is based on market data (risk free rate, debt margin and inflation) sampled to 31 January 2019. The market-based parameters and the resulting WACC will be updated before we make our final decision. Our draft decisions on parameters are shown in Table D.16.

Table D.16 shows that we have adopted an equity beta of 0.7, which is our current water industry beta. In Appendix E, we discuss a revised approach we are developing to estimate the equity beta, which reflects the improvements that we decided to make in our 2018 WACC review.

Table D.16 IPART's draft WACC (sampled to 31 January 2019)

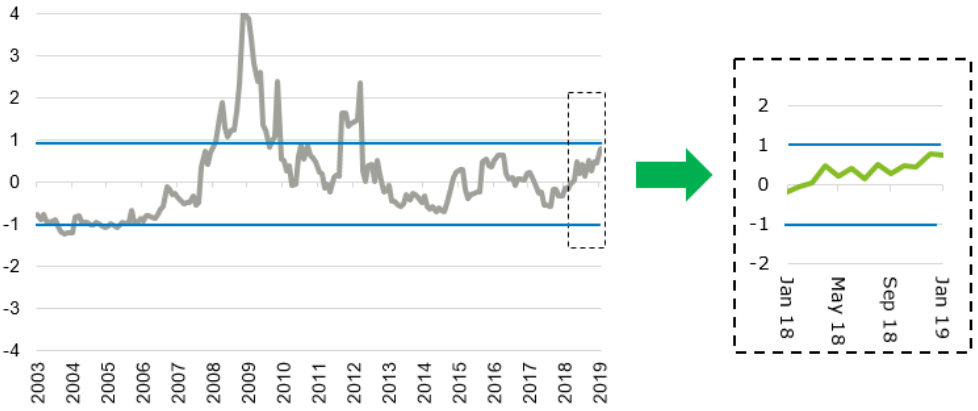
	Current market data	Long term averages	WACC range		
			Low	Mid	High
Nominal risk free rate	2.4%	3.6%			
Inflation	2.3%	2.3%			
Implied Debt margin	2.5%	2.7%			
Market risk premium	8.6%	6.0%			
Debt funding	60%	60%			
Equity funding	40%	40%			
Gamma	0.25	0.25			
Corporate tax rate	30%	30%			
Equity beta	0.70	0.70			
Cost of equity (nominal post-tax)	8.4%	7.8%			
Cost of equity (real-post tax)	5.9%	5.4%			
Cost of debt (nominal pre-tax)	4.8%	6.3%			
Cost of debt (real pre-tax)	2.5%	3.9%			
Nominal Vanilla post-tax WACC	6.2%	6.9%	6.2%	6.6%	6.9%
Post-tax real WACC	3.9%	4.5%	3.9%	**4.2%**	4.5%

Source: Bloomberg, RBA and IPART's calculations.

288 We completed a review of our WACC methodology in 2018 (IPART, *Review of our WACC method – Final Report*, February 2018).

As our measure of market uncertainty is currently within one standard deviation of the long term average (Figure D.1), we have selected the midpoint WACC value. This is consistent with our decision rule for selecting a point within our range of WACC values.[289] We have also retained our standard valuation for the industry-specific parameters, including the equity beta.

Figure D.1 IPART's financial market uncertainty index



Sources: Thomson Reuters, Bloomberg and IPART analysis.

The Council adopted IPART's WACC calculation as at February 2018 and consequently proposed a WACC of 4.3% for the 2019 Determination period.[290]

D.6 Return on assets

We multiply the RAB by the WACC to establish the return on assets. Our draft decisions have resulted in a lower return on assets compared with Council's proposal (Table D.17). This is because of our draft decisions that have resulted in lower WACC and lower RAB values for the 2019 Determination period.

Table D.17 IPART's and the Council's proposed return on assets ($'000, $2018-19)

	2019-20	2020-21	2021-22	Total
Council proposed	56,168	58,010	60,185	174,362
IPART draft decision	53,448	54,531	55,752	163,731
Difference	-2,720	-3,479	-4,433	-10,631

Note: Columns may not sum due to rounding.

Sources: Central Coast Council, *Submission to IPART Review of Prices for Water, Sewerage and Stormwater Drainage Services*, September 2018, p 146; and IPART analysis.

289 IPART, *Review of our WACC method – Final Report,* February 2018, p 67.

290 Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 140.

D.7 Allowance for tax and working capital

As discussed in Chapter 3, we include an explicit allowance for tax, because we use a post-tax WACC to estimate the allowance for a return on assets in the revenue requirement. This allowance reflects an efficient benchmark business' forecast tax liabilities. Our building block methodology also includes a working capital allowance.

The tax allowance

We calculate the tax allowance for each year by applying the relevant tax rate, adjusted for the value of imputation credits (the 'gamma'), to the business's (nominal) taxable income. For this purpose, taxable income is the notional revenue requirement (excluding tax allowance) less operating cost allowances, tax depreciation, and interest expenses. As part of calculating the appropriate tax allowance, the business is required to provide forecast tax depreciation for the determination period. Other items such as interest expenses are based on the parameters used for the WACC, and the value of the RAB.[291]

The tax allowance is one of the last building block items we calculate, due to its dependence on other items such as operating cost allowances and WACC parameters.

To establish the tax allowance, we:

- Adopted a 30% tax rate, because the NRR for the Council is above the small business tax threshold of $50 million per annum.
- Established a tax asset base (or TAB), because the Council's tax depreciation forecasts were not consistent with other water utilities we regulate.
- Accepted the Council's forecast non-cash contributions.

Adopting a corporate statutory tax rate of 30%

In March 2017, the Australian Government enacted legislation that introduced different rates of corporate income tax for businesses of different sizes. Under the legislation, from 1 July 2018, businesses with an aggregated turnover of less than $50 million (base rate entities) pay 27.5% tax, while those with a higher turnover pay 30% tax on all their taxable income. From 2020-21, base rate entities will pay 26.0% tax, and this rate will reduce to 25.0% in the following year (2021-22).[292]

For our draft decision we used a tax rate of 30%. This is because our calculations show the Council's total NRR (in nominal terms) is forecast to be higher than the $50 million threshold in all years (see Chapter 3). Thus, the reduced corporate income tax rates for small businesses are not applicable.

Forecast tax depreciation

Tax depreciation is an input into the calculation of the tax building block. We understand that the Council is not a tax paying entity and hence does not maintain tax accounting records,

291 The nominal cost of debt is the sum of the nominal risk free rate and nominal debt margin.
292 The thresholds are not indexed for inflation. https://www.ato.gov.au/rates/changes-to-company-tax-rates/

particularly information on the tax value of its regulated assets. With that said, our tax allowance aims to replicate the tax payable by an efficient benchmark business, to promote efficient price signals. To estimate the tax depreciation of its regulatory asset base, the Council has essentially used its accounting records, adjusted for known differences between financial accounting and tax accounting.

However, we consider that the resulting forecast tax depreciation is not appropriate for use in calculating the tax allowance for the Council. This is because the Council's calculated tax depreciation, as a multiple of its regulatory depreciation, is much higher than the multiplies for Sydney Water and Hunter Water (see Table D.18)

Table D.18 Tax depreciation as multiple of regulatory depreciation

	Council	Sydney Water	Hunter Water
Multiple	3.22	1.38	1.38

Source: IPART analysis

Given the unusually high multiple of the Council's tax depreciation to regulatory depreciation, and the fact that there are differences in accounting and regulatory asset values, asset lives and differences in timing for depreciation, we have instead established a tax value for the Council's regulatory asset base to derive forecast tax depreciation. This is referred to as a tax asset base, or TAB.

To establish TAB values at 1 July 2019 for the Council we:

- Used the regulatory asset values of the former Gosford and Wyong LGAs as a starting point, and adjusted these values for past capital contributions (both cash and non-cash). This gives the estimated opening TAB at 1 July 2012.
- Rolled-forward the opening TAB at 1 July 2012 for historical and forecast efficient capital expenditure, cash and non-cash capital contributions, and deducted tax depreciation.
- Adopted, for tax lives, the same lives used in calculating regulatory depreciation.

Tables D.19 and D.20 show the TAB and remaining asset lives at 1 July 2019, respectively, that we have established.

Table D.19 IPART's opening TAB at 1 July 2019 ($'000, nominal)

	Former Gosford	Former Wyong	Combined Council
Water	N/A	N/A	731,219
Sewerage	450,826	290,040	N/A
Stormwater	N/A	N/A	203,703

Note: Columns may not sum due to rounding.

Source: IPART analysis.

Table D.20 IPART's remaining TAB lives at 1 July 2019 (Years)

	Former Gosford	Former Wyong	Combined Council
Water	N/A	N/A	77.15
Sewerage	76.73	71.30	N/A
Stormwater	N/A	N/A	81.00

Note: Columns may not sum due to rounding.

Source: IPART analysis.

The roll forward of the TAB is analogous to that of the RAB, except that cash and non-cash capital contributions are included to ensure an allowance for the tax liabilities on these contributions are given. Our draft decision on cash capital contributions is outlined above.

Accepting the Council's forecast non-cash capital contributions

Non-cash capital contributions (also known as Assets Free of Charge, or 'AFOC') are assets that utilities receive for free. Non-cash capital contributions do not affect the RAB, and utilities do not earn a return on or of those assets. Utilities, however, are required to pay tax equivalents on the value of non-cash capital contributions. As such, we need to include forecast AFOC as revenue in the calculation of the regulatory tax allowance building block.

We have accepted the Council's forecast non-cash capital contributions as set out in Table D.21 below.

Table D.21 IPART's forecast non-cash capital contribution ($'000, $2018-19)

	2019-20	2020-21	2021-22	Total
Former Gosford	3,942	3,942	3,942	11,826
Former Wyong	5,108	5,108	5,108	15,324
Total Council	9,050	9,050	9,050	27,150

Note: Columns may not sum due to rounding.

Source: Central Coast Council, *Annual Information Return,* 20 December 2018; IPART analysis.

This results in the Council receiving a total of $12.1 million ($2018-19) tax allowance (Table D.22) whereas the Council's modelling had zero allowance, because of the unusually high tax depreciation forecast that it proposed.

Table D.22 IPART's and the Council's proposed tax allowance ($'000, $2018-19)

	2019-20	2020-21	2021-22	Total
Council proposed	0	0	0	0
IPART draft decision	4,079	4,029	4,005	12,113
Difference	+4,079	+4,029	+4,005	+12,113

Note: Columns may not sum due to rounding.

Source: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 146; and IPART analysis.

The working capital allowance

IPART finalised its updated working capital policy in September 2018. Consequently, we have implemented the final policy in this draft decision, using updated data provided by the Council during our review of its September 2018 pricing proposal. Table D.23 shows our draft decision on working capital allowance for the 2019 Determination period.

Table D.23 IPART's and the Council's proposed working capital allowance ($'000, $2018-19)

	2019-20	2020-21	2021-22	Total
Council proposed	380	282	338	1,000
IPART draft decision	656	564	639	1,859
Difference	+276	+282	+301	+859

Note: Columns may not sum due to rounding.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018, p 146; and IPART analysis.

E Our proposed process for estimating the equity beta

In this Appendix we outline a new process for estimating the equity beta that we are developing. This new process implements the decisions we made in our 2018 WACC review to improve the way we estimate the equity beta.[293] We have also released a fact sheet on our website seeking feedback on the new process.[294]

To illustrate how this method would work, we have estimated a water industry beta using our new method. However, we have not applied this estimate in this review, as we are still developing this process and we have not yet consulted with stakeholders on the new method. Instead, we have applied our existing water industry beta in this review. We note that the water industry beta using our new method (0.74), is similar to our existing water industry beta (0.7).

We would have regard to the equity beta estimated with this method along with other evidence on beta in our future WACC decisions.

E.1 Summary of the process

We have developed a framework for selecting proxy companies in a given industry and estimating the equity beta for these firms. The purpose of this framework is to generate a beta estimate that applies objective and defensible decision rules to market data. These procedures are described below and are divided into three main sections:

- Pre-estimation screening rules
- Data quality and liquidity filters, and
- Post-estimation screening rules.

The basic process is outlined below in Figure E.1 which shows the decision rules and sample selection process.

293 IPART, Review of our WACC method, Final Report – Research, February 2018.
294 IPART, Estimating Equity Beta, Fact Sheet, March 2019.

Figure E.1 Sample company selection process

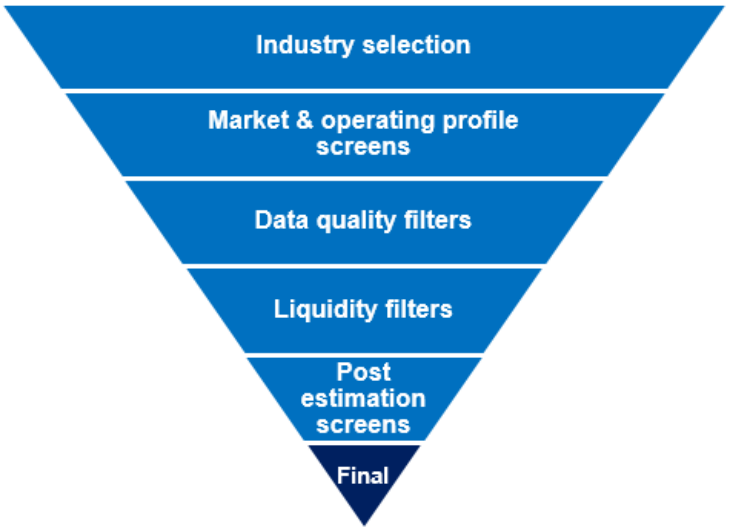


Table E.1 Sample selection rule summary

Criteria
Pre-estimation screening rules
Industry
What industry, or industries, should be used to identify proxy firms?
Firm Characteristics
Does the firm operate in the nominated industry, or industries?
Does the firm undertake their activities in capital markets that are sufficiently similar to Australia?
Does the firm have a similar operating profile to the benchmark efficient firm?
Market
Is the sovereign's government bond market sufficiently deep and liquid?
Is the sovereign's equity market sufficiently deep and liquid?
Is the firm's international headquarters consistent with their actual operating market?
Operating Profile
Is firm revenue predominately in the nominated industry?
Liquidity filters & data quality
Remove a monthly observation for a given stock if there is less than 10 days of trading data available.
Remove a monthly observation for a given stock if the calculated Amihud measure exceeds the threshold of 25.
Remove firm if it has less than 36 months of trading data available.
Post-estimation screening rules
Is the sample size sufficiently large?
Are the estimates consistent (no extreme outliers)?
Are there obvious biases in the results?

E.2 Pre-estimation screening rules (firm characteristics)

We have proposed three characteristic screens for the selection of proxy companies, where sample firms must:

1. Operate in a nominated industry (review-specific and possibly including industries nominated by stakeholders).
2. Undertake their activities in capital markets that are sufficiently similar to Australia.
3. Exhibit a similar operating profile to the benchmark efficient firm.

E.2.1 Industry

The industry of the benchmark efficient firm is a broad proxy for the risk profile of that firm, ie, that all firms within a common industry group face the same or similar business risks.

The Thompson Reuters Business Classification (TRBC) is one of many industry classification schemes. It divides publicly traded equities into 54 industries and 136 sub-industries. Table E.2 below shows the number of active water-related firms in each of the TRBC classification levels.

Table E.2 Active firms under different levels of TRBC classification

Classification level	Name	Number of active firms
Industry	Gas, Water & Multiutilities	624
Sub-industry	Water	228

Source: Thompson Reuters Datastream

To estimate a water industry beta, we have used firms in the "Water" sub-industry definition. This could potentially exclude companies which operate under similar conditions. By considering other related industries – for example electricity network operators when estimating WACC for water utilities – we may broaden the scope of potential comparators (with some additional risk of bias).

E.2.2 Market

Given the benchmark efficient firm is Australian, we seek to include markets that approximate Australia's sovereign characteristics. Therefore, we consider there are three main questions which determine the comparability of international firms:

1. Is the sovereign's government bond market sufficiently deep and liquid?
2. Is the sovereign's equity market sufficiently deep and liquid?
3. Is the firm's international headquarters consistent with their actual operating market?

The current sample excludes companies that trade on the Chinese, Russian and a selection of African stock exchanges on the basis they exhibit sufficiently different sovereign characteristics and may bias the result.

This decision rule reduces the sample size from 228 to 198 companies.

E.2.3 Operating profile

In terms of business structure, we consider whether the firm's revenue is predominately in the nominated industry.

For this preliminary analysis, the 'water' sub-industry is our nominated industry, and have therefore assumed the majority of the firms' revenue comes from activities related to water supply and treatment.

No adjustments have been made to the sample on the basis of differences in operating profile.

E.2.4 Data quality

Further screens are made to the sample if insufficient data is returned from Datastream. We exclude firms that:

- Do not return an International Securities Identification Number (ISIN), because relevant data for the firm cannot actually be extracted.
- Do not return a market index code, as we would not be able to identify the market in which the firm operates.
- Are no longer trading. This is discussed further below.
- Return a connection error.

This reduces the sample size from 198 to 128 firms.

E.3 Beta estimation liquidity filters

In the 2018 WACC review we decided to exclude thinly-traded stocks when estimating equity betas. These stocks could produce distorted estimates due to stale price data. We applied three liquidity filters in the beta estimation process, as outlined below.

E.3.1 Remove months with less than 10 days of trading data for a given stock

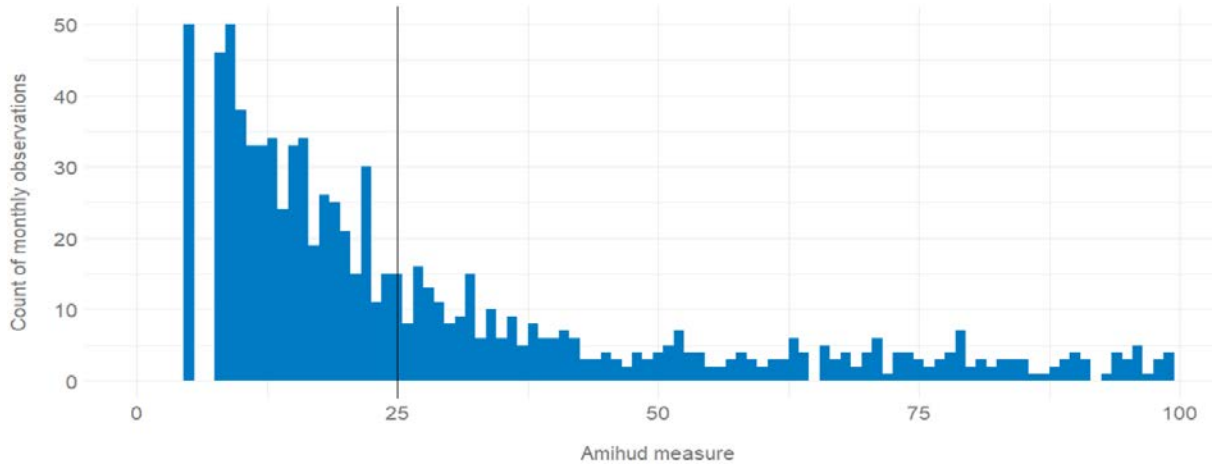
We first removed a monthly observation for a given stock if there was less than 10 days of trading data available. A large portion of the monthly observations fail to meet the first liquidity hurdle. Only around 70% of the monthly observations for all companies have more than 10 days of trading data.

Applying this decision rule reduces the sample size from 128 to 83 firms.

E.3.2 Exclude firm-months which exceed Amihud threshold

The Amihud measure approximates the price impact of illiquidity.[295] Using the Amihud measure as a screening tool, we removed a monthly observation for a given stock if the calculated Amihud measure exceeds the threshold of 25. The threshold value we selected for the Amihud measure was benchmarked against historical equity returns data for the Australian stock market. Figure E.1 below shows the number of monthly observations excluded after the Amihud filter is applied.

Figure E.1 Distribution of monthly observations by Amihud measure



Data source: Datastream, IPART

Applying this decision rule reduces the sample size from 83 to 72.

E.3.3 Exclude firms with less than 36 months of available data

After applying the above filters, if a given firm has less than 36 months of trading data available, we exclude this company from the sample. In our view a time series of less than three years is too short to calculate a reliable medium-run beta estimate. In many instances, a short time series will represent a newly established firm, which is likely inconsistent with our consideration of a mature benchmark efficient firm. Furthermore, short time series are more prone to measurement error, reducing the reliability of results.

This decision rule reduces the sample from 72 to a final proxy list of 45 firms.

E.4 Post-estimation screening rules

The post-estimation screens focus on the equity beta outputs for the sample of individual firms, to ensure estimates are robust and appear unbiased. We recommend accepting the proxy sample as final where:

1. The sample size is sufficiently large.
2. Estimates appear to be consistent, with clear outliers excluded from the sample.

295 IPART, Review of our WACC method, Final Report – Research, February 2018, p 62.

3. There is no obvious bias in the results. This includes assessing the results against other estimates of beta (eg, from Datastream, Bloomberg, historical estimates by IPART and other comparable regulators, or academic estimates).

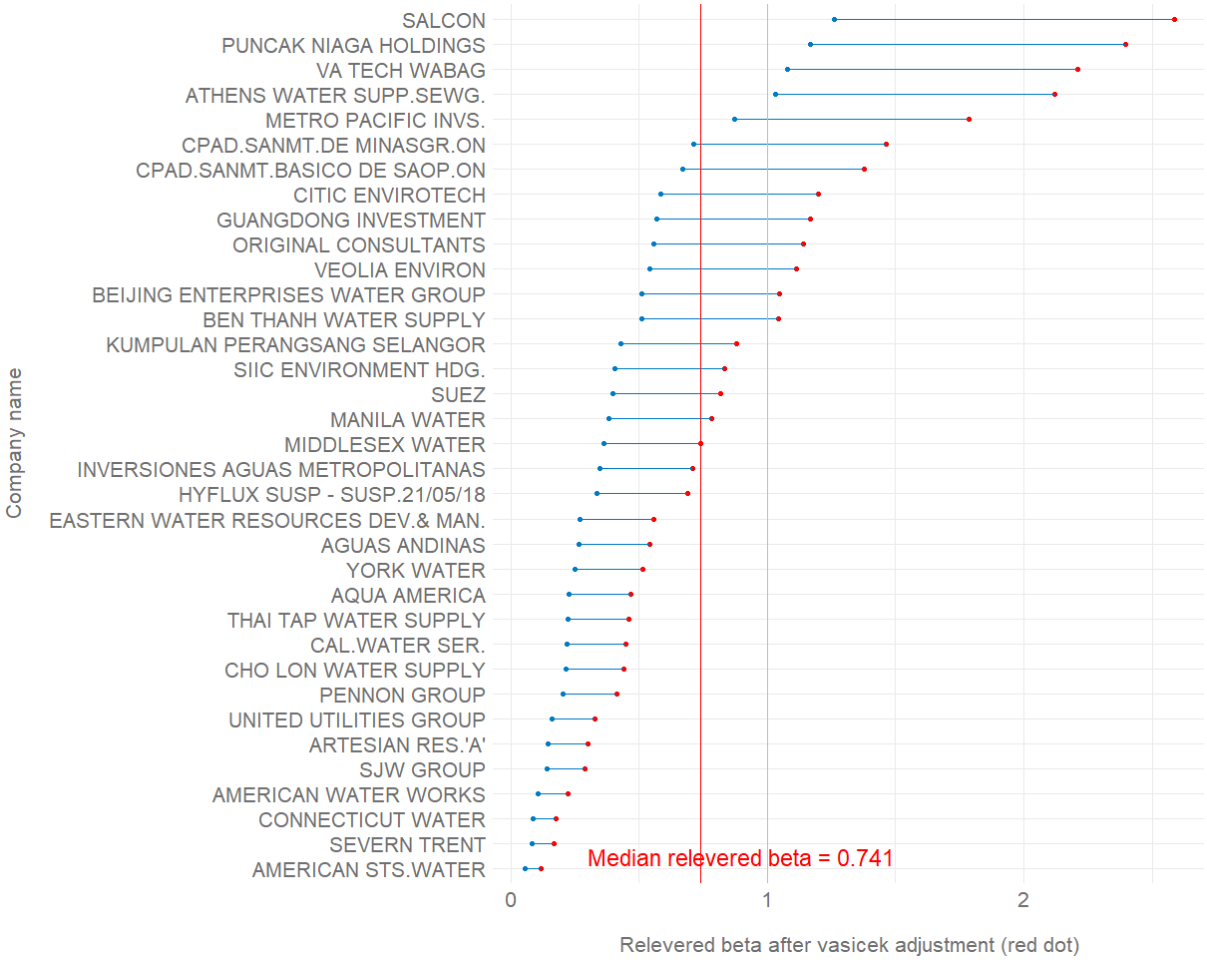
No changes have been made to the current estimate based on these screening rules.

E.5 Current estimate

Figure E.2 below shows a median equity beta estimate of about 0.7 for the final sample of proxy firms. The blue dots show the unlevered asset beta estimate after we have applied the Vasicek adjustment.[296] The red dots are the final relevered equity beta estimate using a 60% gearing rate.

Datastream did not return gearing information for some companies and these firms have been removed from the final sample, reducing it to 35. In the future, capital structure data can be accessed via other sources so these firms can be retained in the sample.

Figure E.2 Relevered beta estimate from sample of 35 water-utilities at 60% gearing



Data source: Datastream, IPART

296 IPART, Review of our WACC method, Final Report – Research, February 2018, p 64.

E.6 Areas for development

We have automated the process for estimating the equity beta using an R script, which obtains financial market data directly through a Datastream API.[297] The advantage of this approach is that it increases the replicability of our process. The exact same process would be followed in reviews across time, with only the specific proxy companies that are included and the timeframe for the analysis changing.

However, in the short-term, we have identified a few shortcomings that we still need to resolve, to improve the robustness of the equity beta estimate.

E.6.1 Incorporate 'dead' firms using supplementary data sources

Limitations of the Datastream API mean our sample is limited to active firms only. This creates survivorship bias, because companies that have stopped trading still have valid historical return data which can be used in the estimation process. Going forward, we intend to incorporate Bloomberg data (in addition to Datastream API data) to include information for firms that have stopped trading.

E.6.2 Use different industry classification schemes to increase sample size of proxy firms

Firms identified through alternative industry classification schemes, such as Global Industry Classification Standard (GICS) and Bloomberg Industry Classification Systems (BICS) may be useful in increasing the sample size.

E.6.3 Develop more formal post-screening tests

Going forward, we will consider developing formal robustness checks, eg, tests for statistical significance, autocorrelation and heteroskedasticity. In the fact sheet we have released, we seek feedback from stakeholders on the appropriate robustness checks we could include, provided they are meaningful, simple to interpret and calculate.

297 R is a programming language and free software environment for statistical computing and graphics supported by the R Foundation for Statistical Computing.

F Building block allowances by service

In Appendix D, we disaggregate our draft decisions on operating expenditure, capital expenditure, and the NRR by water service, sewerage service and stormwater services. For water service and stormwater service, we have made a draft decision to harmonise prices for all Central Coast customers. For sewerage service, we have made a draft decision to set prices separately for Gosford and Wyong customers. Hence, sewerage service operating expenditure, capital expenditure, and the NRR, are also presented separately for the Gosford and Wyong areas.

Section F.1 and Section F.2 present operating allowance and capital expenditure allowance by service. This is followed by a brief comparison of historical actual operating and capital expenditure versus our draft allowances. Section F.3 presents the derivation of Council's NRRs by service, followed by a brief comparison to the Council's proposed NRR by service.

F.1 Operating expenditure by service

We have made a draft decision to set the Council's total operating expenditure (excluding bulk water purchase costs) in the 2019 determination period at $270.7 million ($2018-19), which includes a corporate overhead allocation of $60.7 million. To derive our NRRs and prices by service, we have allocated the Council's corporate overheads to each service based on Atkins Cardno's recommended allocation of corporate overheads.[298]

Table F.1 Operating expenditure allowance ($'000, $2018-19)

Services	2020	2021	2022	Total
Water	42,074	41,285	41,402	124,760
Sewerage	40,873	40,265	40,070	121,209
Gosford	17,317	17,030	16,925	51,272
Wyong	23,557	23,235	23,145	69,937
Stormwater	8,329	8,189	8,165	24,683
Total	**91,276**	**89,738**	**89,637**	**270,651**

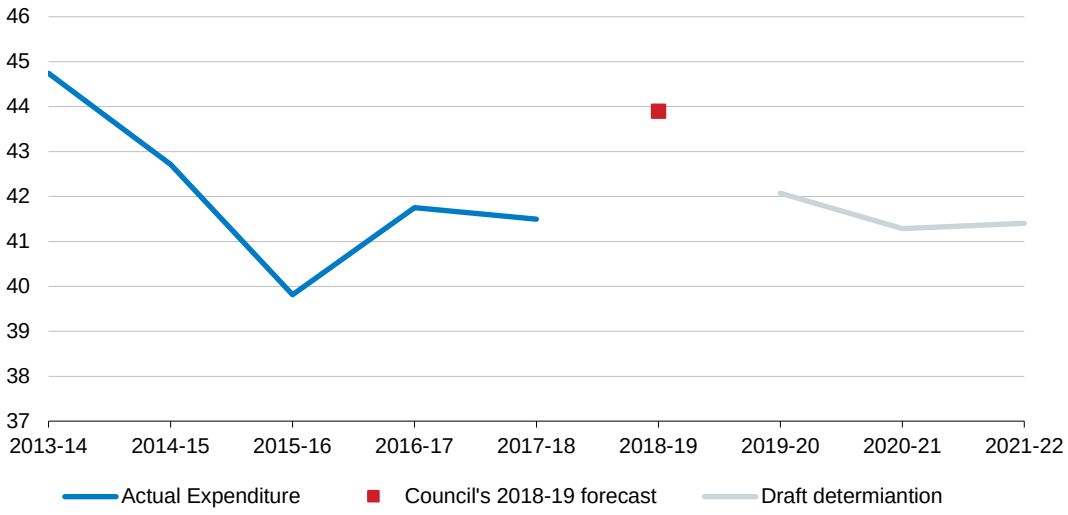
Note: Numbers may not add due to rounding.

F.1.1 Water Service

Over the 6-year 2013 determination period, the Council has spent $254.4 million on water service operating expenditure (including allocated corporate overheads); or an average of $42.4 million per year. For the 2019 determination period (3-year period), the total operating allowance we set for the Council's water service (including allocated corporate overheads) is $124.8 million, or $41.6 million per year, on average. This is shown in Figure F.1.

298 Atkins Cardno, *Expenditure Template accompanying Central Coast Council Expenditure Review*, March 2019, Opex Tab.

Figure F.1 Council's water service operating expenditure ($million, $2018-19)



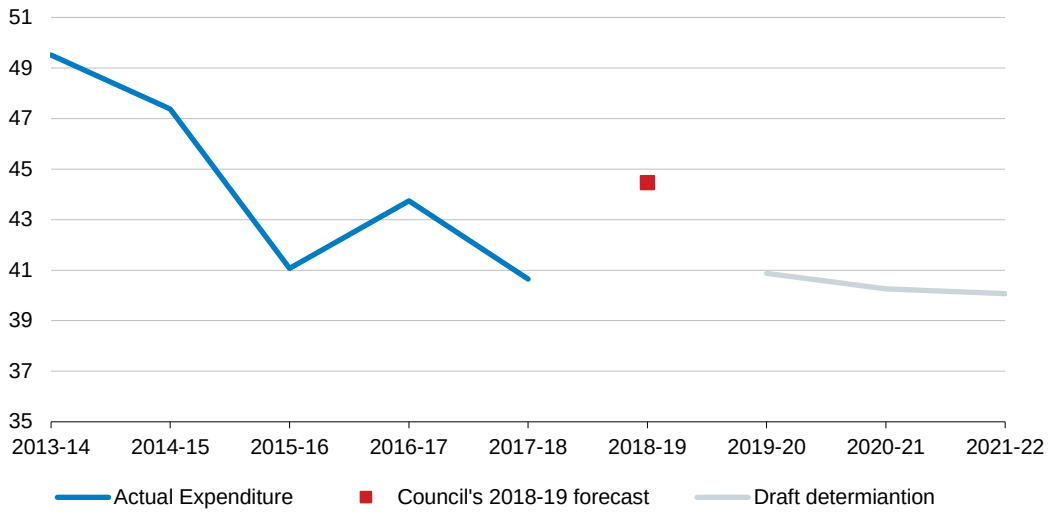
Note: 2018-19 is forecast.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

F.1.2 Sewerage Service

Over the 6-year 2013 determination period, the Council has spent $266.8 million on sewerage service operating expenditure (including allocated corporate overheads); or an average of $44.5 million per year. For the 2019 determination period (3-year period), the total operating allowance we set for the Council's sewerage service (including allocated corporate overheads) is $121.2 million, or $40.4 million per year, on average. This is shown in Figure F.2, with Figure F.3 and Figure C.2 providing a breakdown of this expenditure for Gosford and Wyong separately.

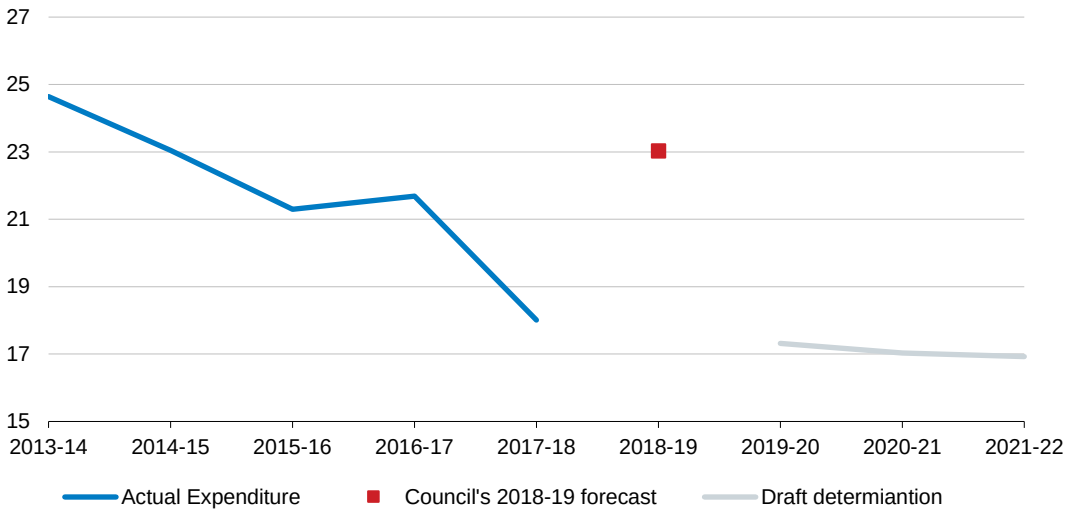
Figure F.2 Council's sewerage service operating expenditure ($million, $2018-19)



Note: 2018-19 is forecast.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

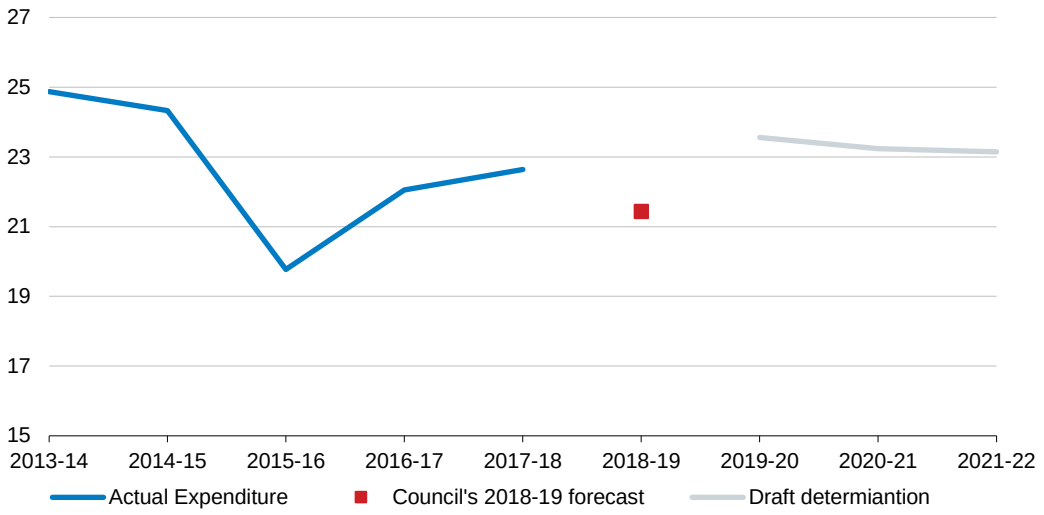
Figure F.3 Council's sewerage service operating expenditure in Gosford ($million, $2018-19)



Note: 2018-19 is forecast.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

Figure F.4 Council's sewerage service operating expenditure in Wyong ($million, $2018-19)



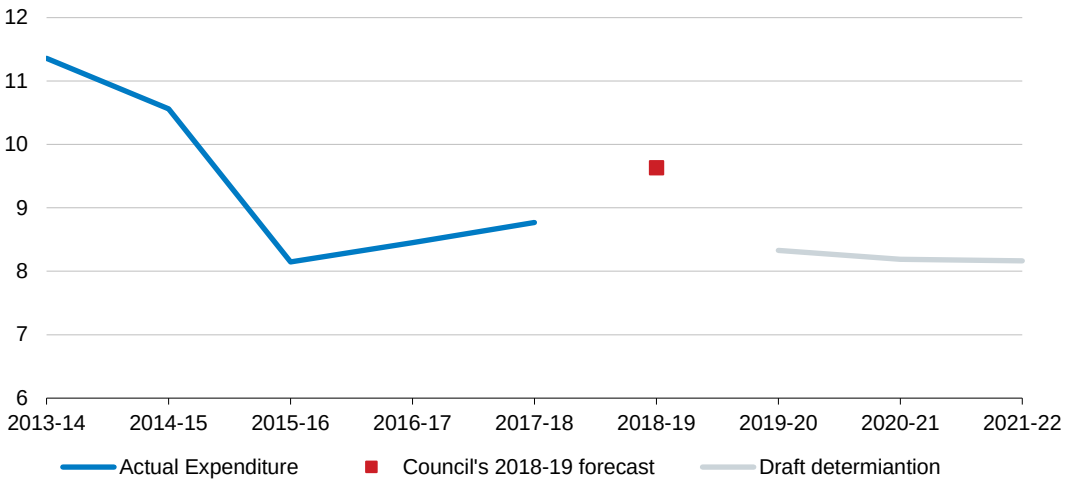
Note: 2018-19 is forecast.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

F.1.3 Stormwater Service

Over the 6-year 2013 determination period, the Council has spent $56.9 million on stormwater service operating expenditure (including allocated corporate overheads); or $9.5 million per year, on average. For the 2019 determination period (3-year period), the total operating allowance we set for the Council's stormwater business (including allocated corporate overheads) is $24.7 million, or $8.2 million per year, on average. This is shown in Figure F.5.

Figure F.5 Council's stormwater service operating expenditure ($million, $2018-19)



Note: 2018-19 is forecast.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

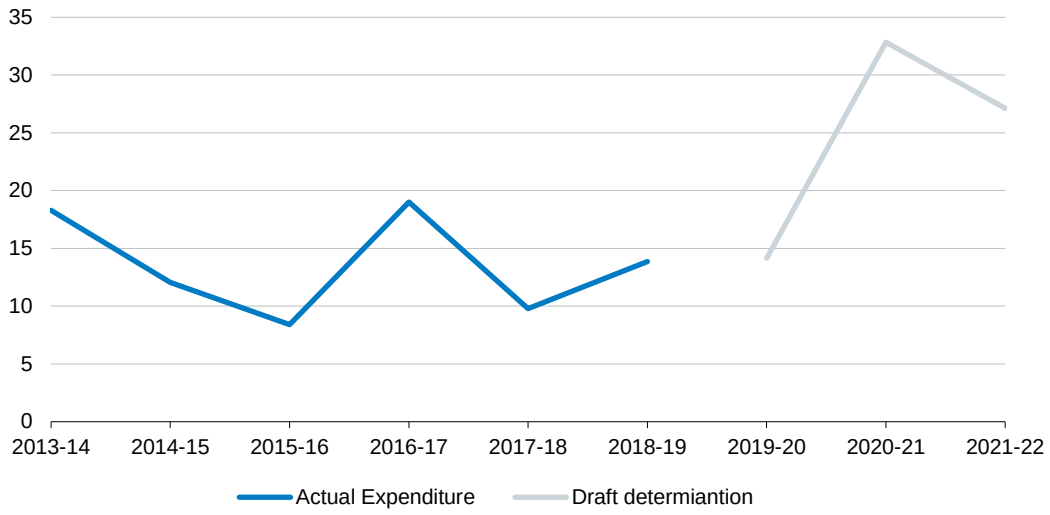
F.2 Capital expenditure by service

We have made a draft decision to set the Council's total capital expenditure allowance in the 2019 determination at $178.1 million ($2018-19). We have allocated $74.1 million to water service, $76.0 million to sewerage service, and $28.0 million allocated to stormwater service.

F.2.1 Water Service

Figure F.6 presents the Council's capital expenditure on water service over the 2013 determination period, and our draft allowance over the 2019 period.

Figure F.6 Council's water service capital expenditure ($million, $2018-19)



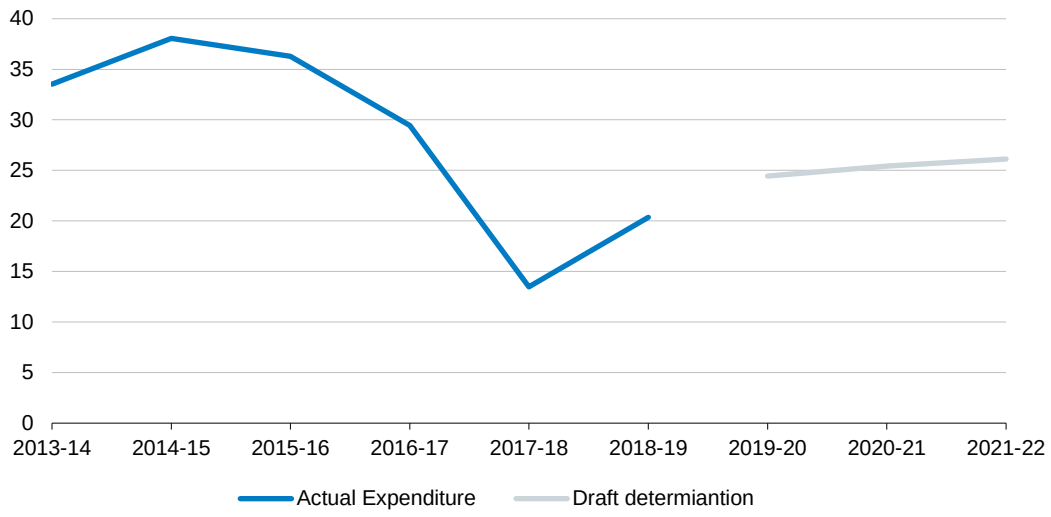
Note: 2018-19 forecast is rolled into the RAB.

Source: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

F.2.2 Sewerage Service

Figure F.7 presents the Council's capital expenditure on sewerage service over the 2013 determination period, and our draft allowance over the 2019 determination period. Figure F.8 and Figure F.9 provide a breakdown for the Gosford and Wyong areas.

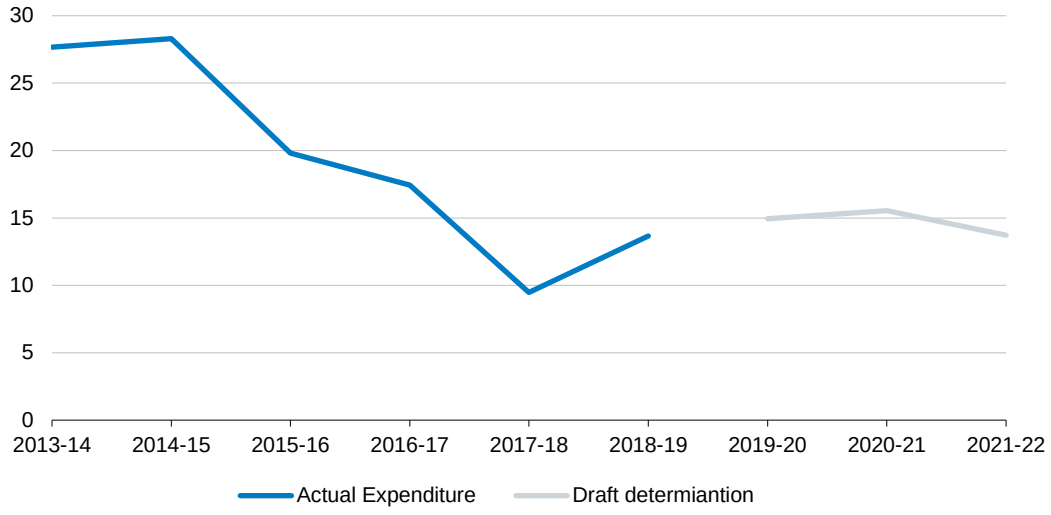
Figure F.7 Council's sewerage capital expenditure ($million, $2018-19)



Note: 2018-19 forecast is rolled into the RAB.

Data source: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

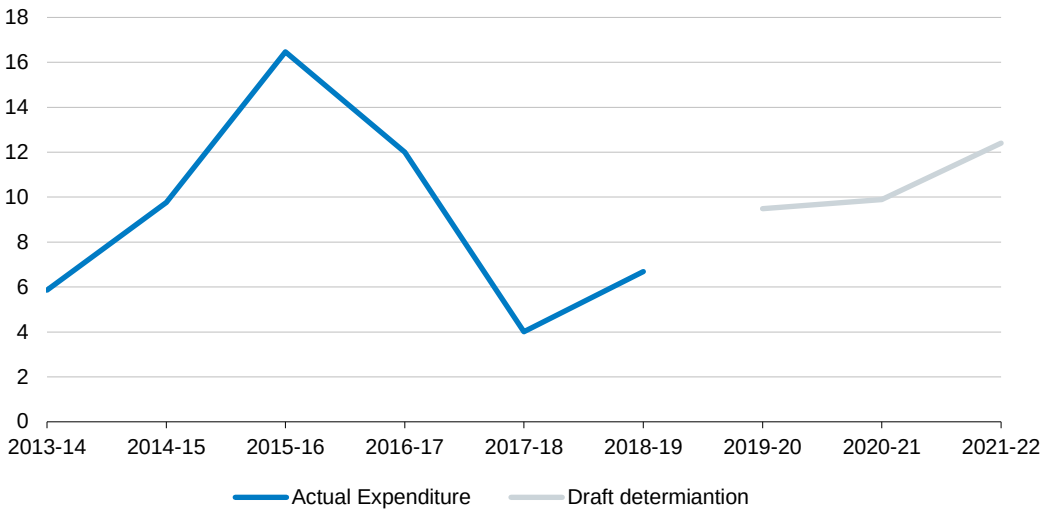
Figure F.8 Council's sewerage capital expenditure in Gosford ($million, $2018-19)



Note: 2018-19 forecast is rolled into the RAB.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

Figure F.9 Council's sewerage capital expenditure in Wyong ($million, $2018-19)



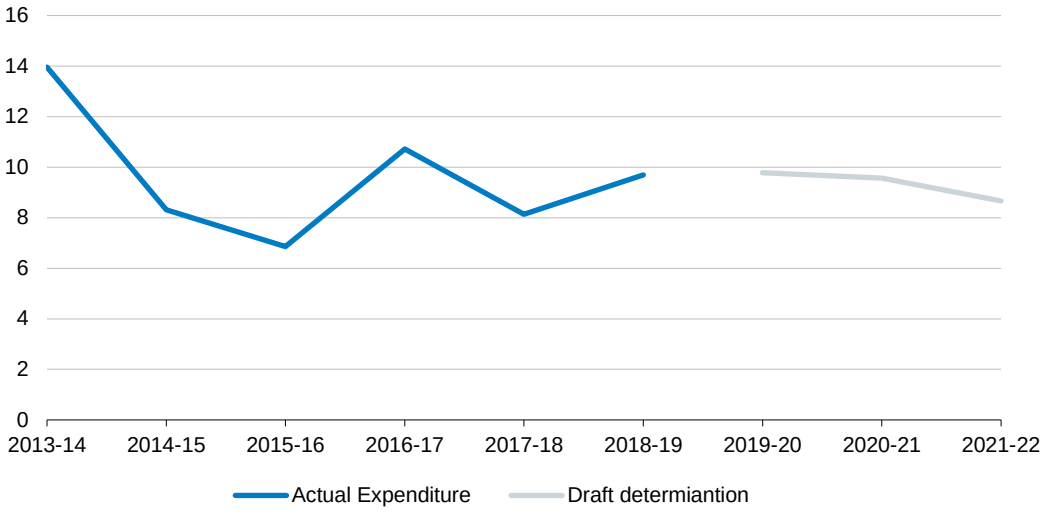
Note: 2018-19 forecast is rolled into the RAB.

Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

F.2.3 Stormwater Service

Figure F.10 presents the Council's capital expenditure on stormwater service over the 2013 determination period, and our draft allowance over the 2019 period.

Figure F.10 Council's stormwater service capital expenditure ($million, $2018-19)



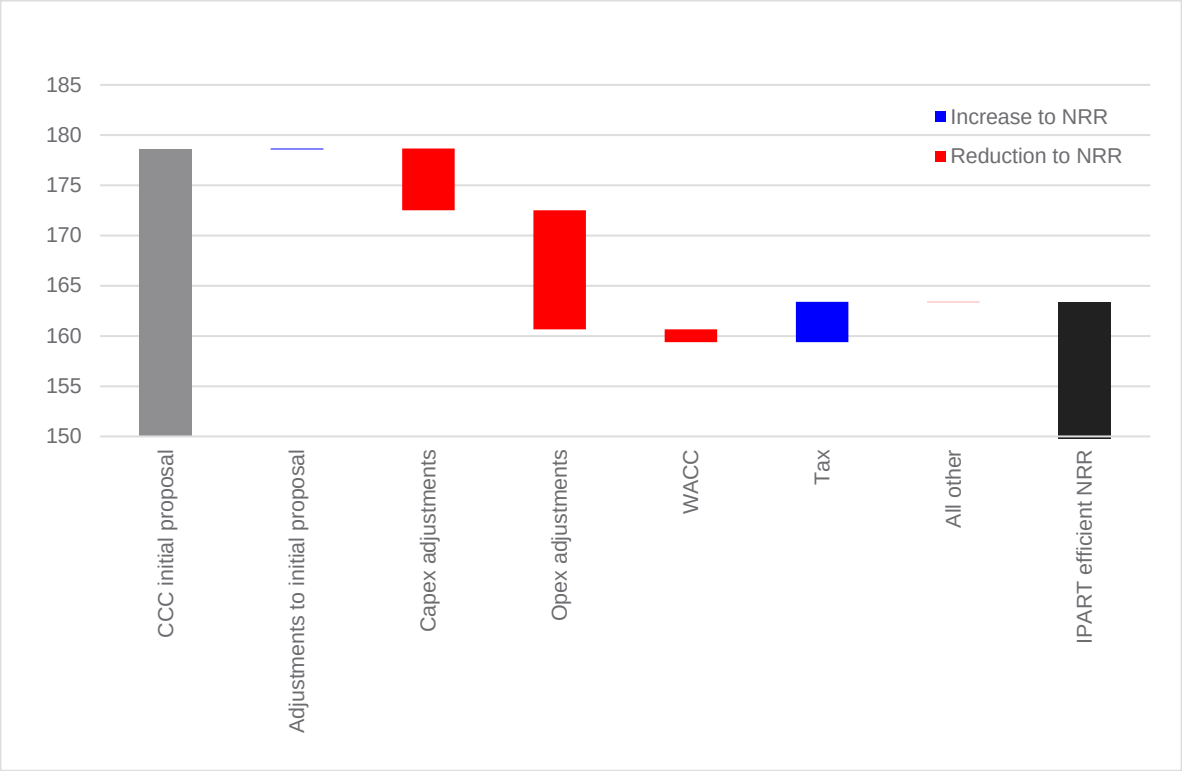
Note: 2018-19 forecast is rolled into the RAB.

Source: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis.

F.3 The Council's NRR by service

We have made a draft decision to set the Council's total 3-year NRR in the 2019 determination period at $490.1 million ($2018-19). The main drivers of the difference between the Council's proposed NRR ($535.7 million) and our draft NRR are our draft decisions on the operating expenditure allowance, the capital expenditure to be included in the RAB, and the WACC. The impact of these draft decisions is partly offset by our draft decision on the tax allowance.

Figure F.11 Council's proposed NRR compared to IPART's draft NRR (3-year average, $million, $2018-19)



Note: The 'adjustments to initial proposal' includes changes to underlying data – reflecting more up-to-date financial statements – as well as including the $90 million of capital projects the Council (largely) excluded from its pricing proposal.

Sources: Central Coast Council, S *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis, additional information received from the Council, and IPART analysis.

Over the 3-year period, the NRR for the Council's water, sewerage and stormwater services are $221.6 million, $222.6 million and $45.9 million, respectively.

In the tables and figures below, we present our draft NRR's by service, and then outline how these differ to the Council's proposed NRR.

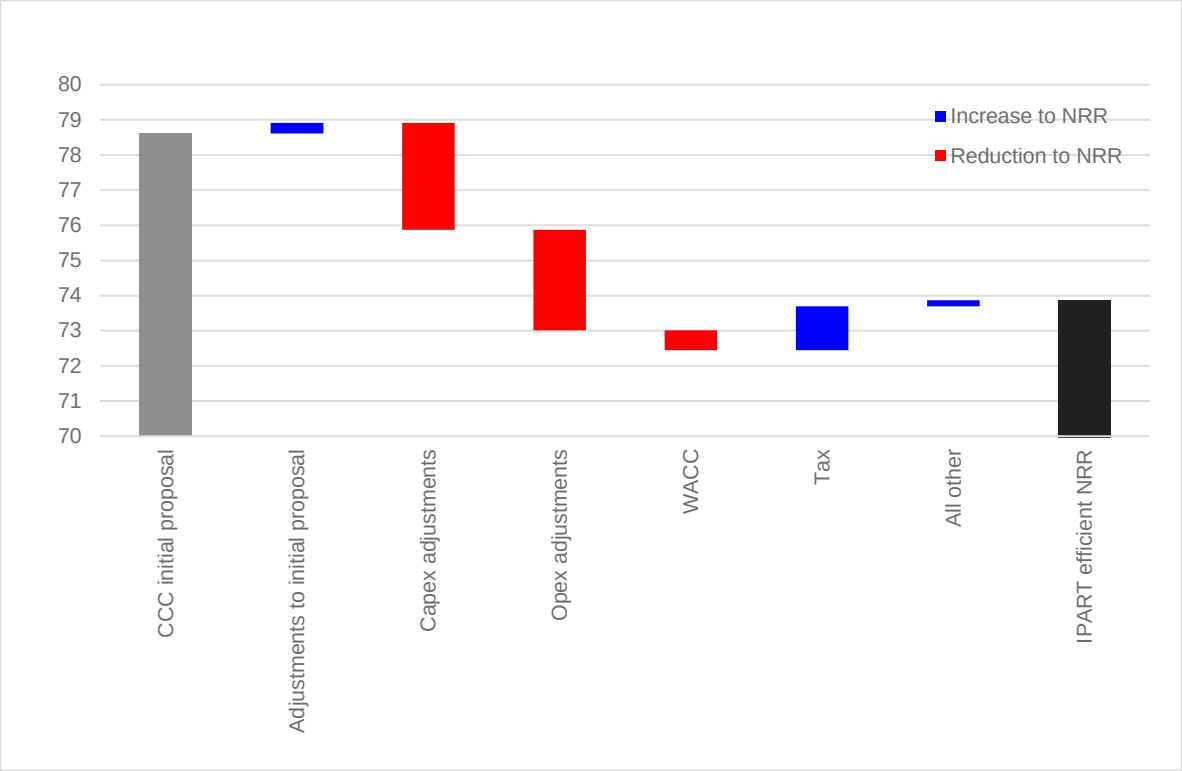
F.3.1 Water Service

Table F.2 Notional revenue requirement for the Council's water service ($'000, $2018-19)

Building Blocks	2019-20	2020-21	2021-22	Total
Operating Allowance	**42,213**	**41,424**	**41,541**	**125,178**
Operating expenditure excluding bulk water purchase costs	42,074	41,285	41,402	124,760
Bulk water purchase costs	139	139	139	418
Capital Allowance	**29,573**	**30,271**	**31,231**	**91,075**
Regulatory depreciation	7,355	7,598	7,906	22,859
Return on fixed assets	23,773	24,229	24,881	72,883
Capital underspends adjustment	-1,556	-1,556	-1,556	-4,668
Return on Working Capital	**575**	**484**	**536**	**1,595**
Tax Allowance	**1,258**	**1,240**	**1,250**	**3,749**
Notional revenue requirement	**73,619**	**73,420**	**74,558**	**221,597**

Note: Numbers may not add due to rounding.

Figure F.12 Council's proposed water NRR compared to IPART's draft NRR (3-year average, $million, $2018-19)



Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis, additional information received from the Council, and IPART analysis.

F.3.2 Sewerage Service

Table F.3 Notional revenue requirement for the Council's sewerage service ($'000, $2018-19)

Building Blocks	2019-20	2020-21	2021-22	Total
Operating Allowance	**40,873**	**40,265**	**40,070**	**121,209**
Capital Allowance	**31,775**	**32,316**	**32,819**	**96,909**
Regulatory depreciation	8,013	8,225	8,429	24,668
Return on fixed assets	25,297	25,627	25,925	76,849
Capital underspends adjustment	-1,536	-1,536	-1,536	-4,608
Return on Working Capital	**86**	**77**	**94**	**257**
Tax Allowance	**1,448**	**1,419**	**1,388**	**4,254**
Notional revenue requirement	**74,182**	**74,076**	**74,371**	**222,629**

Note: Numbers may not add due to rounding.

Table F.4 Notional revenue requirement for Gosford sewerage service ($'000, $2018-19)

Building Blocks	2019-20	2020-21	2021-22	Total
Operating Allowance	**17,317**	**17,030**	**16,925**	**51,272**
Capital Allowance	**21,663**	**21,970**	**22,164**	**65,798**
Regulatory depreciation	5,289	5,417	5,518	16,224
Return on fixed assets	17,143	17,322	17,415	51,880
Capital underspends adjustment	-769	-769	-769	-2,306
Return on Working Capital	**29**	**22**	**50**	**102**
Tax Allowance	**947**	**930**	**909**	**2,786**
Notional revenue requirement	**39,956**	**39,952**	**40,048**	**119,957**

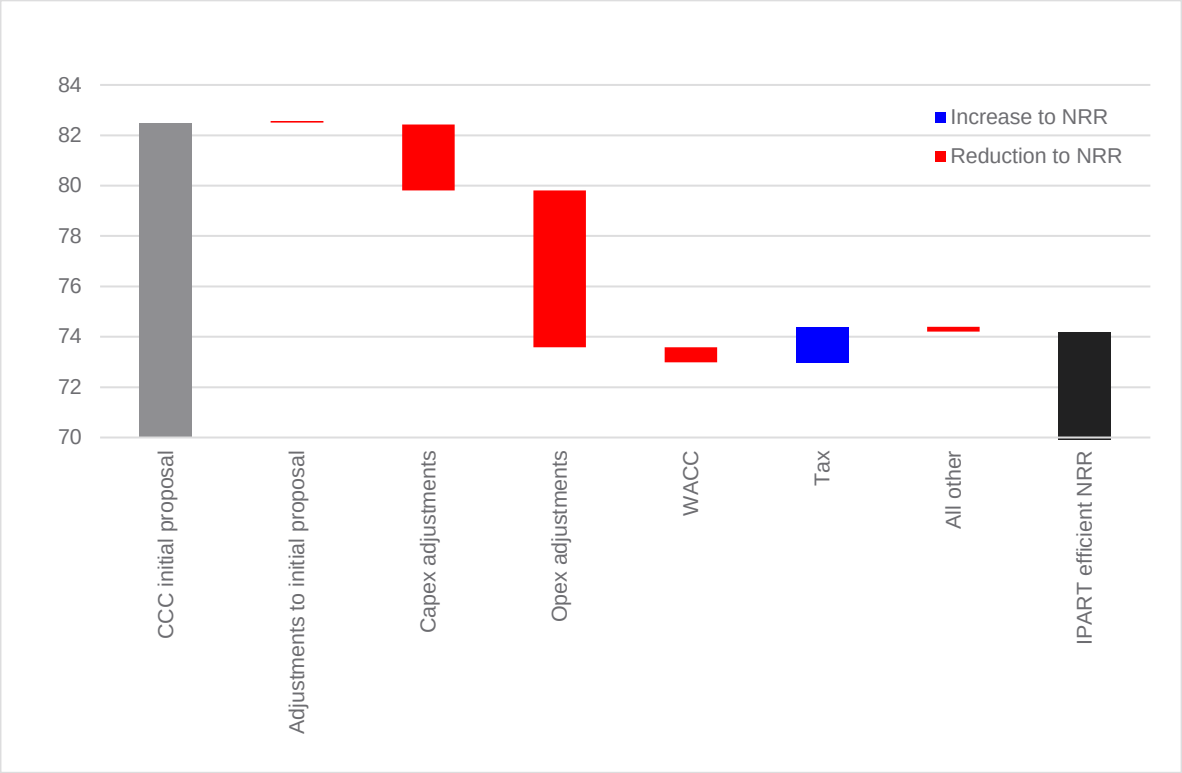
Note: Numbers may not add due to rounding.

Table F.5 Notional revenue requirement for Wyong sewerage service ($'000, $2018-19)

Building Blocks	2019-20	2020-21	2021-22	Total
Operating Allowance	**23,557**	**23,235**	**23,145**	**69,937**
Capital Allowance	**10,111**	**10,345**	**10,655**	**31,112**
Regulatory depreciation	2,724	2,808	2,911	8,444
Return on fixed assets	8,154	8,304	8,511	24,969
Capital underspends adjustment	-767	-767	-767	-2,301
Return on Working Capital	**57**	**55**	**43**	**155**
Tax Allowance	**501**	**489**	**479**	**1,469**
Notional revenue requirement	**34,226**	**34,124**	**34,322**	**102,672**

Note: Numbers may not add due to rounding.

Figure F.13 Council's proposed sewerage NRR compared to IPART's draft NRR (3-year average, $million, $2018-19)



Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis, additional information received from the Council, and IPART analysis.

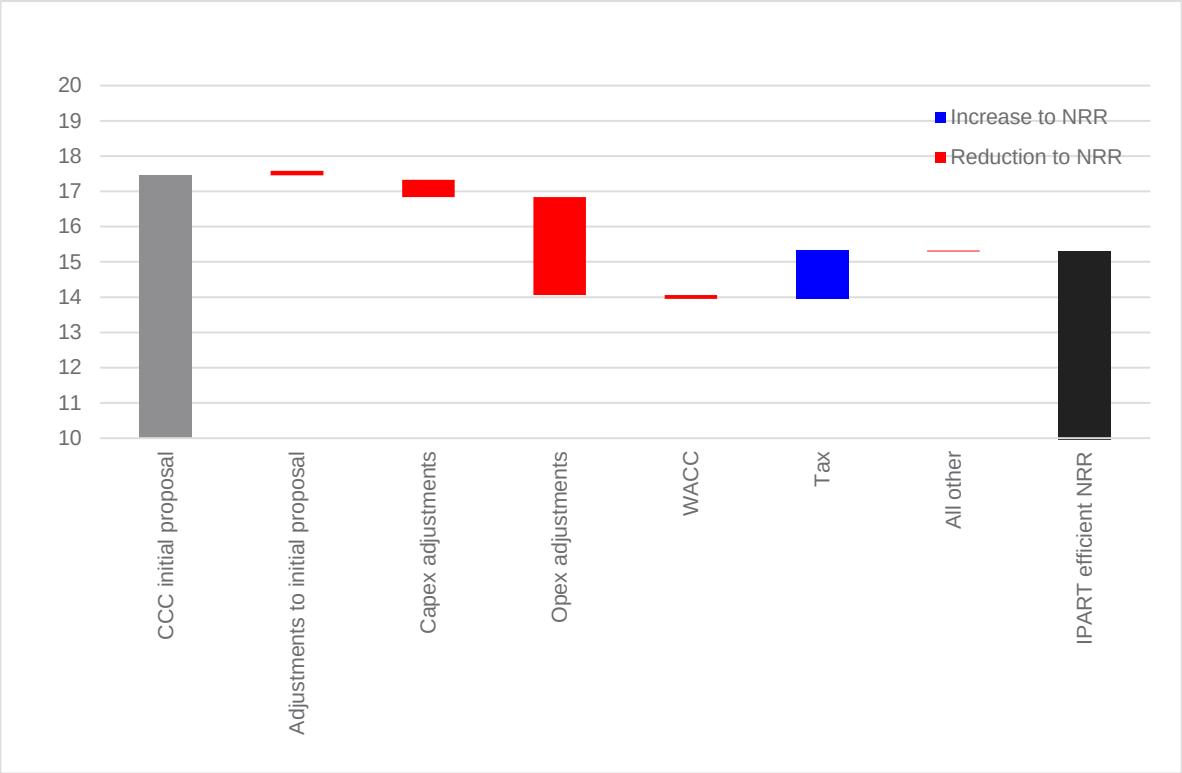
F.3.3 Stormwater Service

Table F.6 Notional revenue requirement for the Council's stormwater service ($2018-19, $'000s)

Building Blocks	2019-20	2020-21	2021-22	Total
Operating Allowance	**8,329**	**8,188**	**8,165**	**24,683**
Capital Allowance	**5,319**	**5,704**	**6,057**	**17,081**
Regulatory depreciation	1,283	1,371	1,453	4,106
Return on fixed assets	4,378	4,675	4,946	13,999
Capital underspends adjustments	-342	-342	-342	-1,025
Return on Working Capital	**-5**	**3**	**10**	**7**
Tax Allowance	**1,373**	**1,371**	**1,367**	**4,111**
Notional revenue requirement	**15,017**	**15,266**	**15,599**	**45,882**

Note: Numbers may not add due to rounding.

Figure F.14 Council's proposed stormwater NRR compared to IPART's draft NRR (3-year average, $million, $2018-19)



Sources: Central Coast Council, *Submission to IPART on prices for water, sewerage and stormwater drainage services from 1 July 2019*, September 2018 and IPART analysis, additional information received from the Council, and IPART analysis.

G Draft trade waste prices

Table G.1 Draft fixed trade waste prices ($2018-19)

	2019-20	2020-21	2021-22
Category 1			
Application fee	95.33	95.33	95.33
Annual fee	95.34	95.34	95.34
Category 2			
Application fee	120.68	120.68	120.68
Annual fee	346.04	346.04	346.04
Category 3			
Application fee	2,173.60	2,173.60	2,173.60
Annual – Gosford	1,758.44	1,548.02	1,337.60
Annual – Wyong	854.79	1,096.19	1,337.60
Category S			
Application fee	165.93	165.93	165.93
Annual fee	150.86	150.86	150.86
Re-inspection fee (all categories)	110.42	110.42	110.42

Table G.2 Draft volumetric prices ($ per kL, $2018-19)

	2019-20	2020-21	2021-22
Category 2			
Compliant	1.75	1.75	1.75
Non-compliant	14.94	14.94	14.94
Category S			
Septage and septic effluent discharge charge	17.54	17.54	17.54
Septic effluent unable to discharge onsite	1.75	1.75	1.75

Table G.3 Draft mass-based prices for Category 3 trade waste customers (substance discharge per kilogram, $2018-19)

Substance	2019-20	2020-21	2021-22
Biochemical Oxygen Demand	0.77	0.77	0.77
Suspended Solids	0.99	0.99	0.99
Total oil and grease	1.39	1.39	1.39
Ammonia	0.77	0.77	0.77
pH	0.42	0.42	0.42
Total Kjeldahl Nitrogen	0.18	0.18	0.18
Total Phosphorus	1.49	1.49	1.49
Total Dissolved Solids	0.05	0.05	0.05
Sulphate (as SO4)	0.15	0.15	0.15
Aluminium	0.72	0.72	0.72
Arsenic	73.29	73.29	73.29
Barium	36.66	36.66	36.66
Boron	0.72	0.72	0.72
Bromine	14.94	14.94	14.94
Cadmium	339.34	339.34	339.34
Chloride	No Charge	No Charge	No Charge
Chlorinated hydrocarbons	36.06	36.06	36.06
Chlorinated Phenolics	1,493.18	1,493.18	1,493.18
Chlorine	1.53	1.53	1.53
Chromium	24.42	24.42	24.42
Cobalt	14.94	14.94	14.94
Copper	14.94	14.94	14.94
Cyanide	73.29	73.29	73.29
Fluoride	3.64	3.64	3.64
Formaldehyde	1.53	1.53	1.53
Herbicides/defoliants	733.02	733.02	733.02
Iron	1.50	1.50	1.50
Lead	36.66	36.66	36.66
Lithium	7.34	7.34	7.34
Manganese	7.34	7.34	7.34
Mercaptans	78.93	78.93	78.93
Mercury	2,443.41	2,443.41	2,443.41
Methylene Blue active substances (MBAS)	0.72	0.72	0.72
Molybdenum	0.72	0.72	0.72
Nickel	24.42	24.42	24.42
Organoarsenic Compounds	733.02	733.02	733.02
Pesticides General (excludes organochlorins and organophosphates)	730.02	730.02	730.02
Petroleum hydrocarbons (non-chlorinated)	2.30	2.30	2.30

Phenolic compounds (non-chlorinated)	7.34	7.34	7.34
Polynuclear hydrocarbons	14.93	14.93	14.93
Selenium	51.56	51.56	51.56
Silver	1.44	1.44	1.44
Sulphide	1.48	1.48	1.48
Sulphite	1.48	1.48	1.48
Thiosulphate	0.27	0.27	0.27
Tin	7.34	7.34	7.34
Uranium	7.90	7.90	7.90
Zinc	14.93	14.93	14.93

H Draft prices for miscellaneous services

Table H.1 Recommended prices for miscellaneous services ($2018-19)

Service	2019-20	2020-21	2021-22
1. Conveyancing Certificate - statement of outstanding charges	26.56	26.56	26.56
2. Property Sewer Line and Drainage Diagram			
a) Property Sewer Line and Drainage Diagrams	18.06	18.06	18.06
b) Property Sewer Line and Drainage Diagrams (with long section)	21.25	21.25	21.25
c) Property Sewer Line and Drainage Diagrams (property complex)	30.81	30.81	30.81
3. Provision of Service Location Diagrams			
a) Water and Sewer Location Plans	21.25	21.25	21.25
b) Water and Sewer Location Plans (including long section)	26.56	26.56	26.56
4. Special Meter Reading Statement			
a) Manual request	41.38	41.38	41.38
b) Online request	30.76	30.76	30.76
5. Billing Record Search Statement			
a) up to and including 5 years	37.19	37.19	37.19
b) up to and including 10 years	69.06	69.06	69.06
c) beyond 10 years	100.94	100.94	100.94
6. Building over or adjacent to water and sewer advice	53.82	53.82	53.82
7. Water reconnection (business hours only)	148.17	148.17	148.17
8. Workshop test of meter			
a) 20 mm to 80 mm	310.00	310.00	310.00
b) > 80 mm	480.00	480.00	480.00
9. Application for disconnection of water service			
a) Application	61.31	61.31	61.31
b) Physical disconnection	233.60	233.60	233.60
10. Connection of Water Service			
a) Application for connection of water service (all sizes)	61.31	61.31	61.31
b) Water service connection meter only (20 mm)	180.58	180.58	180.58
c) Water service connection short & long service (20 mm)	707.34	1,050.07	1,392.80
d) Water service connection short & long service (25 mm)	707.34	1,166.82	1,626.30
e) Water service connection short service (32 mm)	1,955.85	1,955.85	1,955.85
f) Water service connection long service (32 mm)	2,738.54	2,738.54	2,738.54
g) Water service connection short service (40 mm)	1,955.85	1,955.85	1,955.85

Service	2019-20	2020-21	2021-22
h) Water service connection long service (40 mm)	2,738.54	2,738.54	2,738.54
i) Water service connection short service (50 mm)	2,355.12	2,355.12	2,355.12
j) Water service connection long service (50 mm)	3,352.05	3,352.05	3,352.05
k) Water service connection short service (63 mm)	2,355.12	2,355.12	2,355.12
l) Water service connection long service (63 mm)	3,352.05	3,352.05	3,352.05
m) Water service connection metered short service (80mm)	7,769.89	7,769.89	7,769.89
n) Water service connection unmetered short fire service (80mm)	6,850.56	6,850.56	6,850.56
o) Water service connection long metered service (80mm)	13,304.43	13,304.43	13,304.43
p) Water service connection unmetered long fire service (80mm)	12,385.10	12,385.10	12,385.10
q) Water service connection metered short service (100mm)	9,073.60	9,073.60	9,073.60
r) Water service connection unmetered short fire service (100mm)	7,356.86	7,356.86	7,356.86
s) Water service connection long metered service (100mm)	14,409.49	14,409.49	14,409.49
t) Water service connection unmetered long fire service (100mm)	13,089.18	13,089.18	13,089.18
u) Water service connection metered short service (150mm)	9,534.72	9,534.72	9,534.72
v) Water service connection unmetered short fire service (150mm)	8,334.72	8,334.72	8,334.72
w) Water service connection long metered service (150mm)	16,572.65	16,572.65	16,572.65
x) Water service connection unmetered long fire service (150mm)	15,372.65	15,372.65	15,372.65
11. Standpipe Hire - Security Bond			
a) Security Bond (25mm)	433.35	433.35	433.35
b) Security Bond (63mm)	833.88	833.88	833.88
12. Standpipe Hire - Annual Fee			
a) 25 mm	176.87	176.87	176.87
b) 63 mm	1,195.65	1,195.65	1,195.65
c) Standpipe special reading fee	60.13	60.13	60.13
13. Standpipe Water Usage	2.20/kL	2.20/kL	2.20/kL
14. Backflow Prevention Device Application and Initial Registration	69.98	69.98	69.98
15. a) Inspections of new water and sewer assets - including encasements	118.77	118.77	118.77
b) + water & pressure sewer main	6.23	6.23	6.23
c) + gravity sewer main	8.31	8.31	8.31
16. Statement of Available Pressure and Flow	131.97	131.97	131.97
17. Location of water and sewer mains	564.70	564.70	564.70

Service	2019-20	2020-21	2021-22
(The charge includes 2 crew members for 2 hours. Additional plant and equipment costs are by quote.)			
18. Plumbing and Drainage Inspection:			
a) New Sewer Connection (including residential single dwelling, unit or villa complex, commercial and industrial)	178.27	178.27	178.27
b) Each additional WC (including residential single dwelling, unit, villa, commercial and industrial)	15.09	15.09	15.09
c) Alterations, Caravans and Mobile Homes	163.18	163.18	163.18
d) Sewer re-inspection	40.80	40.80	40.80
e) Rainwater Tank Connection	66.79	66.79	66.79
19. Adjust existing service			
a) 20 mm service	188.38	188.38	188.38
20. Raise/Lower Manhole			
a) Inspection	55.85	55.85	55.85
21. Water or Sewer Engineering Plan Assessment:			
a) Small Projects - Relocations, Private SPS and/or development ≤10 lots or extension to properties outside area	290.33	290.33	290.33
b) Medium Projects > 10 and < 50 lots, and mains relocation	692.83	692.83	692.83
c) Large Projects ≥ 50 and <150 lots or large or medium density developments	884.18	884.18	884.18
d) Special Projects (roads & rail or SPS Adjustments, relocations, development water catchment areas, or subdivisions > 150 lots)	3,035.23	3,035.23	3,035.23
22. Section 307 Certificate:			
a) Development without Requirement	59.39	59.39	59.39
b) Boundary Realign, Subdivisions or developments involving mains extensions	323.32	323.32	323.32
c) RFB and Dual Occupancies	145.16	145.16	145.16
d) Commercial Buildings, Factories, Torrens Subdivision of Dual Occupancy etc	178.16	178.16	178.16
23. Cancellation of Water and Sewer Applications	21.25	21.25	21.25
24. Water & Sewer Building Plan Assessment	131.97	131.97	131.97

Glossary

2009 Determination	*Review of prices for water, sewerage, stormwater and other services Hunter Water Corporation from 1 July 2009*, June 2009 (Determination No 4, 2009).
2009 determination period	The period commencing 1 July 2009 to 30 June 2013.
2013 Determination	For the former Wyong Council: IPART, *Wyong Shire Council prices - 1 July 2013 to 30 June 2017, Water - Determination*, May 2013 For the former Gosford Council: IPART, *Gosford City Council prices - 1 July 2013 to 30 June 2017, Water - Determination*, May 2013
2013 determination period	The current determination period - The period from 1 July 2013 to 30 June 2019.
2019 Determination	The determination that will apply from 1 July 2019, for which we are reviewing prices.
2019 determination period	The upcoming determination period. This is begin 1 July 2019. Our draft decision it that it will last for three years.
ABS	Australian Bureau of Statistics
AFOC	Assets free of charge
Annual revenue requirement	The notional revenue requirement in each year of the determination period.
Atkins Cardno	A consultant we engaged to review operating and capital expenditure.
CHBWU	Catherine Hill Bay Water Utility
Council's proposal	The Central Coast Council's pricing submission, available on the IPART website, in full, or a summary.
CPI	Consumer Price Index
Current determination period	The period from 1 July 2013 to 30 June 2019.

Determination period	Price limits (maximum prices) set by IPART for a given period.
DoI Water	NSW Department of Industry – Water
ECM	Efficiency Carryover Mechanism
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
ET	Equivalent Tenements
FFO	Funds From Operations
Fixed charge	A price that does not change depending on how much the service is used. For example, service prices are set as an annual charge and do not vary depending on how much water is used.
GL	Gigalitre
Hunter Water	Hunter Water Corporation
Hunter Water Act	*Hunter Water Act 1991* (NSW)
IP&R	The Integrated Planning and Reporting Program, which NSW Councils undertake. It is a suite of documents developed that the Council develops with various stages of community consultation. The documents include a 1-year operational plan, a 4-year Delivery program, a community strategic plan (20-30 years) and a long term financial plan (using 10 years).
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act	*Independent Pricing and Regulatory Tribunal Act 1992* (NSW)
iSDP	Integrated Supply Demand Planning
kL	Kilolitre
LEP	Local environment plan
LGA	Local Government Area

LHWP	Lower Hunter Water Plan
LRMC	Long Run Marginal Cost (of supply)
M1	M1 Pacific Motorway, NSW. A motorway running north to south through the Central Coast LGA.
Millennium Drought	Refers to the drought experienced in NSW from around 2000 to 2011
MJA	Marsden Jacobs Associates – a consultant we engaged to review prices for trade waste and miscellaneous services.
Multi-premise	Refers to a property such as, but not limited to, apartments, units, flats, town or terraced houses
ML	Megalitre
NEV	Narara Eco Village, a WICA Utility in the Central Coast Council's area of operations.
NRR or Notional revenue requirement	Revenue requirement set by IPART that represents the efficient costs of providing Hunter Water's monopoly services.
NPV	Net Present Value
PIAC	Public Interest Advocacy Centre
Price harmonisation	For this review, there are two sets of current prices – for the former Wyong and Gosford Council areas. These Councils were amalgamated into the Central Coast Council. We have considered whether to continue with separate prices, or whether to harmonise the prices across all customers, that is set equal prices across the area.
RAB	Regulatory Asset Base
REC	Reasonable Efficient Competitor
RICR	Real interest cover ratio
Service charge	This is an annual connection charge per property. We calculate this to recover the Council's costs of supplying a service, after subtracting the forecast revenue from the usage price.
SOC	State owned corporation

Solo Water	Operator of Catherine Hill Bay Water Utility
SRMC	Short Run Marginal Cost (of supply)
STP	Sewerage treatment plant
Sydney Water	Sydney Water Corporation
Target revenue	The revenue the Central Coast Council generates from maximum prices set by IPART for that year.
Upcoming determination period	The period commencing from 1 July 2019.
Usage charge	A price set for a certain volume of usage, for example water usage charge is a price for each kL of water used.
WACC	Weighted Average Cost of Capital
WICA utilities	Water utilities established under the WIC Act
WIC Act	*Water Industry Competition Act 2006* (NSW)
WM Act	*Water Management Act 2000* (NSW)
UPA	Unregulated price agreement