IPART Independent Pricing and Regulatory Tribunal | NSW

Review of WaterNSW's prices for the Murray River to Broken Hill Pipeline

Draft Technical Report

June 2022

Water »

Tribunal Members

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Invitation for submissions

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

Submissions are due by Friday, 9 September 2022

We prefer to receive them electronically via our online submission form. You can also send comments by mail to:

2021 WaterNSW Murray River to Broken Hill Pipeline review
Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop, Sydney NSW 1240

If you require assistance to make a submission (for example, if you would like to make a verbal submission) please contact one of the staff members listed above.

Late submissions may not be accepted at the discretion of the Tribunal. Our normal practice is to make submissions publicly available on our website as soon as possible after the closing date for submissions. If you wish to view copies of submissions but do not have access to the website, you can make alternative arrangements by telephoning one of the staff members listed above.
We may decide not to publish a submission, for example, if we consider it contains offensive or potentially defamatory information. We generally do not publish sensitive information. If your submission contains information that you do not wish to be publicly disclosed, please let us know when you make the submission. However, it could be disclosed under the *Government Information (Public Access) Act 2009* (NSW) or the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW), or where otherwise required by law.

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

The Independent Pricing and Regulatory Tribunal (IPART)

Further information on IPART can be obtained from IPART's website.

Acknowledgment of Country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders, past, present and emerging. We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

Contents

Chapter 1

Introduction

01

1.1 Overview of our draft decisions

IPART has set draft prices for water transport services supplied by WaterNSW via the Murray River to Broken Hill Pipeline (the Pipeline). These prices will apply from 1 January 2023 until 30 June 2026 to WaterNSW's customers, who are:

- Essential Water, the supplier of water and wastewater services to customers in the Broken Hill region
- a small number of offtake customers located along the Pipeline.

Under our draft prices, bills for Essential Water and offtake customers[a] will decrease by around 21% and 16% respectively (before inflation) by the end of the 2022 determination period. Section 1.1.2 discusses the draft prices we have set for each customer group and the breakdown of prices for water and wastewater services.

To set these draft prices, we considered the ongoing efficient costs of running and maintaining the Pipeline, the number of customers who will share these costs and the quantity of services they will use. Section 1.1.1 discusses key drivers of efficient costs for the next 4 years.

This Draft Technical Report provides details of our analysis and reasons for our draft decisions. We have also prepared a Draft Report, which provides a summary of our key decisions and customer outcomes.

Prices that WaterNSW charges Essential Water for transporting water from the Murray River are a key factor when reviewing the prices that Essential Water's customers in the Broken Hill region pay for water and wastewater services. For this reason, IPART is reviewing both sets of prices at the same time. For more information about this review see our Essential Water Draft Report.

1.1.1 Our approach to setting prices for this review

When we set prices for a regulated business like the Pipeline, we generally aim to set prices to cover the efficient cost of providing services to customers. We assessed the costs of providing water transportation services in the Broken Hill region and engaged expert consultants to review and provide advice on whether WaterNSW's proposed costs for the Pipeline are efficient. We looked at the Pipeline's costs over the last 3 years (the 2019 Determination), as well as WaterNSW's proposed costs for the Pipeline over the next 4 years (the 2022 Determination) and considered:

- the efficient costs of operating a water pipeline business in Broken Hill
- the number of customers who will share these costs and the quantity of services they will use.

[a] We have used the bills for a Medium (1 ML per year) offtake customers. For more information on offtake customer's bills see Table 8.2.

Based on our assessment of the Pipeline's costs, our draft decision is to set the revenue requirement at around $21 million on average per year, over the next 4 years. This is around 16% lower than WaterNSW's proposed revenue requirement. There are 2 factors driving the difference between WaterNSW's proposed revenue requirement and our draft decision on the revenue requirement:

1. The real rate of return (the WACC) we have applied to estimate the Pipeline's return on assets. We used our standard method to apply a WACC of 2.9% which is lower than WaterNSW's proposed WACC of 3.7%.
2. While we found that most of WaterNSW's proposed operating and capital costs were reasonable, we found some opportunities for WaterNSW to lower the Pipeline efficient costs. The efficient operating and capital cost allowances we have set reflect these opportunities for WaterNSW to provide better value for money for its customers.

We found opportunities for WaterNSW to lower its operating and capital costs by around 9% to ensure customers pay no more than they need to.

We also looked at the amount of water the Pipeline will transport for its customers over the next 4 years and found them to be broadly reasonable. We made small adjustments in order to align these forecasts with our concurrent review of costs and prices of Essential Water, which is the main customer of the Pipeline.

1.1.2 Our draft decisions on water transportation prices for Essential Water and offtake customers

Tables 1.1 and 1.3 set out our draft decisions on WaterNSW's water transportation prices, without inflation.

Compared to current prices, our draft decisions are to reduce the usage price for Essential Water and offtake customers by 3.0% (before inflation) over the 2022 determination period. We have also reduced the following prices in the first year of the 2022 determination period:

- the access price for Essential Water by 21.3% (before inflation).
- the fixed price for offtake customers by 16.7% (before inflation).

We are then holding these prices constant over the subsequent 3 years.

In comparison, WaterNSW proposed to increase the usage price for Essential Water and offtake customers by 3.6% by the end of the 2022 determination period. It also proposed to decrease the following prices over the entire 2022 determination period:

- the access price for Essential Water by 5.3% (before inflation)
- the fixed price for offtake customers by 2.7% (before inflation).

Draft prices for Essential Water

Table 1.1 IPART's draft prices and WaterNSW's proposed prices for Essential Water ($2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24	2024-25	2025-26	2021-22 to 2025-26 % change
IPART draft decision						
Usage price ($/ML)	212.52	206.85	206.82	206.61	206.06	-3.0%
Access price ($/day)	67,281	52,973	52,973	52,973	52,973	-21.3%
WaterNSW proposal						
Usage price ($/ML)	212.52	221.84	220.79	220.48	220.18	3.6%
Access price ($/day)	67,281	63,698	63,524	63,698	63,698	-5.3%

Note: The usage price for Essential Water includes an allowance for evaporative issues.
Source: IPART analysis, WaterNSW, Pricing Proposal to IPART, June 2021, p 76.

We adjust WaterNSW's prices each year for inflation. Table 1.2 shows our draft water transportation prices for Essential Water that will apply in 2022-23, including inflation of 5.1%.

Prices and bills for Essential Water are currently covered by a subsidy paid by the NSW Government on behalf of NSW taxpayers. This is discussed in more detail in our concurrent review of prices that Essential Water can charge for water and wastewater services in Broken Hill.

Table 1.2 Water transportation prices for Essential Water ($2022-23) – with inflation

	2022-23	Change from current to 2022-23
Usage price ($/ML)	217.40	2.3 %
Access price ($/day)	55,675	-17.3%

Source: IPART analysis.

Draft prices for offtake customers

Table 1.3 IPART's draft prices and WaterNSW's proposed prices for offtake customers ($2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24	2024-25	2025-26	2021-22 to 2025-26 % change
IPART draft decision						
Usage price ($/kL)	0.21	0.21	0.21	0.21	0.21	-3.0%
Fixed price ($/day)	20.78	17.32	17.32	17.32	17.32	-16.7%
WaterNSW's proposed						
Usage price ($/kL)	0.21	0.22	0.22	0.22	0.22	3.6%
Fixed price ($/day)	20.78	20.22	20.17	20.22	20.22	-2.7%

Source: IPART analysis, WaterNSW, Pricing Proposal to IPART, June 2021, p 78.

Table 1.4 shows our draft water transportation prices for offtake customers that will apply in 2022-23, including inflation of 5.1%.

Table 1.4 Water transportation prices for offtake customers ($2022-23) – with inflation

	2022-23	Change from current to 2022-23
Usage price ($/kL)	0.22	2.3%
Fixed price ($/day)	18.20	-12.4%

Source: IPART analysis.

1.2 Structure of this report

The rest of this report provides more information about how we reached our decisions, and how these decisions compare to WaterNSW's pricing proposal:

Chapter	
02	sets out our decisions on the length of the determination period, form of regulation and our approach to calculating the revenue requirement
03	explains our decisions on operating expenditure allowances
04	explains our decisions on capital expenditure which informs capital allowances
05	sets out our decisions on the other cost allowances and total NRR
06	explains our decisions on forecast water sales and customer numbers used to set prices
07	sets out our decisions on prices for Essential Water and offtake customers
08	present customer bill impacts of our pricing decisions, and implications on WaterNSW and the environment.

1.3 List of decisions

Decisions

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3.	To not accept WaterNSW's proposal to have cost pass-through mechanisms for regulatory change, insurance events and catastrophic events.	19
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5.	To set the WaterNSW Pipeline's total operating expenditure allowance for the 2022 determination period at $16.3 million, as shown in Table 3.1.	23
6.	To consider at the next determination of the Pipeline's prices: – Whether an adjustment to the revenue requirement and prices is required to address any over or under-recovery of revenue over the 2022 determination period due to changes in energy costs as a result of changes in wholesale and network components of energy prices. – Whether and how best to make a revenue adjustment based on the circumstances at the time.	33
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8.	To set the Pipeline's efficient capital expenditure for the 2022 determination period as shown in Table 4.4.	39
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26.	To decrease the access price for Essential Water to $52,973 per day in the first year of the 2022 determination period and then hold it constant (before inflation) over the following 3 years.	72
27.	To decrease the fixed price for offtake customers to $17.32 per day in the first year of the 2022 determination period and then hold it constant (before inflation) over the following 3 years.	72
28.	To continue to defer shutdown, restart and standby prices for Essential Water.	73
29.	To continue to allow unregulated pricing agreements between WaterNSW and offtake customers.	73

1.4 List of recommendations

Recommendations

1.	To consider the findings of AECOM on additional adjustment for corporate overheads to the Pipeline at the next opportunity we have to holistically review WaterNSW's corporate overheads.	26

1.5 How you can have your say

We are seeking submissions to our Draft Report and this Technical Report from all interested stakeholders by 9 September 2022. Page 2 at the front of this document explains how to make a submission. We will hold a public hearing on 30 August 2022, which will provide the community with an opportunity to provide feedback and comments on our Draft Report.

In making final decisions and setting prices, we will consider all feedback we receive in response to this Draft Technical Report (including Draft Report) and at our public hearing.

Have your say

Your input is critical to our review process.

You can get involved by making a submission, submitting feedback or attending a public hearing.

We are seeking feedback by 9 September 2022 on our draft decisions and the issues we have identified.

Submit feedback »

Attend the public hearing »

Chapter 2

Regulatory setting

02

Summary of our draft decisions for regulatory settings

We set prices for a 4-year determination period

Our draft decision is to set WaterNSW's prices for a 4-year period. We did not accept WaterNSW's proposed 5-year determination period. We consider 4 years balances providing price certainty for customers, while also allowing for an earlier opportunity to manage uncertainty in water demand or WaterNSW's operating environment.

The timing of the WaterNSW review and Essential Water's review will remain aligned. This is to ensure that related issues between the 2 reviews can be considered at the same time.

We continued to set maximum prices

We accepted WaterNSW's proposal to set maximum prices (i.e. price caps), as we consider this provides price certainty to both customers and WaterNSW.

We used the building block approach to calculate WaterNSW's notional revenue requirement. This approach involves breaking down WaterNSW's costs into operating, capital allowance, tax and working capital allowances, and making separate calculations for these allowances. The sum of the building blocks represents the total efficient costs WaterNSW should incur in delivering its services.

We used a 3-step process to assess WaterNSW's proposed expenditure

This process is consistent with our approach for other recent water reviews. It involves making scope, catch-up and continuing efficiency adjustments.

We did not accept WaterNSW's proposed cost pass throughs

WaterNSW proposed mechanisms to 'pass-through' unexpected costs to their customers if specific events occur (e.g. natural disaster, regulatory changes). We consider that WaterNSW's proposed cost pass-throughs would place too much risk on customers and have made a draft decision not to accept them.

Before setting prices, we need to decide how long to set prices for and the 'form of regulation' to use to regulate prices.

2.1 We set prices for a 4-year determination period

Our draft decision is:

1. To adopt a 4-year determination period and to delay the commencement of new prices until 1 January 2023.

For each water pricing review, we need to decide how long to set prices for (the length of the determination period), which is generally between 1 and 5 years. Our draft decision is to adopt a 4-year determination period, which we consider provides a balance between reducing regulatory burden on WaterNSW and managing the risks of unforeseen events or circumstances. When deciding the length of the determination period, we consider:

- our confidence in demand forecasts for water transport services, which we have used to set prices
- the risk of substantial 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
- the views of stakeholders.

Last time we set prices in 2019, we decided a 3-year period was necessary because there was uncertainty with the operation of WaterNSW's new Pipeline.

Because the Pipeline has been in operation for 3 years and demand forecasts are more stable, WaterNSW proposed a 5-year determination period for this review. It considered its operating conditions had become more stable, allowing it to forecast water use and costs with more certainty.[1]

While we agree there is less uncertainty in forecasts from the Pipeline, we consider some uncertainty still remains around the effect of a possible new mine, which is estimated to require 1GL per annum from 2023 or 2024[2] (an increase of around 20% in WaterNSW's total water sales). We consider a 4-year period will provide an opportunity for WaterNSW to assess the impact of the mine if it eventuates.

Consistent with our announcement on our website, we are delaying the commencement of new prices under the 2022 Determination until 1 January 2023. The draft prices we present in this report would apply from 1 January 2023 to 30 June 2026, which is a 3.5 year period. When we set final prices for this review, we will factor in:

- the final WACC
- an adjustment for foregone inflation in the period from 1 July 2022 to 31 December 2022
- an adjustment to reflect that WaterNSW would be over-recovering its revenue requirement for the period from 1 July 2022 to 31 December 2022 (as current prices are higher than the draft prices we present in this report).

Our final prices will reflect the overall costs the Pipeline would incur over the next 4 years on a net present value neutral basis. For this reason, we continue to refer to the length of the determination as a 4-year period throughout this report.

2.2 We continued to use price caps

Our draft decision is:

> 2. To set maximum prices for WaterNSW services in each year of the 2022 determination period (a price cap).

There are several forms of price control that can be used to review or adjust prices for regulated businesses. These include maximum prices (or price caps), revenue caps and combinations of these 2 approaches.

Our decision is to accept WaterNSW's proposal to continue to set maximum prices.[3] We consider price caps provide transparency and pricing certainty to customers and WaterNSW. Price caps also help ensure prices reflect efficient costs, and reflect the long-run cost of providing the service.

2.3 We used the building block approach

We continued to use the building block approach to calculate WaterNSW's notional revenue requirement. This approach breaks down WaterNSW's costs into the following components (or building blocks):

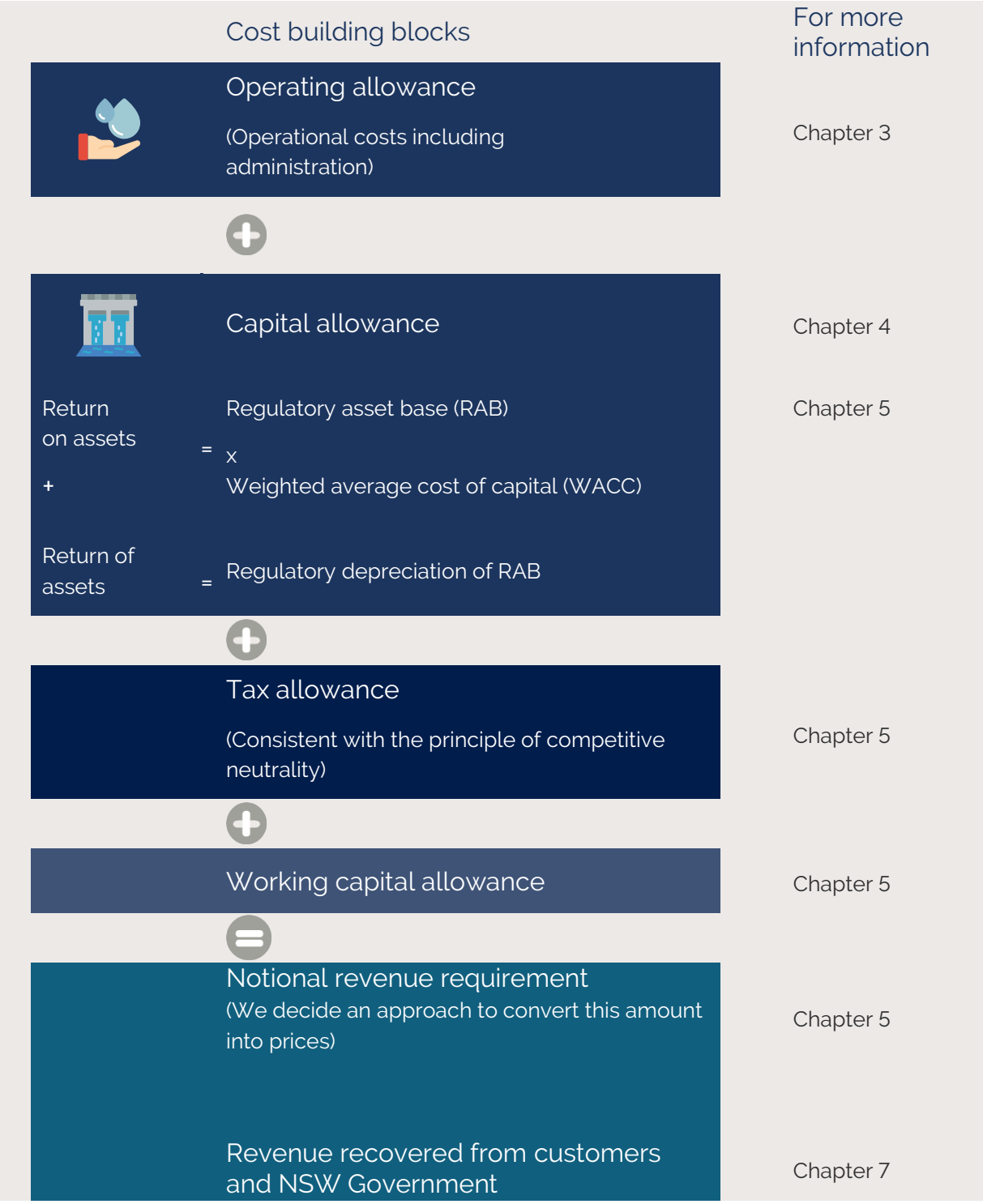
- **operating allowance**, to cover costs such as labour and administration costs
- **capital allowance**, comprised of:
  - return on assets that WaterNSW uses to provide its services
  - regulatory depreciation (or a return of the assets that WaterNSW uses to provide its services), which involves deciding on the appropriate asset lives and depreciation method
- **tax allowance**, which approximates the tax liability for a comparable commercial business
- **working capital allowance**, which represents the holding cost of net current assets.

The annual sum of these building blocks is the notional revenue requirement and is our assessment of the total efficient costs WaterNSW should incur in delivering its services.

We then convert WaterNSW's notional revenue requirement into prices by setting the target revenue requirement for each year of the determination period – that is, the actual revenue we expect WaterNSW to generate from prices and charges for that year. We consider a range of factors including price levels, the rate prices would change and any other impacts on WaterNSW and water users.

Figure 2.1 shows our approach to calculating the notional revenue requirement and how we set prices.

Figure 2.1 The building block approach



2.4 We did not accept WaterNSW's proposed cost pass-throughs

Our draft decision is:

> 3. To not accept WaterNSW's proposal to have cost pass-through mechanisms for regulatory change, insurance events and catastrophic events.

WaterNSW proposed mechanisms to 'pass-through' unexpected costs to their customers if specific events occur (e.g. natural disaster, regulatory changes).[4]

Our draft decision is to not accept WaterNSW's proposed cost pass-throughs. In a competitive market, no business can automatically pass onto customers all unexpected cost increases. They need to look carefully at how they minimise the impact on their customers because that is what their competitors will be doing.

Allowing monopoly businesses to automatically pass on the full amount of unexpected cost increases is risky. It takes away the incentive for them to do what they can to avoid the increase and minimise its impact on customers. Both of these incentives are important to the long-term interests of customers.

We have not yet seen any proposals from WaterNSW that seriously attempt to retain these incentives in the way cost pass-throughs are designed. If an unexpected event does have a large negative impact on WaterNSW's financial position, it may be more appropriate for it to request an early price review.

2.5 We retained the current efficiency carryover mechanism

Our draft decision is:

> 4. To maintain the efficiency carryover mechanism for operating expenditure for the 2022 determination period.

In 2019, we introduced an efficiency carryover mechanism for operating expenditure, which allows a utility to retain permanent efficiency savings for a fixed period regardless of when in the determination period they are achieved. This mechanism aims to remove the incentive for a utility to delay efficiency savings from the end of one determination period to the beginning of the next.

WaterNSW did not propose to activate the efficiency carryover mechanism for the 2019 determination period. It also did not propose changes to the efficiency carryover mechanism for the 2022 determination period.[5] We have accepted WaterNSW's proposal and have maintained the efficiency carryover mechanism for operating expenditure for the 2022 determination period.

2.6 We assessed expenditure using a 3-step process

We used a 3-step process to set WaterNSW's efficient expenditure. The sections below outline our 3-step approach. Chapters 3 and 4 outline our detailed assessment of WaterNSW's expenditure.

Step 1 – Reviewing proposed activities and costs:

This step considers whether any proposed changes to a utility's specific activities or new projects it is proposing to do are efficient. It does not apply to the utility's base (or 'business as usual') expenditure.

If the utility's activities and projects (and associated costs) are not efficient, a **scope adjustment** is made.

Step 2 – Reviewing business processes relative to a benchmark efficient business

This step identifies the effectiveness of the utility's business processes (e.g. decision making and procurement processes) relative to a benchmark efficient business.

Where we identify opportunities for improvements to the utility's business processes, we apply a **catch-up efficiency adjustment.** It takes into account the efficiencies we consider the utility could achieve by 'catching up' to its efficient peers.

Step 3 – Reviewing available data to capture possible future efficiencies

We apply a **continuing efficiency adjustment** to take account of the ongoing improvements that even the most efficient utilities should be able to make over time, as more productive ways of working emerge. We refer to long-term multi-factor productivity trends to set this adjustment. This recognises that in competitive markets (which we are trying to replicate through our regulatory framework) firms must innovate to achieve continuing efficiency gains over time.

Chapter 3

Operating expenditure

03

Summary of our draft decisions for operating expenditure

WaterNSW proposed expenditure increases reflecting actual costs it incurred

WaterNSW proposed operating expenditure of around $4.5 million per year over the 2022 determination period. This is around 21% per year higher than the average expenditure used to set prices in 2019. The proposal reflects some of the actual costs the Pipeline incurred over the last 3 years. In 2019, we set the efficient operating expenditure before the Pipeline was operational.

We found opportunities to set expenditure 8% lower than proposed

After considering WaterNSW's proposal for the Pipeline and our consultants' expenditure review, our draft decision is to accept most of the expenditure proposal at around $4 million per year. However, we found some opportunities to reduce operating expenditure over the next 4 years. We have also encouraged the business to pursue productivity enhancing activities over the next 4 years by setting annual targets for the business.

We considered the merit an end-of-period true-up for the energy cost

Given the uncertainty on energy prices, we see merit in introducing an energy cost end-of-period true-up for the Pipeline. While our draft decision cannot bind a future Tribunal, this true-up could be implemented by comparing the forecast and actual energy costs over the 2022 determination period to allow for changes in wholesale and network components of energy prices. This means the revenue requirement and prices could be adjusted at the next price review as decided by the Tribunal at the time.

WaterNSW incurs 2 types of costs for the Pipeline:

- operating expenditure, which are day-to-day expenses involved in running and maintaining the infrastructure and equipment to provide water transportation services (e.g. staff wages, electricity, contractors)
- capital expenditure, which are the investments it makes to buy, build and renew the infrastructure and equipment it uses to provide services (e.g. pipelines, buildings).

We assessed how much of each type of cost the Pipeline would need to incur to provide services that meet customers' expectations if the Pipeline is managed with minimum wasted effort and expense. Our decisions on these costs, which we call the efficient costs, determines how much expenditure the Pipeline will be able to recover through prices over the 2022 determination period. We aim to set the efficient costs so they are no more and no less than necessary, to ensure WaterNSW has an incentive to improve how it manages the Pipeline.

This chapter outlines our assessment of WaterNSW's proposed operating expenditure and Chapter 4 discusses capital expenditure. To assist us, we engaged AECOM and the CIE to help us assess the historical and proposed costs for the Pipeline. Our draft decisions represent the overall level of operating expenditure that we consider sufficient to efficiently operate and maintain the Pipeline over the 2022 determination period. They are based on the best available data at the time of the review. The consultants' reports can be found on our website.

WaterNSW proposed operating expenditure of $17.8 million for the Pipeline over the 2022 determination period, averaging around $4.5 million per year. This is higher than the average annual expenditure of $3.7 million included in prices set for the 2019 determination period.

Our draft decision is to set the Pipeline's efficient total operating expenditure at $16.3 million (see Table 3.1). This is 11% higher than the expenditure we set in our last review in 2019, and 8% lower than WaterNSW's proposed operating expenditure.

Our decision is:

5. To set the WaterNSW Pipeline's total operating expenditure allowance for the 2022 determination period at $16.3 million, as shown in Table 3.1.

Table 3.1 Draft decision on efficient operating expenditure ($'000, $2021-22)

	Average 2019	2022-23	2023–24	2024–25	2025–26	Total 2022[a]	Average 2022[b]
WaterNSW proposed	5,031[c]	4,353	4,743	4,249	4,476	17,820	4,455
IPART draft decision	3,681[d]	3,998	4,375	3,863	4,088	16,324	4,081
Difference (total)	-1,351	-355	-368	-386	-387	-1,496	-374
Difference (total, %)	-27%	-8%	-8%	-9%	-9%	-8%	-8%

a. This refers to the sum of operating expenditure for the 2022 determination period.
b. This refers to the average per year of operating expenditure for the 2022 determination period.
c. This figure represents the average of actuals for 2019-20 and 2020-21 and estimates for 2021-22 reported by WaterNSW for the Pipeline in its pricing submission, excluding Wentworth Ski Park Reserve Rehabilitation costs and including regulatory preparation submission costs
d. This figure represents the average of annual operating expenditure allowance set for the 2019 determination period.

Note: Totals may not sum due to rounding

Source: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 34..

3.1 WaterNSW spent more than expected for the past 3 years

In 2019, we set the operating expenditure allowance for the Pipeline using best available information at the time before the Pipeline was operational.

Over the 2019 determination period, WaterNSW reported $15.1 million of total actual operating expenditure for the Pipeline costs.[6] This is $4.1 million (27%) higher than the allowance we used to set prices in 2019.

This increase was mainly driven by higher than expected corporate overheads and energy costs. In 2019, we set these costs based on best available data at the time and before the Pipeline became operational. Corporate overhead costs were higher because WaterNSW applied a different cost allocation methodology from what was used in the 2019 review.[7] Energy costs were higher because WaterNSW had to transport more water to meet higher demand from Essential Water.[8]

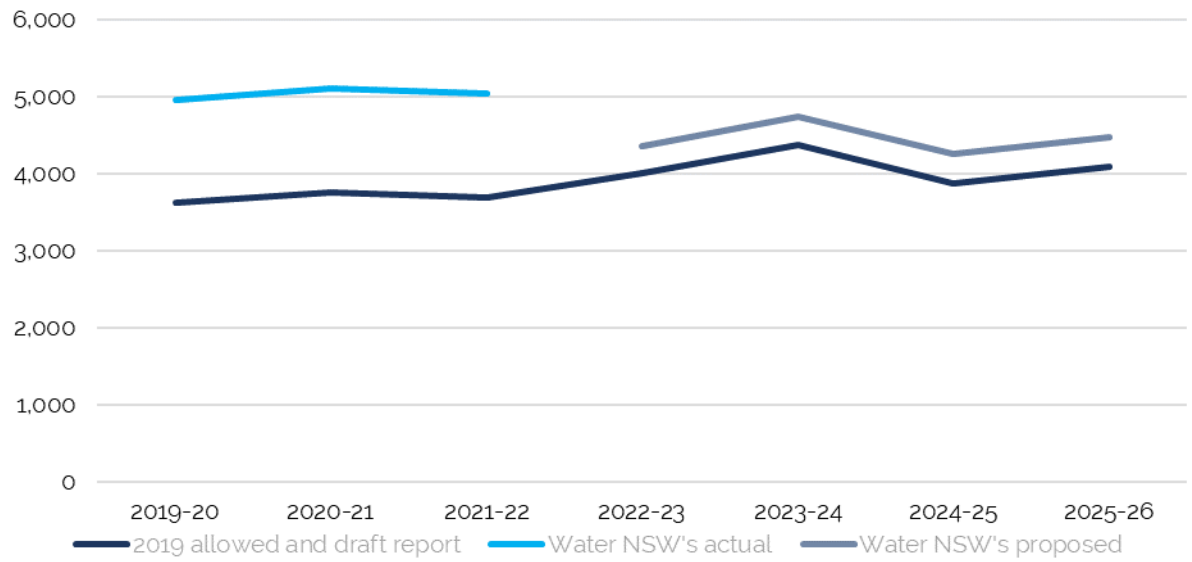
3.2 WaterNSW proposed increases to reflect the Pipeline's operating environment

WaterNSW proposed operating expenditure of around $4.5 million per year (or $18 million in total) for the Pipeline over the 2022 determination period. This is:

- $0.8 million (21%) per year *higher* than the average expenditure used to set prices in 2019
- $0.6 million (11%) per year *lower* than the average of WaterNSW's reported actual expenditure for the Pipeline per year over the 2019 determination period.

Some of WaterNSW's proposed expenditure were based on costs it currently incurs such as the operating and maintenance (O&M) contract costs. Energy costs were based on the approach used in the 2019 review, but considered operating constraints experienced during the 2019 determination period. Other costs such as corporate overheads were based on the application of WaterNSW's existing cost allocation methodology.

Figure 3.1 Operating expenditure allowance compared with the Pipeline's actual and proposed operating expenditure ($'000, $2021-22)



Source: IPART analysis.

3.3 We found opportunities to set expenditure 8% lower than proposed

We have largely accepted WaterNSW's proposal on operating expenditure having considered both AECOM's and CIE's recommendations and WaterNSW's responses to the consultants' findings.

Over the 2022 determination period, our draft decision is to reduce WaterNSW's proposed operating expenditure for the Pipeline by $1.5 million over the 2022 determination period, to around $4 million per year. This amount is:

- $0.4 million (8%) lower per year than proposed by WaterNSW
- $0.4 million (11%) higher per year than the allowance we used to set prices in 2019
- $0.5 million (13%) higher per year than recommended by AECOM and the CIE.[9]

Table 3.2 summarises our adjustments to WaterNSW's total proposed operating expenditure and are based on our findings that:

- We set corporate overheads consistently across WaterNSW's business activities.
- We found opportunities to reduce the proposed regulatory costs.
- There is scope to reduce benchmark energy costs based on actual data in recent years.
- We re-classified the asset replacement costs for offtake customers to capital expenditure.
- The Pipeline could make ongoing efficiency savings over the 2022 determination period.

These findings are discussed in detail in the sections below.

Table 3.2 Draft decision on efficient operating expenditure ($'000, $2021-22)

Expenditure items	2022-23	2023-24	2024-25	2025-26	Total
WaterNSW proposed					
Total	4,353	4,743	4,249	4,476	17,820
Specific and catch-up adjustments					
Energy	-375	-368	-366	-367	-1,476
Corporate overheads	41	45	40	-110	16
Regulatory submission costs	0	0	0	180	180
Asset replacement costs for offtakes	-1	-0	-2	-6	-10
Efficiency adjustments					
Continuing efficiency	-20	-45	-57	-83	-206
Total operating expenditure					
Total expenditure	3,998	4,375	3,863	4,088	16,324
Difference from proposed ($)	*-355*	*-368*	*-386*	*-387*	*-1,496*
Difference from proposed (%)	*-8%*	*-8%*	*-9%*	*-9%*	*-8%*

Source: IPART analysis.

3.3.1 We set corporate overheads consistently across WaterNSW's business activities

In 2019, we set the corporate overheads for the Pipeline which assumed it was a standalone business. For the 2022 Determination, WaterNSW proposed corporate overheads should be set based on the Pipeline being part of WaterNSW's consolidated business. Further, WaterNSW proposed the allocation of corporate overheads to the Pipeline is based on total expenditure approach.

AECOM agreed with WaterNSW that it is reasonable to set corporate overheads for the Pipeline assuming it is part of WaterNSW's consolidated business.[10] However, AECOM recommended the allocation of corporate costs should be based on direct cost approach rather than the proposed total expenditure approach. This recommendation is in line with the decision we made for the WaterNSW rural bulk water price review in 2021.[11]

AECOM also recommended to further reduce overheads allocated to the Pipeline by excluding the Pipeline's operating and maintenance (O&M) contract. AECOM considered this contract was not a driver of overhead costs. WaterNSW contended this additional adjustment because it argued that its total corporate costs, the allocation approach and the level of cost allocated to the different WaterNSW businesses were extensively reviewed in 2021. It was concerned that this would set a precedent of changing the cost allocation approach and amount of cost allocation at each price review for WaterNSW.

While we consider AECOM's findings have merits, we are conscious of potential financial impact on WaterNSW on a consolidated basis should we make further adjustments on corporate costs allocated to the Pipeline only.

On balance, our draft decision is to set the Pipeline's efficient corporate overheads based on the approach and at a similar cost level outlined in the WaterNSW rural bulk water price review. This means using direct cost allocation and allocating a similar cost level for corporate overheads to the Pipeline. As such, we are not accepting AECOM's recommended additional adjustment at this stage. Instead, we recommend considering AECOM's finding at the next opportunity we have to holistically review WaterNSW's corporate overheads, allocation approach and allocation amounts to the different WaterNSW businesses.

We recommend:

1. To consider the findings of AECOM on additional adjustment for corporate overheads to the Pipeline at the next opportunity we have to holistically review WaterNSW's corporate overheads.

3.3.2 We found opportunities to reduce the proposed regulatory costs

WaterNSW proposed a *total* regulatory submission cost of $0.3 million over the 2022 determination period, with around $0.1 million (39%) allocated to operating expenditure and the remaining $0.2 million (61%) to capital expenditure.

AECOM assessed the proposed costs and raised several concerns:[12]

- It is standard practice to expense the cost of preparing a regulatory submission. Therefore, it recommended treating all proposed costs as operating expenditure.
- The proposed costs were considerably higher than the cost allowance we set in 2019. It recommended costs to revert to similar levels allowed in the 2019 Determination. AECOM found opportunities to reduce costs through a more efficient submission process. For example, most inputs for regulatory submissions can be obtained from its O&M contractor. Further, WaterNSW has a regulatory team and it can leverage their capability when preparing the Pipeline's regulatory submission.
- Partly offsetting these cost reductions, AECOM found the proposed consultancy costs for the review of energy costs are necessary because this requires specialist advice. During the expenditure review, WaterNSW indicated that it engages an energy consultant to help in forecasting future energy costs. The associated costs were not included in its proposal. AECOM assessed this new information and it agreed with WaterNSW on providing an additional allowance for the energy cost review.

Overall, AECOM recommended to set the efficient regulatory submission costs at around $0.3 million over the 2022 determination period.

After considering the proposal and our consultants' findings, our draft decision is to accept AECOM's recommendations and set efficient regulatory submission costs at around $0.3 million. This is 8% lower than proposed, but slightly higher than what we set in 2019.

3.3.3 There is scope to reduce benchmark energy costs using actual data

The Pipeline incurs energy costs due to the energy needs of the 4 pump stations that are used to transport water from the Murray River to Broken Hill.

WaterNSW proposed to set the benchmark energy cost allowance for the Pipeline at around $1.5 million per year.[13] This represents around 35% of the total proposed operating expenditure for the 2022 determination period. Further, WaterNSW proposed to use broadly the same approach that was used in 2019 to set the benchmark energy cost allowance. In 2019, we set the benchmark energy costs by:

We have used a benchmark approach to set the efficient energy cost for the 2022 determination period, rather than adopting the Pipeline's contractual arrangements. Under the benchmark approach, we may consider actual data over the 2019 determination period, but we do not necessarily set the energy demand and energy prices to fully reflect them. This is to encourage WaterNSW to find efficiencies when operating the Pipeline.

WaterNSW also proposed to have the ability to adjust future water prices at the next price review for the Pipeline based on changes in benchmark energy prices over the 2022 determination period. Specifically, WaterNSW considered the wholesale and network component of benchmark energy prices are highly uncertain. These components are driven by market forces or set by independent regulators.[14]

For the 2022 Determination, our draft decision is to continue to set benchmark energy costs using the same approach we used in 2019. The following sections summarise the outcomes for each step. In section 3.4, we discuss our draft decision on the benchmark energy cost adjustment.

For step 1, we set the Pipeline's benchmark energy use profile reflecting some of the actuals

The Pipeline uses energy to transport water from the Murray River to the Broken Hill community. The Pipeline's energy use profile, or energy demand, is driven by 2 factors:

1. The energy volume required to operate the Pipeline and transport water
2. The pumping profile or when to pump water that would result in value for money while ensuring water transportation service to Broken Hill is reliable.

The following section outlines:

- how we estimated benchmark energy volumes
- how we set the benchmark pumping profile
- the level of energy demand by the Pipeline.

The benchmark energy volumes to reflect some of the actuals

Energy volume has 2 components:

- Fixed energy volume is the base amount of energy required each day, regardless of how much water is transported by the Pipeline. This is expressed as megawatt hours (MWh) per day.
- Variable energy volume is the amount of energy required to transport each ML of water. This is expressed as MWh per ML.

WaterNSW proposed to use the same benchmark energy volume parameters used to set prices in 2019.[15] WaterNSW reasoned these benchmark parameters were based on an engineering assessment completed about 3 years ago and can be used to set prices over the next 4 years.

Our energy expenditure consultant, the CIE, assessed the proposal against actual data provided by WaterNSW on *monthly* energy volumes. Based on statistical analysis, the CIE observed the benchmark energy parameters used in 2019 could have been set at the high end of the range. The CIE observed a material difference when comparing the actuals with the implied energy volumes based on benchmark parameters used to set prices in 2019. The CIE noted that if the benchmark fixed energy parameter was materially reduced, the implied energy volumes could get closer to actuals. However, the CIE concluded that the 2019 benchmark parameter should be maintained and used to set prices for the 2022 determination period. The CIE recommended an engineering assessment of these benchmark parameters should be undertaken at the next price review.[16]

To test WaterNSW's proposal and assess the CIE's findings, we undertook additional analysis based on *daily* actual energy volumes by the Pipeline. We also observed significant and consistent differences between actuals and implied energy volumes, which are similar with CIE's findings. We asked WaterNSW to comment on this additional analysis and it contended the benchmark parameters set in the 2019 were robust and reasonable to use. However, it could not properly explain the significant difference between actuals and implied energy use.

We also looked at the 2019 benchmark parameters and how we developed them. We acknowledged that these benchmark parameters were based on best available data at the time. We made assumptions on how much energy volume the Pipeline would need for its operation and to transport each ML of water to Broken Hill before the Pipeline was operational. When comparing the actuals and 2019 benchmark parameters, we observed that our 2019 benchmark for fixed energy volume was materially different from actuals, while our assumption for benchmark variable energy volume was similar with actuals.

For this review, we have the benefit of analysing 2 years' worth of actual data. We consider it is appropriate to change our 2019 benchmark parameters and set them to reflect some of actual trends over the 2019 determination period. Therefore, for the 2022 determination period, our draft decisions are to set a lower benchmark fixed energy volume parameter and no change to variable energy volume parameter.

The benchmark pumping profile to reflect some of the Pipeline's actual operating constraints

In 2019, we set the benchmark pumping profile based on a hypothetical efficient profile given the Pipeline was not yet operational. To keep costs as low as possible, we optimised the benchmark pumping profile by prioritising the pumping of water during off-peak periods in our modelling. Then, if required, we assumed for the Pipeline to pump water during shoulder periods and lastly during peak periods.

WaterNSW proposed to use the Pipeline's actual pumping profile in 2019-20 to determine energy costs. This is because using actuals would consider the Pipeline's operational constraints, which WaterNSW considered were not factored in the 2019 modelling.

The CIE considered both WaterNSW's proposal and the modelling work done in the 2019 review in its assessment. The CIE concluded that it would be reasonable to adopt the model used in the 2019 review but make some adjustments to allow for some of the Pipeline's operational constraints. There are several reasons for this:[17]

- The pumping profile depends on the total amount of water transported by the Pipeline. Using the actual data would not allow the pumping profile to change with the amount of water being transported by the Pipeline. In Chapter 6, we discuss our findings and decisions on demand for transporting water using the Pipeline.
- There is no clear evidence to suggest the 2019-20 pumping profile is efficient. WaterNSW provided additional actuals for 2020-21 and the CIE observed noticeable differences between these 2 actual pumping profiles.
- The modelling should factor in some of the operating constraints, in particular how WaterNSW uses the bulk water storage when operating the Pipeline to meet customer demand.

We agree with the CIE's recommendation on the benchmark pumping profile. Overall, we agree on-balance as it considers some of the Pipeline's operating risks in the modelling while incentivising WaterNSW to operate the Pipeline efficiently.

The benchmark energy demand profile of the Pipeline

Table 3.3 shows the estimated benchmark energy demand in off-peak, shoulder and peak periods in each year of the 2022 determination period. Our draft decision on energy demand differs from WaterNSW because we used different benchmark energy volume parameters, pumping profile and the volume of water transported by the Pipeline, which affects the pumping profile (see Chapter 6 for more details).

Table 3.3 Draft decisions on the Pipeline's benchmark energy demand (MWh)

	Average 2019[a]	2022-23	2023-24	2024-25	2025-26	Total 2022[b]
IPART 2019 decision and 2022 draft decision						
Off-peak	12,784[c]	8,637	8,661	8,635	8,627	34,561
Shoulder	2,751[c]	1,277	1,217	1,221	1,188	4,904
Peak	571[c]	39	38	36	35	148

a. This column represents the average of energy demand per year for the 2019 determination period.
b. This refers to the sum of energy demand for the 2022 determination period.
c. This represents the average of energy demand per year as set out in the 2019 Determination.

Source: IPART analysis.

For step 2, we based the forecast energy prices on updated data

WaterNSW engaged Frontier Economics to forecast energy prices for the 2022 determination period. Frontier Economics used a cost build-up approach to consider the different components of energy prices. This is the same approach used in the 2019 review when determining the energy cost.

We engaged an independent consultant, the CIE, to assess WaterNSW's proposal and work done by Frontier Economics. The CIE found the forecasting approach by Frontier Economics is reasonable. However, the CIE adjusted some of the energy price components to consider latest market data.

Our draft decision is to accept the CIE's recommendation on forecast energy prices. These forecasts are used to set the Pipeline's energy costs for the next 4 years. For the Final Report, we will consider whether we need to update these forecast energy prices to account for latest market data. In section 3.4, we discuss our draft decision on the energy cost adjustment at the next price review when specific components of energy prices change during the 2022 determination period.

For step 3, we set total benchmark energy costs at around $4.7 million over the next 4 years

As shown in Table 3.4 shows, our draft decision on benchmark energy costs is lower than WaterNSW's proposal. This is mostly driven by our draft decision to change the Pipeline's benchmark energy volumes, which affects the overall energy demand profile and energy costs.

Table 3.4 Draft decision on benchmark energy costs ($'000, $2021-22)

Energy cost	2022-23	2023-24	2024-25	2025-26	Total
WaterNSW proposed	1,563	1,551	1,544	1,537	6,194
The CIE recommendation	1,547	1,540	1,534	1,525	6,145
IPART draft decision	1,188	1,183	1,177	1,170	4,718
Difference from proposal (total)	-375	-368	-366	-367	-1,476
Difference from proposal (total, %)	-24%	-24%	-24%	-24%	-24%

Source: IPART analysis

3.3.4 We have re-classified asset replacement costs for offtake customers

Asset replacement expenditure over the 2022 determination period includes a number of minor asset replacement works. This is based on the asset renewal schedule specified under the O&M contract. WaterNSW proposed to treat all asset replacement expenditure as operating costs because the expenditure is below its (accounting) capitalisation threshold.[18]

For services to Essential Water, we accepted WaterNSW's proposal to treat asset replacement costs as operating expenditure rather than capital expenditure because the impact on Essential Water's annual bill is very small (less than 0.2%). This is because the bulk of the expenditure occurs in the first 2 years of the determination period and the assets created have an average asset life of around 5 years. This means that, if we treated asset replacement costs as capital expenditure, WaterNSW would recover most of the expenditure over the 2022 determination period. In addition, the amount of expenditure is small (2.5% of non-electricity operating costs).

We did not accept WaterNSW's proposal for services to offtake customers because the impact on offtake bills is material. Treating asset replacement costs as operating expenditure rather than capital expenditure would add around $442 (before inflation) to the annual access charge that an offtake customer pays in 2022-23 (or around 7% increase). This happens because almost 90% of the expenditure occurs in the last 2 years of the 2022 determination period, with almost 65% occurring in the last year alone. Treating asset replacement as capital expenditure means that WaterNSW will recover the costs of the expenditure over life of the assets (4 years) rather than upfront.

3.3.5 We consider WaterNSW could make ongoing efficiency savings

When setting prices for public water utilities, we generally apply a continuing efficiency adjustment. to all operating expenditure and capital expenditure. This adjustment is important because it ensures our maximum prices capture the impact of management initiatives and new technologies that enable firms to do more with less input. We favour a forward looking adjustment because it:

- incentivises the regulated firms to pursue productivity enhancing activities over the determination period
- recognises market based firms continuous push to innovate and become more productive over time
- is consistent with the incentive based framework under which we set prices for public water utilities.

By putting a quantitative target in place, we establish an expectation of continuous productivity improvement that efficient businesses should reasonably be able to achieve over the determination period.

Our draft decision is to apply continuing efficiency adjustment of 0.7% per year, totalling $206,000 in efficiency savings over the 2022 determination period (see Table 3.5). This adjustment is based on our current methodology which reflects the long-run shift in the efficient frontier. This includes:

- Using the market sector based estimate of the Australian multi-factor productivity (MFP) growth data to calculate the continuing efficiency adjustment. We continue to prefer market sector rather than data specific to the utilities or a subset of industries. This approach represents the efficiencies that could be available to utilities, through internal initiatives or incorporated through supply chains.
- Using the long-run average of the entire time series data rather than a shorter time period (or favouring more recent data). A longer time series provides more data points and helps to reduce the impacts on final estimates of unusual MFP growth over a single business cycle. Further, this approach does not require judgement about what part of the business cycle we will experience over the determination period.

Table 3.5 Draft decision on continuing efficiency factors

Efficiency adjustment	2022-23	2023-24	2024-25	2025-26	Total
Continuing efficiency (cumulative %)	-0.7%	-1.4%	-2.1%	-2.8%	N/A
Continuing efficiency ($ '000, $2021-22)	-20	-45	-57	-83	-206

Source: IPART analysis.

3.4 We consider the merit of an end-of-period true-up for the benchmark energy cost allowance

In the 2019 Determination, the Pipeline's energy cost allowance was determined by benchmarking the energy prices and energy demand. For the 2022 Determination, WaterNSW proposed to adopt a similar approach. However, WaterNSW argued that forecasting energy prices can be challenging. This is because key energy price components are driven by market forces or decisions, which are outside of WaterNSW's control. To manage this forecast energy price risk, WaterNSW proposed to pass some of the risks onto customers by having an end-of-period true-up for the benchmark energy cost. The true-up would require:[19]

- monitoring the changes in wholesale and network components of benchmark energy prices for the Pipeline over the 2022 determination period
- maintaining the benchmark energy demand profile used to set prices for the 2022 determination period
- calculating the annual changes to the benchmark energy cost due to changes in the benchmark energy price components
- passing the cumulated changes in benchmark energy cost at subsequent price reviews.

Given the uncertainty on energy prices, we see merit in introducing a benchmark energy cost end-of-period true-up for the Pipeline. In Box 3.1, we applied our cost pass through principles in our assessment. While our draft decision cannot bind a future Tribunal, this true-up could be implemented by comparing:

- the benchmark energy cost used to set prices for the next 4 years, with
- the benchmark energy costs that incorporate updated energy prices (wholesale and network components only).

This means the future revenue requirement and prices for the Pipeline could be adjusted at the next price review as decided by the Tribunal at the time.

Our draft decision is:

6. To consider at the next determination of the Pipeline's prices:
   - Whether an adjustment to the revenue requirement and prices is required to address any over or under-recovery of revenue over the 2022 determination period due to changes in energy costs as a result of changes in wholesale and network components of energy prices.
   - Whether and how best to make a revenue adjustment based on the circumstances at the time.

Box 3.1 Assessing the proposed true-up for energy costs

We applied cost-pass through principles in our assessment of the proposed true-up by WaterNSW. We consider these principles support the proposal because:

- There is a trigger event. WaterNSW proposed to pass on changes in energy costs due to movements in wholesale and network energy prices to customers at the next price review.
- We can assess the impact on efficient cost at the next price review.
- The impact on efficient cost can be material.
- WaterNSW cannot influence the likelihood of the trigger event or the changes in efficient cost. This is because wholesale and network energy prices are determined either by the market or other independent regulators/authorities.
- The true-up is symmetric and applies equally to cost increases and decreases.
- The true-up would support more cost-reflective prices.

Source: IPART analysis

Chapter 4

Capital expenditure and performance indicators

04

Summary of our draft decisions for capital expenditure

To accept most of the Pipeline's proposed past capital expenditure and set efficient capital expenditure at $4.1 million

We found that the Pipeline's capital expenditure over the 2019 determination period is mostly efficient and our draft decision is to accept it. WaterNSW spent more than the allowance set by IPART for the 2019 Determination due to higher land acquisition costs and the Wentworth Ski Park project. These costs appear to be justified and reasonable, however we would like to see improvements in WaterNSW's documentation of capital projects.

We have decreased capital expenditure by around $0.2 million because we consider that regulatory submission costs should not be treated as capital expenditure.

To set the capital expenditure allowance at around $10,000 for the 2022 Determination

WaterNSW proposed minimal capital expenditure of around $0.3 million for the 2022 Determination, consisting of regulatory submission costs. Our draft decision is that regulatory submission costs should be treated as operating expenditure, and so we have excluded these costs from the capital expenditure allowance. We have reclassified asset replacement costs for offtake customers as capital expenditure and have therefore set the allowance at around $10,000 to reflect this.

That WaterNSW continue to report on the existing set of performance indicators for the Pipeline as part of its Annual Information Return

WaterNSW currently submits data every year to IPART on a set of performance indicators for the Pipeline to inform future reviews (including our expenditure and demand assessments). These performance indicators form part of an information package (the annual information return). Our draft decision is that WaterNSW continue to report on these performance indicators for the Pipeline.

Capital expenditure is needed to renew existing assets and establish new assets that service customers over the long term. Key drivers of capital expenditure are meeting customer service standards and compliance with regulatory obligations. The capital expenditure allowance we set for the Pipeline does not represent the amount it is required to spend or allocate to specific capital projects. Rather, it represents our view on the overall level of capital expenditure (to be recovered through prices) that we consider reasonable to maintain or improve services over the determination period. WaterNSW decides how to prioritise capital expenditure within a determination period.

This chapter outlines our assessment of the Pipeline's capital expenditure. It discusses:

- the Pipeline's actual capital expenditure during the 2019 determination period and compares this to the allowance we set in the previous review
- the Pipeline's proposed capital expenditure for the 2022 determination period
- our decisions on the Pipeline's actual and proposed capital expenditure.

As with operating expenditure, we engaged AECOM to review the Pipeline's past and proposed capital expenditure. AECOM's report, which includes detailed analysis of the Pipeline's capital expenditure, is available on our website. We also considered submissions from stakeholders in making our decisions.

Under the building block method, capital expenditure is added to the Regulatory Asset Base (RAB) and recovered over time through allowances for return on assets and depreciation.

4.1 WaterNSW spent more than expected over the last 3 years

WaterNSW spent around $4 million in capital expenditure over the last 3 years. This is higher than the allowance of around $0.5 million we set in our 2019 review, to acquire land to access the Pipeline for operations and maintenance.[20] These higher costs are mostly due to higher land acquisition costs to ensure infrastructure is available to support Pipeline operations.[a] AECOM agreed that these costs are reasonable, but also noted that the quality of supporting documentation was poor.

WaterNSW is also proposing to capitalise the costs of Wentworth Ski Park Reserve project ($1.6 million). WaterNSW rehabilitated the Greater Murray Darling Junction Reserve at Wentworth Ski Park as a 'make good' obligation to the residents of Wentworth.[21] AECOM found that the project was necessary and that the lowest priced option was chosen from a competitive tender process.

[a] WaterNSW attributes a large proportion of its capital cost to land acquisitions required to place infrastructure such as pump stations, bulk water storage and access to place pipe on private lands. AECOM, Expenditure review of WaterNSW Broken Hill Pipeline excluding energy costs, December 2021, pp 52-53.

4.2 We have accepted most of the Pipeline's past capital expenditure

Although WaterNSW spent more than the allowance, we found that capital expenditure over the last 3 years is mostly efficient.

AECOM recommended that we decrease capital expenditure by around $0.2 million because it considers that regulatory submission costs should not be treated as capital expenditure. We agree with AECOM's findings and recommended adjustments for regulatory submission costs and have accepted its recommended capital expenditure allowance of around $4 million, shown in Table 4.1.

Table 4.1 AECOM recommended adjustments to capital expenditure - 2019 Determination ($'000, $2021-22)

	2019-20	2020-21	2021-22	Total
WaterNSW proposed capital expenditure	1,986	659	1,693	4,337
AECOM recommended adjustments (regulatory submission costs)	0	-190	-93	-283
IPART draft recommended capital expenditure allowance	1,986	469	1,600	4,055

Source: IPART analysis

Our draft decision is:

7. To set the Pipeline's efficient capital expenditure to be included in the Regulatory Asset Base (RAB) for the 2019 determination period as shown in Table 4.2.

Table 4.2 IPART's draft decision on capital expenditure – 2019 Determination ($'000, $2021-22)

	2019-20	2022-21	2021-2022	Total
Pipeline	648	5	0	653
Bulk water storage facility	37	0	0	38
Plant and machinery (including pump stations and river intake)	55	0	0	55
Buildings	11	0	0	11
Regulatory submission costs and other support costs	0	99	0	99
Cost of land swap agreement	0	0	296	296
Wentworth Ski park rehabilitation	1,235	54	84	1,373
Non-depreciating assets (e.g. land)	0	310	1,220	1,530
Offtake customers (including land swap agreement offtake)	0	0	0	0
Total	**1,986**	**469**	**1,600**	**4,055**

Source: IPART analysis

4.3 Regulatory submission costs should not be capitalised

For the 2022 determination period, WaterNSW proposed a relatively small capital expenditure allowance (around $0.3 million) consisting of capitalised regulatory submission costs.[22] We have accepted AECOM's recommendation to treat regulatory submission costs as operating expenditure. As discussed in Chapter 3, we did not accept WaterNSW's proposal to treat asset replacement costs as operating expenditure for offtake customers because the impact on offtake bills is material. Table 4.3 shows our adjustments to proposed capital expenditure which reflect these decisions.

Table 4.3 AECOM recommended adjustments to capital expenditure - 2022 Determination ($'000, $2021-22)

	2022-23	2023-24	2024-25	2025-26	Total
WaterNSW proposed capital expenditure	0	0	0	180	180
Asset replacement costs for offtake customers (excluding the land swap agreement offtake) [a]	1	0	3	7	10
AECOM recommended adjustments (regulatory submission costs)	0	0	0	-180	-180
AECOM recommended efficiency adjustments	0	0	0	0	0
IPART draft capital expenditure allowance	1	0	2	6	10

a: Asset replacement costs for land swap agreement offtake are included in the operating costs for services to Essential Water.
Source: IPART analysis

Our draft decision is:

8. To set the Pipeline's efficient capital expenditure for the 2022 determination period as shown in Table 4.4.

Table 4.4 IPART's draft decision on capital expenditure – 2022 determination ($'000, $2021-22)

	2022-23	2023-24	2024-25	2025-26	Total
Pipeline	0	0	0	0	0
Bulk water storage facility	0	0	0	0	0
Plant and machinery (including pump stations and river intake)	0	0	0	0	0
Buildings	0	0	0	0	0
Regulatory submission and other support costs	0	0	0	0	0
Cost of land swap agreement	0	0	0	0	0
Wentworth Ski park rehabilitation	0	0	0	0	0
Non-depreciating assets (e.g. land)	0	0	0	0	0
Offtake customers (excluding land swap agreement offtake)[a]	1	0	2	6	10
Total	**1**	**0**	**2**	**6**	**10**

a Asset replacement costs for land swap agreement offtake are included in the operating costs for services to Essential Water.
Source: IPART analysis

4.4 The Pipeline's long-term planning processes are sound but do not consider the impacts of climate change

AECOM reviewed the Pipeline's long-term asset management and planning processes and found that they reflect good practice, but also that there is scope to consider climate change impacts.

WaterNSW requires its operations and maintenance contractor for the Pipeline (John Holland TRILITY Joint Venture (JV)) to maintain a comprehensive asset management plan for the Pipeline and associated assets.[23] The asset management plan for the Pipeline does not mention climate change planning and does not include a review of demand factors, or specific climate change risks to assets or service delivery.

The capacity of the Pipeline and associated bulk water storage is higher than what is currently required by customers, which may represent a consideration for future climatic conditions. However, an asset management plan that considers climate change would typically consider changes in demand, or risks, caused by changes in climate. For example, the risks and demand sections of the asset management plan could consider more frequent severe weather or climate events, such as drought or heavy rain.[24]

We encourage WaterNSW to include climate change in its long-term planning processes.

4.5 We will continue to collect the same performance indicators for the Pipeline over the next 4 years

We often set output measures and/or performance indicators for the water utilities we regulate to assess whether they are delivering on the expenditure plans or outcomes outlined in their pricing proposals. This is important because we set prices to enable them to recover the forecast costs of delivering services to customers. WaterNSW did not propose any output measures or performance indicators in its pricing submission to IPART for this review.

In 2019, we decided there was limited benefit in setting output measures that focus on capital projects or expenditure because the Pipeline was new and forecast operating and capital expenditure over the 2019 determination period was relatively small. Instead, we decided it was more appropriate for WaterNSW to report on a set of performance indicators to inform future reviews (including our expenditure and demand assessments), as shown in Table 4.5. These performance indicators form part of an information package WaterNSW submits to IPART every year for the Pipeline (the annual information return).

For the 2022 determination period, we consider WaterNSW should continue to report on these performance indicators over the next 4 years. We now have 2 years of performance data for the Pipeline (i.e. 2019-20 and 2020-21), but will require more data over a longer time frame to better inform our assessments about the Pipeline's performance.

Table 4.5 Performance indicators for the Pipeline

Category	Performance indicators
Revenue	Actual revenues in relation to: • The Pipeline's water transportation service • Offtake revenues
Expenditure	• Annual reporting on each of the Pipeline's capital expenditure and operating expenditure items, including electricity costs
Water quantity	• Monthly volume of water delivered to the bulk water storage facility • Monthly volume of water in the bulk water storage facility relative to total capacity of the facility • Monthly volume of water delivered to Essential Water • Monthly volume of water delivered to offtakes
Assets	• Energy usage by pump station at off-peak, shoulder and peak times each month (measured in kWh) • Number, type and size (in dollar terms) of efficiency initiatives effected under the O&M Contract's efficiency benefit sharing scheme • Electricity savings (defined as the John Holland Trility JV's actual electricity costs minus electricity payments made by WaterNSW to the JV) that are made under the O&M Contract's electricity saving sharing mechanism • Total number of times in which the Pipeline is placed in shutdown and standby modes • Frequency of times in which the Pipeline is placed in shutdown and standby modes by Essential Water

Source: IPART, WaterNSW Murray River to Broken Hill Pipeline, May 2019, p 80.

Our draft decision is:

9. That WaterNSW continue to report on the set of performance indicators for the Pipeline as part of its Annual Information Return (AIR), as outlined in Table 4.5.

Chapter 5

Other building block costs and notional revenue requirement

05

Summary of our decisions for other building block costs and notional revenue requirement

WaterNSW's total notional revenue requirement is $82.2 million

This amount is $15.8 million (16.1%) less than what WaterNSW proposed.

The difference largely reflects our reduction in the WACC and WaterNSW's electricity purchase cost to an efficient level (see Chapter 3).

Of the total amount, about $82.1 million (99.9%) is for services to Essential Water while the remaining $0,1 million (0.1%) is for services to offtake customers

WaterNSW's total return on assets is $45.6 million

For the 2022 determination period, the opening RAB for Essential Water is $406.3 million and we added forecast capital expenditure over the period of zero.

The opening RAB for offtake customers is $0.3 million and we added forecast capital expenditure over the period of about $10,000.

We used a real post-tax weighted average cost of capital (WACC) estimate of 2.9% as the efficient rate of return.

WaterNSW's total return of assets (regulatory depreciation) is $20.8 million

We calculated this allowance using a straight-line depreciation method and by determining the appropriate asset lives for the assets in WaterNSW's RABs for services to Essential Water and offtake customers respectively.

WaterNSW's working capital allowance is $0.5 million

We set the allowance by calculating the net amount of working capital WaterNSW requires and multiplying it by the nominal post-tax WACC.

WaterNSW's total tax allowance is $2.2 million

We calculated the tax allowance using a tax rate of 30% and our standard methodology.

WaterNSW's cost of debt true-up is -$3.1 million

The 2019 WaterNSW price determination allowed for an end of period true-up to account for cumulative annual changes in the cost of debt over that determination period.

To set prices, we first determine the efficient costs that WaterNSW would require to deliver its services. The notional revenue requirement (NRR) represents our view of the total efficient costs of providing the regulated services to Essential Water and offtake customers in each year of the determination period. In general, we then set prices to recover this amount of revenue.

This chapter sets out our calculation of the notional revenue required to fund WaterNSW's regulated services over the 2022 determination period.

5.1 WaterNSW's total NRR is $82.2 million

Our draft decisions are:

10. To set the notional revenue requirement for services to Essential Water at $82.1 million over the 2022 determination period as shown in Table 5.1.

11. To set the notional revenue requirement for services to offtake customers at $0.1 million over the 2022 determination period as shown in Table 5.2.

Our draft decision for services to Essential Water is to set total NRR for the 2022 determination period at $82.1 million, which is $15.8 million (16.1%) lower than WaterNSW's proposed revenue requirement of $97.9 million. Table 5.1 compares our draft decision on NRR for services to Essential Water with WaterNSW's proposal.

Table 5.1 Draft decision notional revenue requirement for services to Essential Water for the 2022 determination period ($'000, $2021–22)

Building block	2021-22[a]	2022-23	2023-24	2024-25	2025-26	Total
WaterNSW's proposed						
Total notional revenue requirement		24,633	24,855	24,179	24,241	97,907
Draft decision						
Operating expenditure	3,681	3,998	4,374	3,862	4,088	16,322
Return on assets	16,146	11,614	11,464	11,314	11,164	45,556
Regulatory depreciation	**5,076**	5,179	5,179	5,179	5,179	20,717
Tax allowance	177	494	525	552	580	2,151
Return on working capital	**869**	104	121	119	119	464
Cost of debt true-up		-3,107	0	0	0	-3,106.5
Total notional revenue requirement	25,949	**18,283**	**21,663**	**21,026**	**21,130**	**82,103**
Difference proposed & Draft decision		-6,350	-3,192	-3,152	-3,111	-15,804
Difference proposed & Draft decision (%)		-25.8%	-12.8%	-13.0%	-12.8%	-16.1%

a The notional revenue requirement for 2021-22 presented in this table is based on the 2019 Determination, adjusted for inflation.

Note: totals may not sum due to rounding.

Source: IPART analysis.

Our draft decision for services to offtake customers is to set total NRR for the 2022 determination period at $0.1 million. Our draft decision is about 15.8% lower than WaterNSW's proposed revenue requirement. Table 5.2 compares our Draft decision on NRR for services to offtake customers with WaterNSW's proposal. All costs for offtake customers exclude the costs for the offtake provided under the land swap agreement.[a]

Table 5.2 Draft decision notional revenue requirement for services to offtake customers for the 2022 determination period ($'000, $2021–22)

Building block	2021-22[a]	2022-23	2023-24	2024-25	2025-26	Total
WaterNSW's proposed						
Total notional revenue requirement		29	28	30	35	123
Draft decision						
Operating expenditure	10	1	1	1	1	2
Return on assets	14	9	9	9	8	35
Regulatory depreciation	**15**	15	15	15	16	62
Tax allowance	0	1	1	1	1	4
Return on working capital	**1**	0	0	0	0	1
Cost of debt true-up		0	0	0	0	0
Total notional revenue requirement	**40**	**26**	**26**	**26**	**26**	**104**
Difference proposed & Draft decision		-4	-2	-5	-9	-19
Difference proposed & Draft decision (%)		-12.3%	-8.6%	-15.8%	-24.5%	-15.8%

a The notional revenue requirement for 2021-22 presented in this table is based on the 2019 determination, adjusted for inflation.

Note: totals may not sum due to rounding.

Source: IPART analysis.

[a] As part of the construction of the Pipeline, WaterNSW entered into an agreement with an offtake customer to waive access and usage charges (limited to 300,000KL usage to 2050) in exchange for permitting the access to part of their land (see WaterNSW, *Pricing proposal to IPART*, June 2021, p47). The costs associated with this offtake are borne by Essential Water.

5.2 We used the building block approach to calculate the NRR

We used the 'building block' approach to calculate WaterNSW's NRR for services to Essential Water and offtake customers respectively, as outlined in Chapter 2, This approach involves determining an allowance for each year of the determination period for each of the 5 components (or building blocks):

- operating expenditure (Chapter 3)
- return of those assets (regulatory depreciation) (section 5.4)
- return on the regulatory value of its assets (section 5.5 and Appendix B)
- an allowance for working capital (section 5.7)
- an allowance for meeting tax obligations (section 5.8).

The annual sum of these building block items is the NRR and represents our assessment of the total efficient costs WaterNSW should incur in delivering its services.

We also make an adjustment for the previous determination period, namely for the difference in the cost of debt (discussed in section 5.6).

5.3 We determine the regulatory asset base using our usual methodology

Our draft decisions for services to Essential Water are:

12. To calculate the regulatory asset base for 2019-20 to 2025-26 by using:
    - a 2019-2020 opening regulatory asset base of $392.2 million. The regulatory asset base for each year is shown in Table 5.3 and Table 5.4
    - $3.9 million (nominal) of prudent and efficient historical capital expenditure added to the RAB over the 2019 determination period (Chapter 4)
    - forecast capital expenditure added to the RAB over the 2022 determination period of zero (Chapter 4)
    - asset disposals and cash capital contributions of zero.

Our draft decisions for offtake customers are:

13. To calculate the regulatory asset base for 2019-20 to 2025-26 by using:
    - a 2018-2019 opening regulatory asset base of $0,4 million. The regulatory asset base for each year is shown in Table 5.5 and Table 5.6
    - capital expenditure added to the RAB over the 2019 determination period of zero (Chapter 4)
    - forecast capital expenditure added to the RAB over the 2022 determination period of around $10,000 (Chapter 4)
    - asset disposals and cash capital contributions of zero.

The regulatory asset base (RAB) represents the value of WaterNSW's assets on which it should earn a return on capital and an allowance for regulatory depreciation.

5.3.1 The opening regulatory asset base for services to Essential Water for the 2022 determination period is $406.3 million

We calculated the opening RAB for the 2022 determination period by rolling the RAB forward from the previous determination period. To roll the RAB forward from 1 July 2019 to 1 July 2022 we started with an opening RAB of $392.2 million and made the following adjustments:

- adding $3.9 million (nominal) of prudent and efficient historical capital expenditure (Chapter 4)[b]
- deducting zero for cash capital contributions and asset disposals (see section 5.3.3)
- deducting $15.0 million (nominal) for regulatory depreciation (section 5.4)
- adding $25.1 million of annual indexation of the RAB.

We also rolled the RAB forward from 1 July 2018 to 1 July 2019 because, at the time of the 2019 Determination, we had only forecast capital expenditure and inflation for 2018-19. Replacing forecast with actual capital expenditure and inflation means the opening RAB on 1 July 2019 is 0.3% higher than the closing RAB on 30 June 2019 as set out in the 2019 price review.[25]

Our RAB roll forward calculations for 2018-19 and the 2019 determination period are set out in Table 5.3.

[b] Total capital expenditure shown in chapter 4 is slightly higher ($4.1 million) because the amounts in that chapter are presented in $2021-22, rather than in nominal terms.

Table 5.3 RAB calculation for the 2019 determination period for services to Essential Water ($'000, $ nominal)

RAB	2018-19	2019-20	2020-21	2021-22
Opening RAB	220,211	392,236	388,073	398,258
Plus: Efficient capital expenditure	157,231	1,859	456	1,600
Less: Cash capital contributions	0	0	0	0
Less: Asset disposals	0	0	0	0
Less: Regulatory depreciation	825	4,842	5,026	5,172
Plus: Indexation	4,781	-1,179	14,755	11,573
Plus: Financing costs[a]	10,838	0	0	0
Closing RAB	392,236	388,073	398,258	406,260

a Financing costs are the costs associated with financing capital projects as expenditure is incurred up to the date of commissioning. The Pipeline was commissioned in April 2019.

Note: Totals may not sum due to rounding.

Source: IPART analysis.

We calculated the RAB in each year of the 2022 determination period by rolling forward the RAB to 2025–26 by:

- adding zero forecast capital expenditure (Chapter 4)
- deducting zero for forecast cash capital contributions and asset disposals (section 5.3.3)
- deducting $21.0 million for regulatory depreciation (section 5.4.4).

Our RAB roll forward calculations for the 2022 determination period are shown in Table 5.4.

Table 5.4 RAB calculation for the 2022 determination period for services to Essential Water ($'000, $2021–22)

RAB	2022-23	2023-24	2024-25	2025-26
Opening RAB	406,260	401,006	395,752	390,498
Plus: Efficient capital expenditure	0	0	0	0
Less: Cash capital contributions	0	0	0	0
Less: Asset disposals	0	0	0	0
Less: Regulatory depreciation	5,254	5,254	5,254	5,254
Closing RAB	401,006	395,752	390,498	385,244

Note: Totals may not sum due to rounding.

Source: IPART analysis.

5.3.2 The opening regulatory asset base for services to offtake customers for the 2022 determination period is $0.4 million

We calculated the opening RAB for the 2022 determination period by rolling the RAB forward from the previous determination period. To roll the RAB forward from 1 July 2019 to 1 July 2022 we started with an opening RAB of $0.4 million and made the following adjustments:

- adding zero for historical capital expenditure (Chapter 4)
- deducting zero for the cash capital contributions and asset disposals (section 5.3.3)
- deducting around $44, 000 for regulatory depreciation (section 5.4.4)
- adding around $21,000 for annual indexation of the RAB.

We also rolled the RAB forward for the year to 1 July 2019 because, at the time of the 2019 Determination, we only had forecast capital expenditure and inflation for 2018-19. Replacing forecast with actual capital expenditure and inflation means the opening RAB on 1 July 2019 is about 0.1% higher than the closing RAB on 30 June 2019 as set out in the 2019 price review.[26]

Our RAB roll forward calculations for 2018-19 and the 2019 determination period are set out in Table 5.5.

Table 5.5 RAB calculation for the 2019 determination period for services to offtake customers ($'000, $ nominal)

RAB	2018-19	2019-20	2020-21	2021-22
Opening RAB	208	351	336	334
Plus: Efficient capital expenditure	131	0	0	0
Less: Cash capital contributions	0	0	0	0
Less: Asset disposals	0	0	0	0
Less: Regulatory depreciation	2	14	15	15
Plus: Indexation	4	-1	13	10
Plus: Financing costs[a]	10	0	0	0
Closing RAB	351	336	334	329

a Financing costs are the costs associated with financing capital projects as expenditure is incurred up to the date of commissioning. The Pipeline was commissioned in April 2019.

Note: Totals may not sum due to rounding.

Source: IPART analysis.

We calculated the RAB in each year of the 2022 determination period by rolling forward the RAB to 2025–26 by:

- adding around $10,000 for forecast capital expenditure (Chapter 4)
- deducting zero for forecast cash capital contributions and asset disposals
- deducting around $63,0000 for regulatory depreciation (section 5.4.4).

Our RAB roll forward calculations for the 2022 determination period are shown in Table 5.6.

Table 5.6 RAB calculation for the 2022 determination period for services to offtake customers ($'000, $2021–22)

RAB	2022-23	2023-24	2024-25	2025-26
Opening RAB	329	315	300	287
Plus: Efficient capital expenditure	1	0	2	6
Less: Cash capital contributions	0	0	0	0
Less: Asset disposals	0	0	0	0
Less: Regulatory depreciation	15	15	16	17
Closing RAB	315	300	287	276

Note: Totals may not sum due to rounding.

Source: IPART analysis.

5.3.3 WaterNSW has no cash capital contributions or asset disposals

Cash capital contributions refers to external funding that WaterNSW receives towards its capital expenditure, such as government grants or contributions from customers. Cash capital contributions are netted off capital expenditure before it (capital expenditure) enters the RAB. This ensures that customers do not pay a return on assets or regulatory depreciation for capital expenditure that has already been funded from other Sources.

WaterNSW did not receive or anticipate receiving any cash capital contributions over the 2019 and 2022 determination periods.

Asset disposals can include asset sales, write-offs and write-downs. WaterNSW had no asset disposals over the 2019 determination period and proposed no disposals over the 2022 determination period. We accepted its proposal.

5.4 WaterNSW's total regulatory depreciation is $20.8 million

Our draft decisions are:

14. To calculate the allowance for return of assets (regulatory depreciation), using:
    - a straight-line depreciation method
    - for existing assets, the rolled forward asset lives from the 2019 determination period as listed in Table 5.7
    - for new assets, the asset lives listed in Table 5.7.

15. For services to Essential Water, to set the allowance for return of assets at $20.7 million over the 2022 determination period as shown in Table 5.9.

16. For services to Offtake customers, to set the allowance for return of assets at $0.1 million over the 2022 determination period as shown in Table 5.9.

We included an allowance for regulatory depreciation in the revenue requirement, to ensure the capital invested in regulatory assets is returned over the useful life of each asset. We calculated this allowance by determining the appropriate asset lives for the assets in WaterNSW's RABs and the appropriate depreciation method to use.

5.4.1 We used straight-line depreciation to calculate regulatory depreciation

Consistent with our usual approach, we used the straight-line depreciation method to calculate regulatory depreciation. Under this method, the assets in the RAB are depreciated by an equal value in each year of their economic life. We consider this method is superior to alternatives in terms of simplicity, consistency and transparency.

5.4.2 We maintained our approach for rolling forward asset lives for existing assets

We typically calculate the remaining lives of existing assets by rolling forward our previous determination to incorporate new efficient assets and accounting for asset disposals. We maintained this approach for the 2022 determination period for all asset categories rolled forward from the 2019 determination period.

For the 3 new asset categories, namely other support costs, the cost of the land swap agreement and Wentworth ski park rehabilitation costs (see Chapter 3), we accepted WaterNSWs proposal to depreciate these assets from 1 July 2022 over their expected lives. Our decisions are set out in Table 5.7.

5.4.3 We used an asset life of 4 years for offtake asset replacement costs

We used an asset life of 4 years for asset replacement costs for offtake customers. Our decision is based on the asset replacement schedule over 20 years, as provided to WaterNSW by the John Holland TRILITY JV as part of the Pipeline contract tender documents.

WaterNSW did not propose an asset life for new assets because it proposed to treat asset replacement costs for all customers as operating expenditure (Chapter 3 and Chapter 4).

We accepted WaterNSW's proposed asset lives for new assets in all other categories (Table 5.7).[c]

[c] However, these asset lives have no impact on our draft prices over the 2022 determination period because there is no capital expenditure on any of these categories.

Table 5.7 Draft decision on asset lives for the 2022 determination period (years)

	Remaining lives of existing assets		Expected lives of new assets	
	Proposed	Draft Report	Proposed	Draft Report
Essential water				
- Pipeline	97	97	100	100
- Bulk water storage facility	77	77	80	80
- Plant and machinery (including pump stations and river intake)	22	22	25	25
- Buildings	57	57	60	60
- Other support costs	5	5	5	5
- Cost of land swap agreement	30	30	30	30
- Wentworth Ski Park Reserve Rehabilitation	60	60	60	60
Offtake customers				
Initial investments	22	22	25	25
Asset replacement	na	na	na	4

Note: For existing assets, the figures above are rolled forward asset lives from the 2019 determination period.
Source: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 52.

5.4.4 WaterNSW's proposed and our draft decision on regulatory depreciation are similar

Our draft return of assets allowance for services to Essential Water is $0.2 million (0.8%) higher over the 2022 determination period than proposed by WaterNSW. The difference is driven mainly by WaterNSW's updated 2020-21 capital expenditure[d] and updated inflation[e], offset slightly by lower capital expenditure than WaterNSW's proposed amount.

Our draft return of assets allowance for services to offtake customers 6.6% higher over the 2022 determination period than proposed by WaterNSW. The difference is driven by our decision to treat asset replacement costs for offtake customers as capital expenditure and updated inflation,

[d] We received WaterNSW's actual capital expenditure for 2020-21 in October 2021, after WaterNSW had submitted its proposal.
[e] We updated inflation for 2020-21 from 2.4% (forecast) to 3.8% (actual) and the forecast for 2021-22 from 2.5% to 2.9%.

Table 5.8 Draft decision on regulatory depreciation for the 2022 determination period ($'000, $2021–22)

	2022-23	2023-24	2024-25	2025-26	Total
Essential Water					
WaterNSW's proposed	5,132	5,132	5,132	5,150	20,546
Draft decision	5,179	5,179	5,179	5,179	20,717
Difference	47	47	47	29	171
Difference (%)	0.9%	0.9%	0.9%	0.6%	0.8%
Offtake customers[a]					
WaterNSW's proposed	14	14	14	14	58
Draft decision	15	15	15	16	62
Difference	0	1	1	2	4
Difference (%)	3.1%	4.1%	6.2%	13.1%	6.6%

Note: The allowance for return of assets is a mid-year figure (i.e. the RAB roll forward depreciation figure is discounted by half a year of WACC). It will therefore not match the end of year figures in Table 5.4 and Table 5.6. Totals may not sum due to rounding.

Source: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 52

5.5 WaterNSW's total return on assets is $45.6 million

Our draft decisions are:

17. For services to Essential Water, to set an allowance for return on assets of $45.6 million over the 2022 determination period (shown in Table 5.9). This is calculated by using:
    - the RAB values shown in Table 5.4
    - a real post-tax weighted average cost of capital of 2.9%
    - a sampling date of 31 December 2021 for market observations as outlined in Appendix B.

18. For services to offtake customers, to set an allowance for return on assets of about $35,000 over the 2022 determination period (shown in Table 5.9). This is calculated by using:
    - the RAB values shown in Table 5.6
    - a real post-tax weighted average cost of capital of 2.9%
    - a sampling date of 31 December 2021 for market observations as outlined in Appendix B.

We included an allowance for a return on assets in the revenue requirement to account for the opportunity cost of capital invested to provide regulated services. Our approach ensures the business can continue to make efficient capital investments in the future. We calculated the return on assets by multiplying the value of the RAB over the determination period by an efficient rate of return. As in previous reviews, we determined the rate of return using a weighted average cost of capital (WACC).

5.5.1 Our approach to forecasting inflation expectations remains unchanged

Our WACC methodology involves first calculating a nominal WACC based on current and long-term market parameters measured in nominal terms. We then subtract our best estimate of inflation expectations from this nominal WACC to generate a real WACC, which we use to set prices over the determination period. All else equal, a lower estimate of inflation expectations results in a higher real WACC.

Our standard approach to estimating inflation expectations is to take the geometric mean of the Reserve Bank of Australia's (RBA) 1-year ahead inflation forecast, and the midpoint of the RBA's target range (2.5%) for each other year of the determination period.

In its proposal, WaterNSW disagreed with our approach. It suggested using a glide path approach to estimating inflation expectations.[27] This was because:

- Inflation expectations over the 2022 determination period, at the time WaterNSW submitted its proposal, were significantly lower than the forecasts produced using IPART's approach.
- Other Australian regulators changed their approach to estimating inflation expectations to recognise the low inflation environment at the time. For example, the Essential Services Commission of South Australia, Australian Energy Regulator and Independent Competition and Regulatory Commission are using a glide path approach to the mid-point of the RBA's inflation target over a period.

We decided to maintain our current approach to estimating inflation expectations. We would need strong and compelling evidence to change how we estimate a single WACC parameter in isolation, because the financial market data underlying many elements of the WACC are interrelated. We consider it is more appropriate to consider the WACC methodology in a holistic and internally consistent way as part of our periodic WACC reviews. We intend to next review our WACC methodology in 2022.

5.5.2 We set the real rate of return on capital of 2.9%

We used our standard methodology to calculate the WACC. Under our approach we estimate one WACC based on current market data and one based on long-term average data. When our uncertainty index, which indicates the level of volatility in capital markets, is within one standard deviation of its mean value, we select the mid-point of the current and long-term WACC values. The uncertainty index is currently within this range. The average of the 2 WACC values is 2.9%. Appendix B shows the parameters we used to calculate the WACC. WaterNSW proposed a placeholder WACC of 3.7%.[28]

The WACC of 2.9% is set using market parameters as at 31 December 2021. It is currently influenced by the prevailing low interest rate environment. Under our standard methodology, should interest rates increase or decrease over the 2022 determination period, this would be factored in the cost of debt true-up that would occur annually. The net changes would be factored in prices at the next determination. This end-of-period true-up adjustment will insulate WaterNSW to movements in interest rates.

5.5.3 The draft decision on return on capital allowance is 20% lower than proposed

Table 5.9 shows the resulting return on assets (i.e. RAB x WACC%), based on the RAB values set out in section 5.3, and our decisions to apply a real post-tax WACC of 2.9%. The Draft Report return on capital allowance is 20% lower than that proposed by WaterNSW mostly because of the lower WACC value applied.

Table 5.9 Draft decision on return on assets for the 2022 determination period ($'000, $2021–22)

	2022-23	2023-24	2024-25	2025-26	Total
Essential Water					
WaterNSW's proposed	14,550	14,360	14,170	13,984	57,064
Draft decision	11,614	11,464	11,314	11,164	45,556
Difference	-2,936	-2,896	-2,856	-2,820	-11,508
Difference (%)	-20%	-20%	-20%	-20%	-20%
Offtake customers					
WaterNSW's proposed	12	11	11	10	44
Draft decision	9	9	9	8	35
Difference	-2	-2	-2	-2	-8
Difference (%)	-20%	-19%	-19%	-18%	-19%

Note: The allowance for return on assets for 2021-22 presented in this table is based on the 2019 determination, adjusted for inflation.: Totals may not sum due to rounding.
Source: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 60.

5.6 We included a cost of debt true-up in the NRR of -$3.1 million for the 2019 determination period

Our draft decision is:

19. To set a true-up for differences between the forecast and actual cost of debt over the 2019 determination period of
    - -$3.1 million for services to Essential Water
    - zero for services to offtake customers.

Our 2018 review of the WACC methodology introduced a trailing average cost of debt. We considered that this approach would allow regulated businesses to better manage their refinancing risk, while maintaining their incentives for efficient investment.

One consequence is that the WACC changes every year, as new tranches of debt are introduced to the trailing averages and the oldest tranches drop out. To address this, we decided at each price review we would consider whether to:

- update prices annually to reflect the updates in the WACC annually, or
- use a regulatory true-up at the next period, which we would pass through to prices at the beginning of the next period.[29]

These options are equivalent in present value terms to customers and WaterNSW.

The previous WaterNSW price review allowed for an end of period true-up to account for cumulative annual changes in the cost of debt over the 2019 determination period.[30] Overall, the annual updates resulted in a lower cost of debt relative to the cost of debt allowed for in the WACC. WaterNSW proposed a negative adjustment of $3.6 million.[31] We reviewed the calculation and decided to include a negative adjustment of $3.1 million.

We accepted WaterNSW's proposal to allocate the total value of the cost of debt true-up to Essential Water. We are of the view that Essential Water is better able than offtake customers to bear the risk of price volatility due to the true-up over consecutive regulatory periods.

5.6.1 An end-of-period true-up will account for annual changes in the WACC over the 2022 determination period

In its proposal, WaterNSW proposed an end of period cost of debt true-up for the 2022 determination period.[32] We agree with WaterNSW and decided to undertake the regulatory true-up at the next price review as we have done for the 2019 determination period. This approach provides greater certainty to Essential Water about their prices over the determination period – that is, changes in prices would be impacted by inflation only, rather than also being impacted by annual changes in the cost of debt.

5.7 WaterNSW's working capital allowance is less than $1 million

Our draft decision is:

20. To set the working capital allowance for services to Essential Water and offtake customers for the 2022 determination period as shown in Table 5.10.

The working capital allowance component of the NRR represents the return the business could earn on the net amount of working capital it requires each year to meet its service obligations. It ensures the business recovers the costs it incurs due to the time delay between providing a service and receiving the money for it (i.e. when bills are paid).

In 2018, we developed a standard approach to calculate the working capital allowance, which can be found on our website.[33] We applied the standard approach to this review.

The amount we allowed for the 2022 determination period for services to Essential Water and offtake customers represents the holding cost of net current assets (Table 5.10). The allowance is lower than that proposed by WaterNSW because both the WACC and net working capital we used are lower.[f]

Table 5.10 Draft decision for the working capital allowance for the 2022 determination period ($'000, $2021–22)

	2022-23	2023-24	2024-25	2025-26	Total
Essential Water					
WaterNSW's proposed	144	153	151	149	596
Draft decision	104	121	119	119	464
Difference	-40	-32	-31	-30	-132
Difference (%)	-28%	-21%	-21%	-20%	-22%
Offtake customers					
WaterNSW's proposed	0	0	0	0	1
Draft decision	0	0	0	0	1
Difference	-2%	-2%	-3%	-3%	-11%
Difference (%)	-13%	-13%	-14%	-15%	-14%

Note: Totals may not sum due to rounding.

Source:: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 64.

[f] Our working capital allowance is lower than WaterNSW's proposed amount because we used a lower WACC (5.4%) than WaterNSW (5.7%) and because our receivables are lower due to a lower overall revenue requirement. We use a nominal post-tax WACC to calculate the return on working capital.

5.8 WaterNSW's tax allowance is $2.2 million

Our draft decisions are:

21. To adopt the regulatory tax allowance for services to Essential Water and offtake customers as shown in Table 5.11, using:
    - a tax rate of 30%
    - IPART's standard methodology.

We included 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 (Table 5.9). This tax allowance reflects the regulated business's forecast tax liabilities.

Table 5.11 Draft decision on the tax allowance for the 2022 determination period ($'000, $2020–21)

	2022–23	2023–24	2024–25	2025–26	Total
Essential Water					
WaterNSW's proposed	1,184	1,197	1,209	1,220	4,809
Draft decision	494	525	552	580	2,151
Difference	-690	-672	-657	-639	-2,658
Difference (%)	-58%	-56%	-54%	-52%	-55%
Draft decision					
WaterNSW's proposed	1	1	1	1	5
Draft decision	1	1	1	1	4
Difference	-1	0	0	0	-2
Difference (%)	-43%	-37%	-32%	-26%	-34%

Note: Totals may not sum due to rounding.

Source: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 61.

We calculated the tax allowance for each year by applying a 30% statutory corporate tax rate adjusted for franking credits to the business's (nominal) taxable income.[g] We applied our standard methodology to set the tax allowance. The allowance is lower than that proposed by WaterNSW mainly because we used a lower WACC.

Our tax allowance is not intended to recover WaterNSW'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 to set prices that reflect the fully efficient costs a utility would incur if it were operating in a competitive market. It is also consistent with the principle of competitive neutrality – that is, that a government business should compete with private business on an equal footing and not have a competitive advantage due to its public ownership.

[g] Under a post-tax framework, the value of franking credits (gamma) enters the regulatory decision only through the estimate of the tax liability. The value of gamma is given as a WACC parameter in Appendix B.

5.9 We smoothed the revenue requirement before setting prices

We then set a target revenue for each year for each service; that is, the actual revenue we expect WaterNSW to generate from prices for that year for each service. We smoothed the revenue requirement across the determination period to make access prices constant in real terms over the 4 years. In making this decision on target revenue, we considered a range of factors, including implications on price levels, the rate at which they would change, and any impacts on WaterNSW's customers, namely Essential Water and offtake customers.

Table 5.12 Draft decision on target revenue for the 2022 determination period ($'000, $2021–22)

	2022-23	2023-24	2024-25	2025-26	NPV of Total
Essential Water					
Notional revenue requirement	18,283	21,663	21,026	21,130	76,272
Target revenue	20,483	20,531	20,473	20,465	76,272
Difference	2,200	-1,132	-554	-665	0
Difference (%)	12%	-5%	-3%	-3%	0%
Draft decision					
Notional revenue requirement	26	26	26	26	96
Target revenue	26	26	26	26	96
Difference	0	0	0	-1	0
Difference (%)	0%	1%	1%	-2%	0%

Note: Totals may not sum due to rounding

Source: IPART analysis.

Chapter 6

Forecast customer numbers and water sales

06

Summary of our draft decisions for customer numbers and water sales

We set forecast customer numbers for the Pipeline based on WaterNSW's proposal

This means the Pipeline's primary customer is Essential Water. There are also 5 offtake customers located along the Pipeline's route to Broken Hill. These are in line with the customer numbers we used to set prices in 2019.

We set forecast water sales volume at around 5,500 ML per year

For Essential Water, we set the water volumes per year at around 5,500 ML. This is in line with our expectations that the Pipeline will be used to meet majority of water needs in the Broken Hill region. For offtake customers, we set the water volumes per year at around 4 ML reflecting the latest actual water volumes to these customers.

A key step in our price setting process is to decide on the Pipeline's forecasts for customer numbers and water sales. These forecasts are used to determine the price levels necessary to recovery the Pipeline's revenue requirements. It is important that forecasts are as accurate as possible so that prices can best reflect efficient costs and WaterNSW can recover the efficient costs of the Pipeline.

This chapter outlines our assessment of WaterNSW's proposed forecast customer numbers and water sales. It explains why we set them at the level we have for the 2022 determination period. It also details how these forecasts changed over time and what drove those changes.

For this review, WaterNSW has one major customer – Essential Water – and will also transport water to a number of offtakes along the Pipeline during the 2022 determination period. Its proposed forecast water sales volumes to Essential Water assumed the Pipeline would be used to transport water and meet water needs in the Broken Hill region.

We engaged the CIE to help us review whether the proposed forecasts are efficient and should be used to set prices over the 2022 determination period. The CIE's review of WaterNSW's proposal and its recommendations are available on our website.

6.1 We have accepted WaterNSW's proposal on customer numbers

Our decision is:

22. To accept WaterNSW's proposed customer and offtake numbers over the 2022 determination period as shown in Table 6.1.

The Pipeline's primary customer is Essential Water. The main purpose of the Pipeline is to transport water to provide Essential Water with a Source of bulk water to improve the security of water supply for its customers in the Broken Hill region.

WaterNSW will also use the Pipeline to transport water to a number of offtakes along the Pipeline's route to Broken Hill. WaterNSW currently has 5 offtakes located at Kudgee Station, Netley Cattle Yards, Netley Station, Pinepoint/Sunnydale and Balaclava.

In the 2019 review, we set forecast customer and offtake numbers at one and 5 respectively when setting prices for the Pipeline.[34] Over the past 3 years, WaterNSW's reported actual numbers were the same as forecasts used in the 2019 review.[35]

For the 2022 Determination, WaterNSW proposed to maintain the forecast customer and offtake numbers (see Table 6.1). Further, it noted that it was not aware of any additional offtakes that are imminent or likely to be required over the next few years.[36]

Our demand consultant, the CIE, considered the proposal is reasonable and appropriate to apply for the 2022 determination period.[37] Therefore, our draft decision is to accept WaterNSW's proposal and set forecast customer and offtake numbers as shown in Table 6.1.

Table 6.1 Draft decision on forecast customer and offtake numbers

	Average 2019[a]	2022-23	2023–24	2024–25	2025–26
WaterNSW proposed					
Essential Water	1[b]	1	1	1	1
Offtakes	5[b]	5	5	5	5
IPART draft decision					
Essential Water	1[c]	1	1	1	1
Offtakes	5[c]	5	5	5	5

a. This column represents the average of customer numbers during the 2019 determination period.
b. This represents the average of actuals for 2019-20 and estimates for 2020-21 and 2021-22 reported by WaterNSW for the Pipeline.
c. This represents the average of water sales per year as set out in the 2019 Determination.

Source: IPART analysis and WaterNSW, Pricing Proposal to IPART, June 2021, p 66.

6.2 We have considered the proposal for water sales volumes is largely reasonable

Our draft decision is:

23. To set the Pipeline's total water sales volumes as shown in Table 6.2, which are marginally lower than WaterNSW's proposed forecasts by around 0.5% per year.

Over the 2022 determination period, our draft decision is to slightly reduce WaterNSW's total water sales volumes by around 0.5% per year as compared to WaterNSW's proposal. This reflects our draft decisions to:

- adopt the forecast water sales to customers in Broken Hill as set out in our concurrent review of Essential Water's prices as a baseline in estimating the water demand from the Pipeline
- make upward adjustments to this baseline to account for water losses within the Essential Water's existing network
- accept WaterNSW's proposed water sales volumes from the 5 offtakes.

Table 6.2 summarises our draft decisions on forecast water sales volume over the 2022 determination period. These forecasts are:

- 0.5% lower per year than proposed by WaterNSW
- 24% higher per year than the forecasts used to set prices in 2019
- 4% lower per year than recommended by the CIE.

Table 6.2 Draft decision on forecast water sales volumes (ML)

	Average 2019[a]	2022-23	2023–24	2024–25	2025–26
WaterNSW proposed					
Essential Water	5,787[b]	5,575	5,553	5,531	5,510
Offtakes	3[b]	3	3	3	3
Total	5,790[b]	5,577	5,556	5,534	5,513
The CIE's recommendations					
Essential Water	N/A	5,792	5,769	5,746	5,723
Offtakes	N/A	4	4	4	4
Total	N/A	5,796	5,773	5,750	5,727

	Average 2019[a]	2022-23	2023–24	2024–25	2025–26
IPART 2019 decision[c] and 2022 draft decision					
Essential Water	4,386[c]	5,549	5,527	5,505	5,483
Offtakes	50[c]	4	4	4	4
Total	4,436	5,553	5,531	5,509	5,487
Difference (total, in ML)	-1,354	-24	-25	-25	-26
Difference (total, in %)	-23.4%	-0.4%	-0.4%	-0.5%	-0.5%

a. This column represents the average of water sales volumes per year during the 2019 determination period.
b. This represents the average of actuals for 2019-20 and estimates for 2020-21 and 2021-22 reported by WaterNSW for the Pipeline.
c. This represents the average of water sales per year as set out in the 2019 Determination.

Note: This excludes the assumptions around evaporative losses at the bulk water storage.

Source: IPART analysis, The CIE, WaterNSW's Broken Hill Pipeline bulk water transport volume demand and energy review, December 2021, p 4 and WaterNSW, Pricing Proposal to IPART, June 2021, p 68.

6.2.1 Water sales volumes to Essential Water are around 5,500 ML per year

In our 2019 Determination, we set water sales volumes to Essential Water at around 4,400 ML per year. At the time of the review, we considered Essential Water could Source water to meet some of the water demand from the Broken Hill community using its own water supply infrastructure.[38] Therefore, we assumed the Pipeline would be used to meet about 70% of the water demand in Broken Hill.

Over the last 3 years, WaterNSW reported actual water volumes to Essential Water were significantly higher than the levels used to set prices. Actual volumes were largely similar to the volumes WaterNSW proposed in 2019.[39] Further, WaterNSW explained that the significant variances were because Essential Water relied on the Pipeline to transport water to meet the community's water demand rather than using its own supply infrastructure.

For the 2022 determination period, WaterNSW proposed to set forecasts at around 5,542 ML per year. This was based on Essential Water's detailed forecasts[40] and closely match the proposal in our concurrent review of Essential Water's prices.[41] Further, the proposals from these utilities assume Essential Water would mostly use the Pipeline to meet the water demand in Broken Hill.

The CIE reviewed the proposal and it found the proposal to be efficient noting that:

- it was able to verify the historical preference for Essential Water to Source its bulk water needs by transporting water from the Murray River via the Pipeline since 2019
- it was able to verify with Essential Water using the Pipeline to transport water and meet the water demand in the Broken Hill region for the 2022 determination period[42]
- it found Essential Water's proposal on water usage volumes to be mostly efficient. However, it recommended very small increases to account for the latest available data.

Our draft decision is to set the Pipeline's annual forecast water sales volumes to Essential Water at around 5,500 ML per year. We agree with WaterNSW, Essential Water and the CIE that it is efficient to use the Pipeline to transport water and meet the water demand in Broken Hill. We also set the Pipeline's water sales volumes to Essential Water in line with the water usage volumes specified in our concurrent review of the Essential Water prices and included some allowance for water losses within Essential Water's water systems.

In any water supply system, there are system losses as a result of leaking pipes, main breaks, system flushing, etc. From Essential Water's perspective, these water losses are treated as non-revenue water for billing purposes. However, Essential Water will need to transport water to cover these losses. In our concurrent review of Essential Water's prices, we made a draft decision to set real water losses at 460 ML per year.

6.2.2 Water sales volumes to offtakes are around 4 ML per year

In our 2019 Determination, we set water sales volumes to offtake at around 50 ML per year. This was based on WaterNSW's previous proposed water sales volumes of 10 ML per offtake and 5 offtakes over the 2019 determination period.[43] During the 2019 determination period, WaterNSW reported actual water sales volumes were around 4 ML in 2019-20 and 2020-21.[44] This was partly because no water was taken from 2 offtakes[45]. In addition, the higher rainfall in 2020-21 may have reduced water sales from offtakes.[46] For the 2022 determination period, WaterNSW forecasts water sales to be around 3 ML per year,[47] which is about 20% below 2020-21 actual water sales volume.[48]

The CIE assessed the proposal and raised some concerns, including:[49]

- WaterNSW was unable to explain why forecasts are below actuals in 2019-20 and 2020-21
- WaterNSW's forecasts appear to correlate with climate conditions in 2020-21, therefore assuming higher rainfall is carried over the 2022 determination period.

Therefore, the CIE recommended to use the 2020-21 actual volumes of 3.6 ML as the basis for the forecasts for the 2022 determination period. This is because 2020-21 actual is the latest full year of data currently available. Our draft decision is to accept the CIE's recommendations.

Chapter 7

Price structures and prices

07

Summary of our draft decisions on prices

Water transportation prices would decrease

Compared to current prices, our draft decisions are to reduce the following prices in the first year of the 2022 determination period:

- The access price for Essential Water by 21.3% (before inflation).
- The fixed price for offtake customers by 16.7% (before inflation).

We are then holding these prices constant over the subsequent 3 years.

We have also reduced the usage price for Essential Water and offtake customers by 3.0% (before inflation) by the end of the 2022 determination period.

The price decreases are mostly driven by us using a WACC of 2.9%., as well as reducing WaterNSW's energy costs to an efficient level.

We have maintained the current price structures for Essential Water and offtake customers

Our draft decision is to accept WaterNSW's proposal and maintain the price structures that were set in the 2019 Determination. The current price structure for WaterNSW efficiently recovers the costs of supplying water to Essential Water and offtake customers.

We have continued to defer regulating restart, standby and shutdown prices

Our draft decision is to accept WaterNSW's proposal and continue to defer regulating shutdown, standby and restart prices. Instead, they can be negotiated between WaterNSW and Essential Water on a commercial basis. The costs of shutdown, standby and restart are driven by Essential Water, therefore the costs should continue to be internalised by Essential Water.

We have continued to allow WaterNSW to enter into unregulated pricing agreements with offtake customers

Our draft decision is to continue to allow WaterNSW to enter into unregulated pricing agreements. For example, if WaterNSW wishes to offer an upfront capital charge to new offtake customers, it has the flexibility to negotiate with them to enter into unregulated pricing agreements.

This chapter explains our decisions on price structures and prices for the Pipeline. This chapter also explains our decision to allow for unregulated pricing agreements between WaterNSW and offtake customers.

7.1 Water transportation prices for Essential Water would decrease

Table 7.1 sets out our draft decisions on WaterNSW's water transportation prices for Essential Water, without inflation. Compared to current prices, our draft decisions are to:

- Reduce the usage price for Essential Water by 3.0% by the end of the 2022 determination period.
- Reduce the access price for Essential Water by 21.3% in the first year of the 2022 determination period. We are then holding this price constant over the subsequent 3 years.

In comparison, WaterNSW proposed to:

- Increase the usage price for Essential Water by 3.6% by the end of the 2022 determination period.
- Reduce the access price for Essential Water by 5.3% in the first year of the 2022 determination period, and then hold it constant over the subsequent 3 years.

Table 7.1 Water transportation prices for Essential Water ($2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24	2024-25	2025-26	Change 2021-22 to 2025-26
IPART draft decision						
Usage price ($/ML)	212.52	206.85	206.82	206.61	206.06	-3.0%
Access price ($/day)	67,281	52,973	52,973	52,973	52,973	-21.3%
WaterNSW proposal						
Usage price ($/ML)	212.52	221.84	220.79	220.48	220.18	3.6%
Access price ($/day)	67,281	63,698	63,524	63,698	63,698	-5.3%

Note: The usage price for Essential Water includes an allowance for evaporative issues.
Source: IPART analysis, WaterNSW, Pricing Proposal to IPART, June 2021, p 76.

We adjust WaterNSWs prices each year for inflation. Table 7.2 shows our draft water transportation prices for Essential Water that will apply in 2022-23, including inflation of 5.1%.

Table 7.2 Water transportation prices for Essential Water ($2022-23) – with inflation

	2022-23	Change from current to 2022-23
Usage price ($/ML)	217.40	2.3 %
Access price ($/day)	55,675	-17.3%

Source: IPART analysis.

In this chapter and in Chapter 8, our analysis and draft decisions may indicate prices and bills paid by Essential Water. However, prices and bills for Essential Water are currently covered by a subsidy paid by the NSW Government on behalf of NSW taxpayers. This is discussed in more detail in our concurrent review of prices that Essential Water can charge for water and wastewater services in Broken Hill.

7.2 Water transportation prices for offtake customers would decrease

Table 7.3 sets out our draft decisions on WaterNSW's water transportation prices for offtake customers, without inflation. Compared to current prices, our draft decisions are to:

- Reduce the usage price for offtake customers by 3.0% by the end of the 2022 determination period.
- Reduce the fixed price for offtake customers by 16.7% in the first year of the 2022 determination period. We are then holding this price constant over the subsequent 3 years.

In comparison, WaterNSW proposed to:

- Increase the usage price for offtake customers by 3.6% by the end of the 2022 determination period.
- Reduce the fixed price for offtake customers by 5.3% by the end of the 2022 determination period.

Table 7.3 Water transportation prices for offtake customers ($2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24	2024-25	2025-26	Change 2021-22 to 2025-26
IPART draft decision						
Usage price ($/kL)	0.21	0.21	0.21	0.21	0.21	-3.0%
Fixed price ($/day)	20.78	17.32	17.32	17.32	17.32	-16.7%
WaterNSW proposal						
Usage price ($/kL)	0.21	0.22	0.22	0.22	0.22	3.6%
Fixed price ($/day)	20.78	20.22	20.17	20.22	20.22	-2.7%

Source: IPART analysis, WaterNSW, Pricing Proposal to IPART, June 2021, p 78.

Table 7.4 shows our draft water transportation prices for offtake customers that will apply in 2022-23, including inflation of 5.1%.

Table 7.4 Water transportation prices for offtake customers ($2022-23) – with inflation

	2022-23	Change from current to 2022-23
Usage price ($/kL)	0.22	2.3%
Fixed price ($/day)	18.20	-12.4%

Source: IPART analysis.

7.3 We have maintained the current price structures for Essential Water and offtake customers

Our draft decision is:

24. To maintain WaterNSW's current price structures for Essential Water and offtake customers.

Our draft decision is to accept WaterNSW's proposal and maintain the price structures set in 2019.[50] The current price structure efficiently recovers the costs of supplying water to Essential Water and offtake customers. It also aligns with our pricing principles (see Box 2). In addition, there has been no significant change in circumstances that would warrant a change in the existing price structure.

In 2019 we adopted a two-part tariff for Essential Water and offtake customers, with WaterNSW's fixed costs recovered through an access price (or fixed price) and WaterNSW's variable costs recovered through a usage price. This means that WaterNSW currently charges:

- An access price ($/day) to Essential Water, which covers the fixed costs for building and maintaining the Pipeline, as well as the fixed electricity costs of transporting water through the Pipeline.
- A fixed price ($/day) to each offtake customer, which covers WaterNSW's additional fixed costs for providing water to the offtake customer.
- A usage price ($/ML) to Essential Water and ($/kL) to offtake customers, which covers the Pipeline's efficient variable costs, being the energy cost associated with delivering a ML or kL of water to Essential Water and offtake customers (as applicable).

The purpose of the Pipeline is to supply Essential Water (and its customers in Broken Hill) with water. Essential Water is therefore guaranteed a right to the Pipeline's transportation services, whereas offtake customers do not have the same guaranteed right. Therefore, Essential Water pays for the fixed costs of the Pipeline, whereas offtake customers pay the incremental fixed costs associated with their supply.

See Table 7.5 for more detail on WaterNSW's current price structures.

Table 7.5 WaterNSW's price structure for Essential Water and offtake customers

To recover	Essential Water pays	Offtake customers pay
Fixed costs	**Access price** ($/day) recovering the fixed costs of the Pipeline including: • internal and corporate costs • operational and maintenance costs • funding costs of the pipeline (debt & equity) • forecast tax liabilities and depreciation of the pipeline and • fixed energy costs associated with the fixed energy use.	**Fixed price** ($/day) recovering the fixed costs of the offtake assets including • funding costs • depreciation and • forecast tax liabilities associated with the delivery of offtake services.
Variable costs	**Usage price** ($/ML) levied on the volume of water take. It recovers the variable energy cost of the Pipeline including:	**Usage price** ($/kL) levied on the volume of water take. It is the same as the usage price charged to Essential Water.

To recover	Essential Water pays	Offtake customers pay
	• network demand costs, including fees for the network variable charge and the maximum demand charge • wholesale energy costs • retail costs • costs of carbon abatement.	

Source: IPART analysis

Box 7.1 Pricing principles for regulated water businesses

In setting maximum prices for regulated water businesses, our overarching principle is that prices should be cost-reflective. This means that:

- Prices should only recover sufficient revenue to cover the prudent and efficient costs of delivering the monopoly services. Prices for individual services should reflect the efficient costs of delivering the specific service
- Price structures should match cost structures, whereby:
  - usage prices reference an appropriate estimate of marginal cost (i.e. the additional cost of transporting an additional unit of water), and
  - fixed service prices recover the remaining costs.
- Customers imposing similar costs on the system pay similar prices.

Prices that are cost-reflective promote the efficient allocation and use of reSources – such as water and the capital invested to provide water transportation services – by sending accurate signals to customers about the cost of those services. For example, they discourage wasteful or unnecessary water usage.

Prices that are cost-reflective also promote efficient investment in water infrastructure and service provision – by ensuring that the regulated business cannot recover capital that is invested inefficiently or unwisely through the prices paid by customers.

In deciding on price structures, we also consider customers' preferences and whether the resulting prices are transparent, easy for customers to understand and for the business to administer.

7.4 We have decreased the usage price for Essential Water and offtake customers

Our draft decision is:

25. To decrease the usage price to $206 per ML for Essential Water and $0.21 per kL for offtake customers in the first year of the 2022 determination period and then hold them constant (before inflation) over the following 3 years.

We have decreased Essential Water's usage price to $206 per ML for Essential Water and $0.21 per kL for offtake customers in the first year of the 2022 determination period. We will then hold them constant (before inflation) over the determination period.

Our proposed price means Essential Water and offtake customers will be paying 2.8% (before inflation) less, on average over the 2022 determination period than under current prices.

7.5 We have decreased the access price for Essential Water

Our draft decision is:

26. To decrease the access price for Essential Water to $52,973 per day in the first year of the 2022 determination period and then hold it constant (before inflation) over the following 3 years.

We have decreased the access price for Essential Water from $67,281 per day to $52,973 per day in the first year of the 2022 determination period. We will then hold it constant (before inflation) over the 2022 determination period.

Our proposed access price means Essential Water will be paying $14,308 (or 21.3%) (before inflation) less per day throughout the 2022 determination period than under current prices.

7.6 We have decreased the fixed price for offtake customers

Our draft decision is:

27. To decrease the fixed price for offtake customers to $17.32 per day in the first year of the 2022 determination period and then hold it constant (before inflation) over the following 3 years.

We have decreased the fixed price for offtake customers from $20.78 to $17.32 per day in the first year of the 2022 determination period. We will then hold it constant (before inflation) over the 2022 determination period.

Our prices mean offtake customers will be paying $3.46 (16.7%) (before inflation) per day less over the 2022 determination period than under current prices.

7.7 We have continued to defer regulating shutdown, restart and standby prices

28. To continue to defer shutdown, restart and standby prices for Essential Water.

Our draft decision is to continue to defer shutdown, standby and restart prices to be negotiated between WaterNSW and Essential Water on a commercial basis. WaterNSW propose to maintain the current price structure set in 2019.[51] The costs of shutdown, standby and restart services are driven by Essential Water, therefore the costs should be internalised by Essential Water.

WaterNSW can request the Pipeline operator to cease the operation of the Pipeline at Essential Water's request. Conditions for these requests are negotiated between Essential Water and WaterNSW[a].[52] In 2019, we said we would consider this issue again in the next determination period.[53] It is still our opinion that an unregulated commercial arrangement between WaterNSW and Essential Water is the most efficient method for these prices.

Essential Water should continue to ensure that it can achieve its water supply requirements at an efficient cost. Therefore, Essential Water should choose to incur these costs if it lowered its overall total cost of supply. These costs should not be automatically passed through to Essential Water's customers.

We consider that an unregulated commercial arrangement is the best method for WaterNSW to levy these charges on Essential Water. An unregulated commercial arrangement will ringfence these costs directly to Essential Water and not its customers. In its submission to our Issues Paper, Essential Water stated that it was comfortable to continue with the current arrangement for shutdown, standby and restart prices to be negotiated on a commercial basis.[54]

We note that the access price would still apply under shutdown, standby and restart services.

7.8 We have continued to allow WaterNSW to enter into unregulated pricing agreements with offtake customers

Our draft decision is:

29. To continue to allow unregulated pricing agreements between WaterNSW and offtake customers.

[a] Additional costs for placing the Pipeline in shutdown mode are incurred under the O&M contract

We have made a draft decision to continue to allow unregulated pricing agreements between WaterNSW and offtake customers.

Unregulated pricing agreements are optional and only entered into if both parties agree. An unregulated pricing agreement is an agreement that allows the parties to charge/pay a price that is different to the price determined by IPART, over the determination period, and which is entered into after the 2022 determination period commences. If the parties do not enter into an unregulated agreement then the maximum price specified in the 2022 Determination will apply.

WaterNSW proposed we set an upfront capital charge, so new offtake customers have the option to pay $77,319 (i.e. the capital cost of their offtake up-front) and then pay only the usage price.[55] This price is stipulated in the O&M agreement between WaterNSW and the O&M contractor.[56]

In its submission to our Issues Paper, PIAC noted that upfront payment of capital costs for new connections should be allowed, provided they are cost reflective and ensure there is no difference between future maintenance costs of the pipeline paid by new and existing consumers.[57]

In discussions with IPART, WaterNSW indicated the upfront capital price was intended to work in an unregulated pricing agreement.[58] It is voluntary and is intended to be negotiated between WaterNSW and the offtake customer. There is no fixed term for which it applies.

After discussions with WaterNSW, we do not consider it appropriate that we set an upfront capital charge. This is because:

- We do not have sufficient information to determine the efficient costs of providing an upfront capital charge for a specific term. The $77,319 price proposed by WaterNSW was determined by its O&M contractor.
- WaterNSW indicated it was not based on specific term, but instead represented the O&M contractor's assessment of the upfront costs to upgrade a new offtake customer. WaterNSW would still need to negotiate the term limit (i.e. the period where there are no additional capital charges payable with the new offtake customer).

We instead consider unregulated pricing agreements would allow flexibility for both parties to negotiate the price, any future costs and any specific costs to the new offtake customer.

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

Chapter 8

Impacts of our pricing decisions

Implications of our pricing decisions

Essential Water and offtake customers' bills would decrease

Essential Water and offtake customers' bills would decrease over the 2022 determination period, before inflation under our draft decisions. WaterNSW's proposed bills for Essential Water and offtake customers would decrease less than under our draft prices. Actual bills for offtake customers will depend on usage.

Essential Water's total NRR would be lower compared to WaterNSW's proposal

Essential Water's total NRR would be approximately $16 million lower under our draft prices than under WaterNSW's proposal.

WaterNSW will be able to meet service standards for its customers

We are satisfied that WaterNSW can achieve operating and efficiency savings, receive sufficient revenue to achieve service standards at or above those expected by customers and to meet the standards required by its regulators.

There are no financeability concerns for WaterNSW

We did not identify any material financeability concern for WaterNSW. This is illustrated by the results of our benchmark financeability test, which show WaterNSW meeting all targets for the 2022 determination period,

We have considered impacts on the Consolidated Fund

There are no impacts on the Consolidated Fund as a result of our draft decisions. We also have considered potential impacts on the consolidated fund under Section 16 of the IPART Act.

WaterNSW can recover all efficient costs in meeting its environmental obligations

We have ensured WaterNSW can fully recover all efficient costs it incurs in meeting its environmental obligations.

There are no significant impacts on general inflation as a result of our draft decisions

Under our draft decisions, increases in the water and wastewater bill for a customer in Broken Hill over the 2022 determination period will have a negligible impact on general nationwide inflation.

8.1 Essential Water's bills would decrease

Under our draft prices, Essential Water's bill would decrease by around 21% in total over the 2022 determination period (before inflation, see Table 8.1). WaterNSW proposed a smaller decrease in Essential Water's bill of 5.0% (before inflation) in total over the 2022 determination period.

The decrease in Essential Water's total bill is mostly driven by using a WACC of 2.9%, as well as reducing WaterNSW's energy costs to an efficient level.

Essential Water's water transportation bill is currently covered by a subsidy paid by the NSW Government on behalf of NSW taxpayers. This is discussed in more detail in our concurrent review of prices that Essential Water can charge for water and wastewater services in Broken Hill.

Table 8.1 Essential Water's draft bills ($'000s, $2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24[a]	2024-25	2025-26	Change 2021-22 to 2025-26
IPART draft decision						
Usage bill	1,189	1,148	1,143	1,137	1,130	-5.0%
Access price bill	24,558	19,335	19,388	19,335	19,335	-21.3%
Total bill	25,747	20,483	20,531	20,473	20,465	-20.5%
WaterNSW proposal						
Usage bill	1,189	1,231	1,220	1,214	1,207	1.5%
Access price bill	24,558	23,250	23,250	23,250	23,250	-5.3%
Total bill	25,747	24,481	24,470	24,463	24,457	-5.0%

a. The access price component of the bill will increase in 2023-24 because it will be a leap year.

Source: IPART analysis

We adjust WaterNSWs bills each year for inflation. Table 8.2 shows our draft water transportation bill for Essential Water that will apply in 2022-23, including inflation of 5.1%.

Table 8.2 Essential Water's draft bill to apply from 1 January 2023 ($'000s, $2022-23) – with inflation

	2022-23	Change from current to 2022-23
Access price bill	20,321	-17.3%
Usage bill	1,206	1.4%
Total bill	21,528	-16.4%

Source: IPART analysis

8.2 Offtake customers' bills would decrease

The analysis for bills for offtake customers is based on:

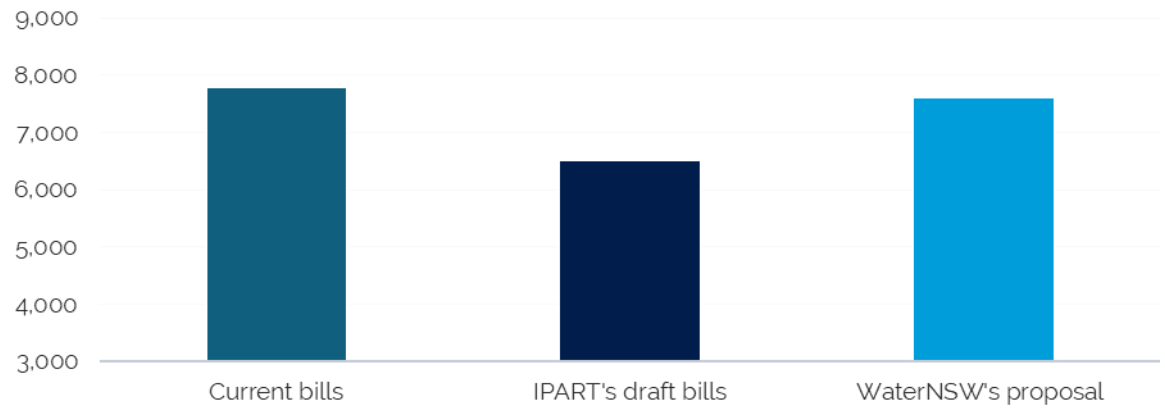
- Small customers using 0.5ML of water per year.
- Medium customers using 1ML of water per year.

- Large customers using 5ML of water per year.

Under our draft prices, bills would decrease for offtake customers over the 2022 determination period (see Table 8.3). A medium customer would see its bill decrease by 16.3% (before inflation) in total over the 2022 determination period. WaterNSW proposed a smaller decrease in offtake customers' bills. Under WaterNSW's proposal, a medium customer would see its bill decrease 2.5% (before inflation) in total over the 2022 determination period (see Table 8.4).

Figure 8.1 outlines how our draft prices affect the bills of medium sized customers over the 2022 determination period (before inflation), compared to WaterNSW's proposal.

Figure 8.1 Annual bills for medium customers (1 ML) in $2021-22 over the 2022 determination period



Source: IPART analysis

As outlined in Chapter 6, we have made a draft decision to accept WaterNSW's proposed forecast offtake customers at 5. We assume one offtake customer per offtake asset. Bills are decreasing mainly as a result of using a WACC of 2.9% and reducing WaterNSW's energy costs to an efficient level.

Table 8.3 IPART's draft bill impacts for offtake customers ($2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24[a]	2024-25	2025-26	Change 2021-22 to 2025-26
Small customers (0.5 ML)						
Usage bill	106	103	103	103	103	-3.0%
Fixed price bill	7,585	6,320	6,338	6,320	6,320	-16.7%
Total bill	7,691	6,424	6,441	6,424	6,423	-16.5%
Medium customers (1 ML)						
Usage bill	213	207	207	207	206	-3.0%
Fixed price bill	7,585	6,320	6,338	6,320	6,320	-16.7%
Total bill	7,797	6,527	6,545	6,527	6,527	-16.3%

	2021-22 (current)	2022-23	2023-24[a]	2024-25	2025-26	Change 2021-22 to 2025-26
Large customers (5 ML)						
Usage bill	1,063	1,034	1,034	1,033	1,030	-3.0%
Fixed price bill	7,585	6,320	6,338	6,320	6,320	-16.7%
Total bill	8,647	7,355	7,372	7,353	7,351	-15.0%

a. The fixed price component of the bill will increase in 2023-24 because it will be a leap year.

Source: IPART analysis

Table 8.4 Bill impacts for offtake customers under WaterNSW's proposed prices ($2021-22) – without inflation

	2021-22 (current)	2022-23	2023-24	2024-25	2025-26	2021-22 to 2025-26 % change
Small customers (0.5 ML)						
Usage bill	106	111	110	110	110	3.6%
Fixed price bill	7,585	7,381	7,381	7,381	7,381	-2.7%
Total Bill	7,691	7,492	7,492	7,492	7,492	-2.6%
Medium customers (1 ML)						
Usage bill	213	222	221	220	220	3.6%
Fixed price bill	7,585	7,381	7,381	7,381	7,381	-2.7%
Total Bill	7,797	7,603	7,602	7,602	7,602	-2.5%
Large customers (5 ML)						
Usage bill	1,063	1,109	1,104	1,102	1,101	3.6%
Fixed price bill	7,585	7,381	7,381	7,381	7,381	-2.7%
Total Bill	8,647	8,491	8,485	8,484	8,482	-1.9%

Source: IPART analysis, WaterNSW, Pricing Proposal to IPART, June 2021, p 79.

8.2.1 After taking inflation into account, our draft decisions mean offtake customers' bills would decrease by around 10% to 12% in 2022-23

Table 8.5 shows our draft water transportation bills for offtake customers' that will apply in 2022-23, including inflation of 5.1%.

Table 8.5 Offtake customers' bills to apply from 1 January 2023 ($2022-23) – with inflation

	2022-23	Change from current to 2022-23
Small customers (1ML)		
Total Bill	6,752	-12.2%
Medium customers (10ML)		
Total Bill	6,860	-12.0%
Large customers (25ML)		
Total Bill	7,730	-10.6%

Source: IPART analysis

8.3 Essential Water's total NRR would be lower over the 2022 determination period compared to WaterNSW's proposal

Under our draft prices for the Pipeline, Essential Water's total NRR would be $15.99 million less over the determination period, compared to WaterNSW's proposal. The change in NRR largely reflects using a WACC of 2.9% and reducing the expenditure allowance for WaterNSW's electricity purchase costs.

As set out in Table 8.6, overall our decisions result in an 88% increase in Essential Water's total NRR over the 2022 determination period, compared to its NRR excluding the Pipeline.

Table 8.6 Essential Water's NRR including and excluding our draft Pipeline costs ($'000s, $2021-22)

	2022-23	2023-24	2024-25	2025-26	Total
Essential Water's NRR excluding the Pipeline	22,923	23,881	23,718	23,373	93,895
Pipeline	20,483	20,531	20,473	20,465	81,952
Increase in working capital and tax allowances[a]	98	99	99	99	395
Essential Water's NRR including the Pipeline	43,504	44,512	44,290	43,937	176,242
% change due to Pipeline	90%	86%	87%	88%	88%

a. Including the Pipeline increases the value of net working capital

Source: IPART analysis

For comparison, Table 8.7 shows the increase in Essential Water's total NRR compared to its NRR excluding the Pipeline under WaterNSW's pricing proposal.

Table 8.7 Essential Water's NRR including and excluding WaterNSW's proposed Pipeline costs ($'000s, $2021-22)

	2022-23	2023-24	2024-25	2025-26	Total
Essential Water's NRR excluding the Pipeline	22,923	23,881	23,718	23,373	93,895
Pipeline	24,481	24,470	24,463	24,457	97,871
Increase in Essential Water's working capital and tax allowances[a]	117	118	118	118	472
Essential Water's NRR including the Pipeline[b]	47,521	48,469	48,300	47,948	192,238
% change due to Pipeline	107%	103%	104%	105%	105%

a. Including the Pipeline increases the value of net working capital

b. WaterNSW's proposed Pipeline costs are adjusted for forecast volumes.
Source: IPART analysis, WaterNSW, Pricing Proposal to IPART, June 2021, pp 70-71

8.4 Impacts on WaterNSW

8.4.1 WaterNSW will be able to meet service standards for its customers

We expect WaterNSW to achieve operating efficiency savings compared to its pricing proposal. We are satisfied that WaterNSW can achieve these savings, and thus receive sufficient revenue to achieve service standards at, or above, those expected by customers and to meet the standards required by its regulators.

As outlined in Chapters 3 and 4, we have included efficiency savings in WaterNSW's operating and capital expenditure. While we are accepting some of WaterNSW's proposal on operating and capital expenditure, we have made efficiencies that reflect our consultants' views on corporate overheads, energy use and past capital expenditure.

Our decisions will not reduce service levels for Essential Water and offtake customers.

8.4.2 There are no financeability concerns for WaterNSW as a result of our draft decisions

We did not identify any material financeability concern for WaterNSW. This is illustrated by the results of our financeability test. Before finalising our pricing decisions, we undertake a financeability test to assess how our pricing decisions are likely to affect the business's financial sustainability and ability to raise funds to manage its activities over the upcoming regulatory period (see Table 8.6).

To assess WaterNSW's financeability over the 2022 determination period, we analysed its forecast financial performance, financial position and cash flows for the benchmark business. We then forecast financial ratios for both tests and assessed WaterNSW's financial ratios compared to our target ratios.

We conduct financeability tests using 3 steps:

1. calculate using our standard financial ratios

2. analyse the trends over the determination period
3. conclude whether there is a finaceability concern or not.

Step 1: Calculate our standard financial ratios

We have conducted the benchmark financeability test on the Pipeline only. This is because we have limited updated financial information on WaterNSW's other businesses to undertake a financeability test on WaterNSW as a whole business.

Box 8.1 Our financeability target ratios for the benchmark test

Real Interest Coverage Ratio (RICR) >2.2x

The RICR is a measure of the business's ability to service interest payments on debt. We developed our target value for the RICR with reference to the RICR used by Moody's, S&P Global and Fitch Ratings. In 2018 we reviewed how we conduct financeability tests and concluded that the RICR should be set at >2.2x.[59]

Real FFO over Debt >7.0%

FFO over Debt measures how much free cash a business generates (i.e. after covering its operating costs, interest expense and tax) relative to the size of its total borrowings. Therefore, it is a measurement of a business's ability to generate cash flows to repay the principal of the debt.

Net Debt/RAB Gearing ratio <70%

Gearing is a measurement of the entity's financial leverage, which demonstrates the degree to which it is funded by creditors. In our 2018 review of financeability tests, we placed greater emphasis on the RICR and the FFO over Debt ratios and placed less emphasis on the Gearing ratio.[60] These 2 ratios are both measures of whether the business generates sufficient cash flows to remain financeable. Our view is that focusing on the cash flows of the business is very important in assessing financeability.

Step 2: Analyse the trends in the financial ratios over the 2022 determination period

Table 8.8 Draft Report financeability test results

	Target ratios	2022-23	2023-24	2024-25	2025-26
Real Interest Coverage Ratio (RICR)					
Benchmark test	>2.2x	3.6x	3.6x	3.7x	3.7x
Does it meet the target?		✓	✓	✓	✓
Real FFO / Net Debt					
Benchmark test	>7.0%	4.7%	4.7%	4.9%	4.9%
Does it meet the target?		✗	✗	✗	✗
Net Debt / RAB					
Benchmark test	<70%	60%	60%	60%	60%
Does it meet the target?		✓	✓	✓	✓

Source: IPART analysis

Benchmark test – RICR

WaterNSW is expected to meet the target for real ICR of 2.2x over the 2022 determination period. By consistently meeting the target, this indicates that it can comfortably meet its annual interest expense. Meeting interest expense is critical for any business.

WaterNSW is forecast to have a minimum headroom of 1.4x from the target RICR ratio of 2.2x over the 2022 determination period. This indicates that it has strong cash flows that can withstand some financial shocks before it is unable to meet its annual interest expense.

The current low WACC environment primarily contributes to this benchmark result.

Benchmark test – Real FFO over Debt

WaterNSW is forecast to be below our target by 2.2 percentage points on average over the 2022 determination period. WaterNSW"s FFO ratio will trend upwards over the determination period to 4.9% in years 2024-25 to 2025-26. We note that the benchmark results in this determination period are approximately a percentage point lower than the 2019 benchmark test results for WaterNSW.[61]

The underperformance is driven by:

- The FFO[a] primarily being affected by the current WACC of 2.9%, which is causing lower returns on assets. An increase in the WACC between the Draft and Final Report may improve the results.

[a] In our 2018 Financeability Review, we defined FFO as:

FFO = NRR – Operating expenditure – Tax – Changes in Working Capital – Return on Debt (ie, RAB x cost of debt)

- The Pipeline being an asset with a very long economic life which results in a lower depreciation allowance compared to businesses owning assets with shorter lives.

These factors have put downward pressure on the FFO over Debt ratio so that it is below the target ratio throughout the 2022 determination period.

The results of the FFO over Debt ratio in the benchmark test do not mean that there is a medium or long term financeability concern for WaterNSW. The underperformance in the short-term can be explained by lower returns on assets as a result of the WACC of 2.9%, and the Pipeline asset having a very long life with a lower depreciation allowance.

Step 3: Conclusion

Reading the benchmark results together, we did not identify a financeability concern for WaterNSW. It is our view that WaterNSW can remain financially sustainable and continue to provide efficient services over the 2022 determination period.

Below we outline a range of other factors that support WaterNSW's financeability over the 2022 determination period.

There is significant headroom in the RICR

WaterNSW is forecast to have a RICR well above the target over the 2022 determination period. This indicates that WaterNSW could still comfortably meet its interest payments, even if interest rates increase significantly over the determination period, under our benchmark assumptions.

The FFO over Debt result is not significant in the medium-long term

WaterNSW is forecast to have an average FFO over Debt of 4.8%, which is below the target. The relatively low FFO over Debt ratio is explained by the combined effects of the current low WACC, low interest rate environment and the fact the Pipeline is an asset with a very long life of 93 years (which means the initial investment is recovered over a relatively long period of time through the depreciation allowance).

Transparent and predictable regulatory framework results in revenue predictability

We have followed the well-established principles of the building block framework when reviewing and setting WaterNSW's prices and revenue allowances over the 2022 determination period. We consider the transparency of the regulatory framework and the revenue stability and predictability that is generated supports its long term financial sustainability.

The visibility of future cash flows that is generated by the regulatory framework provides WaterNSW with an opportunity to implement counter measures to protect its credit risk profiles. These counter measures could include finding efficiency savings, re-profiling expenditure, seeking equity injections or using retained earnings and/or dividends to pay down debt.

8.5 Matters to be considered by IPART under the IPART Act

For a full list of our considerations required by the IPART Act please see Appendix A.

8.5.1 We have considered impacts on the Consolidated Fund

Under Section 16 of the IPART Act, IPART is required to report on the likely impact to the Consolidated Fund if prices are not increased to the maximum levels permitted. If this is the case, then the level of tax equivalents and dividends paid to the Consolidated Fund will fall. The extent of this fall will depend on NSW Treasury's application of its financial distribution policy and how the change affects after-tax profit.

Our financial modelling is based on a tax rate of 30% for pre-tax profit and dividend payments at 70% of after-tax profit. Under our modelling, a $1 decrease in pre-tax profit would result in a loss of revenue to the Consolidated Fund of 49 cents in total, which is 70% of the decrease in after-tax profit of 70 cents.

Our draft prices for the WaterNSW Pipeline will reduce Essential Water's water transportation costs by about 20%, before inflation. This means the level of the current Government subsidy would also fall by about 20%. We are also recommending that the Government's commitment to subsidise the WaterNSW Pipeline be extended to cover the entire 2022 determination period. Our recommendation is discussed in more detail in our concurrent review of Essential Water's prices in Broken Hill.

8.5.2 WaterNSW can recover all efficient costs in meeting its environmental obligations

The NSW Government is responsible for determining the risk of negative impacts from WaterNSW's operations on the environment, and imposing standards or requirements to address these risks and minimise any impacts. WaterNSW and the O&M operator have environmental responsibilities in the operation of the Pipeline. For example, the O&M operator must develop, implement and maintain management plans that ensure compliance with environmental standards.[62] More generally, WaterNSW is required to meet the environmental obligations in its Operating Licence.[63] In determining WaterNSW's revenue requirements, we have ensured WaterNSW can fully recover all efficient costs it incurs in meeting its environmental obligations through prices.

8.5.3 There are no significant impacts on general inflation as a result of our draft decisions

Under Section 15 of the IPART Act, we are required to consider the effect of our determinations on general price inflation.

We have made draft decisions to reduce WaterNSW's water transportation prices. Therefore, our decisions will not put upward pressure on general inflation.

Appendix A

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

This appendix explains how we have considered matters we are required to consider under the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act)[a].

A.1 Matters under section 15(1) of the IPART Act

IPART is required under section 15(1) of the IPART Act to have regard to the following matters in making determinations and recommendations:

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.

[a] The IPART Act 1992 is available here.

Table A.1 Consideration of section 15(1) matters by IPART

Section 15(1)	Report reference
a) Cost of providing the services	Chapters 3 and 4 set out our forecast of the total efficient costs WaterNSW will incur to deliver its water transportation services. Further detail is provided in Chapters 5 and 6 on other costs, NRR and forecast water sales and demand.
b) Protection of consumers from abuses of monopoly power	We consider our decisions would protect consumers from abuses of monopoly power, as they reflect the efficient costs WaterNSW requires to deliver its services. This is addressed throughout the report, particularly in Chapter 3 and 4 (where we establish the prudent historical costs and efficient forecast costs) and Chapters 7 and 8 (where we set out our pricing decisions).
c) Appropriate rate of return and dividends	Chapter 5 outlines that we have allowed a market based-based rate of return on debt and equity, and that this will enable a benchmark business an efficient level of dividends to its owner.
d) Effect on general price inflation	Chapter 8 outlines that the impact of our draft prices on general inflation is negligible.
e) Need for greater efficiency in the supply of services	Chapters 3 and 4 set out our decisions on the Pipeline's prudent historical expenditure and efficient forecast expenditure. These decisions would promote greater efficiency in the supply of WaterNSW's water transportation services.
f) Ecologically sustainable development	Chapters 3 and 4 set out the Pipeline's prudent historical expenditure and efficient forecast expenditure that allows it to meet all of its regulatory requirements, including its environmental obligations.
g) Impact on borrowing, capital and dividend requirements	Chapters 5 and 8 explain how we have provided WaterNSW with an allowance for a return on and of capital, and our assessment of financeability.
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 3 and 4 determine the prudent and efficient cost of the design and construct (D&C) and operation and maintenance (O&M) contracts which WaterNSW has entered into for the provision of the Pipeline's water transportation services.
i) Need to promote competition	In determining efficient costs, we have been mindful of relevant principles such as competitive neutrality (e.g. we have included a tax allowance for WaterNSW as set out in Chapter 5).
j) Considerations of demand management and least cost planning	Chapters 3 and 4 outline how we have assessed the Pipeline's prudent historical and efficient forecast expenditure required to deliver its transportation service at least cost. Chapter 7 outlines how we have set prices to reflect efficient costs, including the usage price to reflect the approximate estimate of marginal cost of supply – such cost-reflective prices promote the efficient use and distribution of reSources (all else being equal).
k) Social impact	Chapter 8 considers the potential impact of our pricing decisions on WaterNSW, its customers and the NSW Government (on behalf of the broader community).
l) Standards of quality, reliability and safety	Chapters 3, 4, 7 and 8 detail our consideration of WaterNSW's prudent historical and efficient forecast costs so that it can meet the required standards of quality, reliability and safety in delivering its services.

Appendix B

Weighted average cost of capital

To calculate an allowance for the return on assets in the revenue requirement, we multiply the value of the regulatory asset base in each year of the determination period by an appropriate rate of return. To do this, we determine the rate of return using a weighted average cost of capital (WACC).

This appendix shows the parameters we used to calculate the WACC and explains our decision about how to treat annual changes in the WACC over the 2022 determination period.

B.1 We use our standard approach to calculate the WACC

We used our standard methodology to calculate the WACC. Under our approach we estimate one WACC based on current market data and one based on long-term average data. When our uncertainty index, which indicates the level of volatility in capital markets, is within one standard deviation of its mean value, we select the mid-point of the current and long-term WACC values. The uncertainty index is currently within this range.

Table 1 sets out the parameters used to derive the 2.9% post-tax real WACC.

Table 1 WACC calculation using IPART's standard approach

	Step 1 – Market data		Step 2 – Final WACC range		
	Current	**Long term**	**Lower**	**Mid-point**	**Upper**
Nominal risk-free rate	1.60%	2.50%			
Inflation	2.40%	2.40%			
Implied Debt Margin	2.10%	2.30%			
Market Risk premium	8.4%	6.0%			
Debt funding	60%	60%			
Equity funding	40%	40%			
Total funding (debt + equity)	100%	100%			
Gamma	0.25	0.25			
Corporate tax rate	30%	30%			
Effective tax rate for equity	30%	30%			
Effective tax rate for debt	30%	30%			
Equity beta	0.70	0.70			
Cost of equity (nominal post-tax)	7.5%	6.7%			
Cost of equity (real post-tax)	5.0%	4.2%			
Cost of debt (nominal pre-tax)	3.7%	4.8%			
Cost of debt (real pre-tax)	1.3%	2.3%			
Nominal vanilla (nominal post-tax) WACC	5.2%	5.6%	5.2%	5.4%	5.6%
Post-tax real WACC	**2.7%**	**3.1%**	**2.7%**	**2.9%**	**3.1%**
Pre-tax nominal WACC	6.1%	6.3%	6.1%	6.2%	6.3%
Pre-tax real WACC point estimate	3.6%	3.8%	3.6%	3.7%	3.8%

Source: IPART calculations.

B.2 Our methodology to calculate WACC parameters

Sections B.3 to B.7 explain the methodology for each parameter used to calculate the WACC under our standard approach.

B.3 Gearing and beta

In selecting proxy industries, we consider the type of business the firm is in. If we can't directly identify proxy firms that are in the same business, we would consider what other industries exhibit returns that are comparably sensitive to market returns.

We adopted the standard values of 60% gearing and an equity beta of 0.7. We undertook preliminary proxy company analysis on several different types of industries with risk profiles that appear similar to water utilities. The results for the electric utilities industry and the multiline utilities activity support continuing to use an equity beta of 0.7 when 60% gearing is used. While some other industries and activities analysed suggest a higher beta, the sample sizes for those proxy groupings are too small to warrant making what would be a major change from the status quo.

B.4 Sampling dates for market observations

We sampled all market observations to the end of December 2021. We decided not to sample at a later date because:

- sampling at a different time of year creates unnecessary complexity and may introduce seasonal effects
- failing to use the most up-to-date market data is not a particular problem given we use the trailing average cost of debt, which minimises the impact of any one interest rate sample
- any movements in the cost of debt within the determination period will be picked up in our true-up calculation.

For earlier years in the trailing average calculation of the historic cost of debt we sampled to the end of March in each year.

Our inflation forecast was produced using IPART's standard approach, [64] with the Reserve Bank of Australia 1-year ahead forecast Sourced from the February 2021 Statement of Monetary Policy.

B.5 Tax rate

We assumed the Benchmark Equivalent Entity is a large public water utility. The scale economies that are important to firms of this type suggested the Benchmark Equivalent Entity would be likely to be well above the turnover threshold at which a firm becomes ineligible for a reduced corporate income tax rate. Therefore, we used a tax rate of 30%.

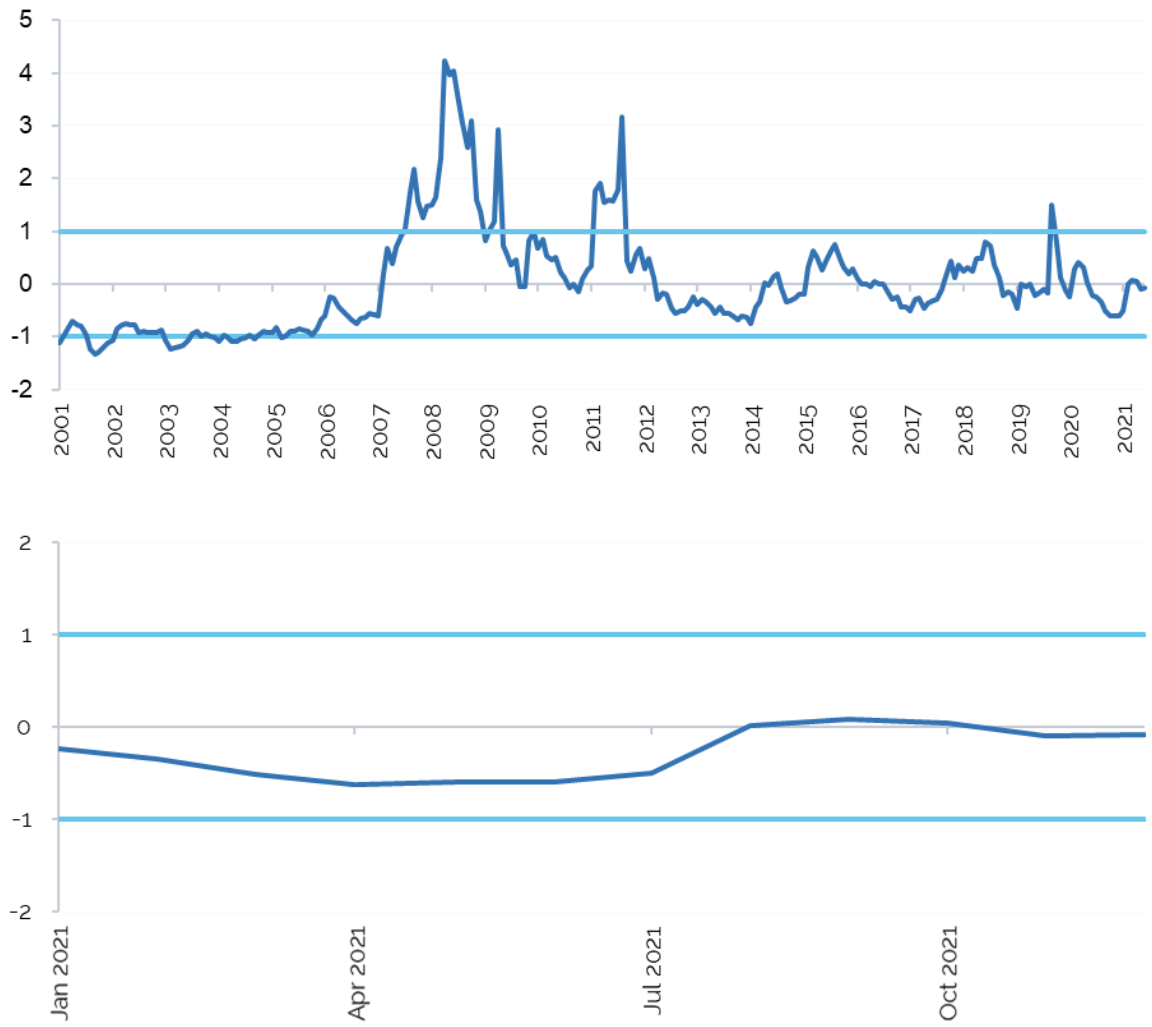
B.6 Application of trailing average method

Our 2018 review of the WACC method introduced a decision to estimate both the long-term and current cost of debt using a trailing average approach, which updates the cost of debt annually over the regulatory period. As foreshadowed in our 2018 review of the WACC method, we employed a transition to trailing average in the calculations presented above.

B.7 Uncertainty index

We tested the uncertainty index for market observations to the end of December 2021. It was within the bounds of plus and minus one standard deviation of the long-term mean value of zero. Therefore, we maintained the default 50%/50% weighting between current and historic market estimates of the cost of debt and the cost of equity (Figure B.1).

Figure B.1 IPART's uncertainty indexes



Source: Refinitiv and IPART calculations.

[1] WaterNSW, Pricing Proposal to IPART, June 2021, p 24.
[2] Essential Water, Essential Water Pricing Proposal, June 2021, p 72
[3] WaterNSW, Pricing Proposal to IPART, June 2021, p 26.
[4] WaterNSW, Pricing Proposal to IPART, June 2021, p 123.
[5] WaterNSW, Pricing Proposal to IPART, June 2021, p 34.
[6] IPART analysis and WaterNSW AIRSIR submission.
[7] WaterNSW, Pricing Proposal to IPART, June 2021, p 33
[8] WaterNSW, Pricing Proposal to IPART, June 2021, pp 33, 67
[9] AECOM, Expenditure review of WaterNSW Broken Hill Pipeline excluding energy costs, December 2021, p 11 and The CIE, WaterNSW's Broken Hill Pipeline bulk water transport volume demand and energy review, June 2022, p 14..
[10] AECOM, Expenditure review of WaterNSW Broken Hill Pipeline excluding energy costs, December 2021, p 20.
[11] AECOM, Expenditure review of WaterNSW Broken Hill Pipeline excluding energy costs, December 2021, pp 26-27.
[12] AECOM, Expenditure review of WaterNSW Broken Hill Pipeline excluding energy costs, December 2021, pp 27-28.
[13] WaterNSW, Pricing Proposal to IPART, June 2021, Table 7, p 39.
[14] WaterNSW, Pricing Proposal to IPART, June 2021, p 37 and Appendix G.
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ISBN 978-1-76049-580-0