



MINISTERIAL BRIEF

City and Environment Directorate

To: Minister for Climate Change, Environment,
Energy and Water

Tracking No.: 25/0162552

Date: 14/07/2025

From: Executive Group Manager, CCEW

Subject: Water Abstraction Charge and Non-potable water review

Critical Date: 29/07/2025

Critical Reason: In normal course of business.

Recommendations

That you:

1. **Note** the Independent Competition and Regulatory Commission (ICRC) has recommended a new water abstraction charge (WAC) pricing methodology which, if implemented, is estimated to reduce revenue from WAC by \$42.8 million over the four-year period 2025-26 to 2028-29; and

Noted / Please Discuss

2. **Note** that a business case will be brought forward, as part of the 2025-26 Budget Review, which encompasses both potable and non-potable water pricing for ERC consideration.

Noted / Please Discuss

Suzanne Orr MLA

29/07/25

Minister's Office Feedback

please add to agenda of next weekly meeting.

Background

1. The WAC is a regulatory water charge for potable and non-potable water levied by the ACT Government. The charge is intended to recover catchment management costs, reflect the environmental costs from water abstraction, and the value of the water as a natural resource.
2. The pricing methodology for the WAC has not been updated since it was last reviewed by the ICRC in 2003. Since that time, the WAC has been increased by an indexation rate of three percent or based on budget decisions. This has attracted ongoing scrutiny of the WAC, and questions were raised on the transparency or basis of the charge.
3. In 2022, the Commissioner for Sustainability and the Environment (the Commissioner) delivered a report on the State of the Lake and Waterways in the ACT, recommending that the ACT Government publish an annual detailed breakdown of how the WAC revenue is being expended. Subsequently, the Government provided in-principle agreement to this recommendation (CAB22/442).
4. To better understand the appropriateness of the current WAC rate and framework, the Environment, Planning and Sustainable Development Directorate (EPSDD) contracted Slattery and Johnson to review and provide advice on the WAC in 2023. The consultant's report raised several concerns with regards to the WAC, including:
 - a. its compliance with intergovernmental agreements, potential over-recovery of costs;
 - b. the appropriateness of its component;
 - c. the lack of transparency in its calculation; and
 - d. a misalignment between the components of the WAC and Australian Competition and Consumer Commission reporting requirements.
5. In response, on 30 October 2023, the then Treasurer provided the ICRC with a scope of work (jointly developed with EPSDD) for a review of the WAC under Section 12 of the *Independent Competition and Regulatory Commission Act 1997*, which largely requested the ICRC to:
 - a. determine whether the current WAC rate and framework (for both potable and non-potable water) adheres to intergovernmental agreements and is effective in supporting the Territory's water policy objectives; and
 - b. recommend a methodology for setting the Territory's fees and charges for potable and non-potable water going forward, and appropriate review intervals for the methodology.
6. On 21 February 2024, the ICRC's Senior Commissioner, Joe Dimasi, provided the ICRC's final report on the ACT WAC pricing methodology ([Attachment A](#)). The ICRC proposed an updated WAC methodology at the next available opportunity.
7. A joint Treasury/EPSDD business case was developed with the intent of bringing it forward as part of the 2025-26 Budget process. The Treasurer, after consultation

with colleagues, has subsequently decided on an alternative approach and will bring forward the business case as part of the 2025-26 Budget Review.

Issues

The WAC review and ICRC recommendations

8. The ICRC assessed the current WAC rate and framework and found it inconsistent with the national legislative requirements and ACT policy objectives, for reasons that:
 - a. the WAC rate has increased independent of the methodology developed by the ICRC in 2003, which took into consideration the legislative requirements and policy objectives at the time; and
 - b. the methodology has not been reviewed or developed in the last 20 years, and as a result, does not account for legislative changes introduced since 2003, up-to-date information, or the increased costs associated with addressing environmental damage.
9. The ICRC found that the 2003 methodology remains broadly appropriate and feasible, including the consideration of the scarcity costs and environmental externalities in the fees and charges for water take.
10. Given this, for the four-year period from 2024-25 to 2027-28, the ICRC proposed to set the WAC using a methodology like that developed through their 2003 review, but with changes to reflect the legislative requirements and updated information. That is, the WAC is recommended to be comprised of two separate components:
 - a. a water sustainability charge which reflects both the estimated economic value of water as a scarce resource and an estimate of negative environmental externalities associated with extracting water for consumptive purposes; and
 - b. a water planning and management (WPM) charge which reflects the costs associated with planning and managing water and catchment areas in the ACT. These costs are directly related to the provision of potable water and are not included in Icon Water's regulated costs.
11. For future periods, the ICRC recommended that the methodology be reviewed as part of the five-year price investigation process for determining Icon Water's water and sewerage service prices. Over time, as the methodology is developed and refined, better estimates will be available to more accurately signal to customers the costs of achieving a sustainable water supply.
 - a. The ICRC proposed that the next WAC methodology review commence in 2026 to inform WAC calculations to be built into the 2028-32 regulatory period.
 - b. Treasury and EPSDD agreed that, as part of this review, further consideration would be given to the water sustainability charge, particularly in the context of water affordability and whether the charge supports the Territory's water policy outcomes. [Attachment B](#) provides a summary of EPSDD's views on elements of the methodology, particularly the water sustainability charge.
 - c. Treasury and EPSDD further agreed that if the ICRC's proposed methodology is adopted the ACT's price for permanently recovering water would be used.

Non-potable Water Review

12. The Non-Potable Water Review looked at the appropriateness of current pricing frameworks for high-intensity club users of non-potable water, pricing concessions, and whether any adjustments could be made.
13. The non-potable water review final report was released in December 2021 ([Attachment C](#)). It was informed by a discussion paper released for stakeholder comment in March 2021. The final report made several recommendations including:
 - a. Ground and surface water charges (i.e WAC) be adjusted to better align with fixed and variable costs.
 - b. Assistance measures for large users be reviewed to make them simpler, more transparent and more equitable.
 - c. Short-term support be provided to some sporting clubs (those that have no other option than to use significant quantities of recycled or potable water for irrigation purposes) in exceptional circumstances such as extreme or prolonged dry weather to reflect the social benefits of community clubs.
14. Following its release, further engagement was undertaken with a range of stakeholders including the golf industry. A listening report ([Attachment D](#)) was provided to stakeholders in December 2023.
15. Since then, no substantive contact has been made with these stakeholders, as a decision was made by the then Minister for Water, Energy and Emissions Reduction to delay consideration of the recommendations (CAB22/440) until the ICRC's WAC review was complete (as this encompassed both potable and non-potable water pricing) and the outcomes agreed by Cabinet.
16. EPSDD and Treasury will continue to work together to progress this work. Options for responding to the review recommendations will form part of the business case brought forward in the 2025-26 Budget Review.

Next Steps

17. Treasury will lead the development of the business case with support from EPSDD. The business case will detail options for responding to the WAC review, and the non-potable water review. The Budget Coordination Team has advised that while processes for the 2025-26 Budget Review are not set yet, tentative timings are as follows:
 - a. Ministerial endorsement of business case early October 2025.
 - b. ERC to consider business case from late November to early December, with Cabinet to consider them mid-December 2025.
18. Based on the above, Treasury would need to commence preparation of the business case in early/mid-August 2025.

Financial Implications

19. There are no direct financial impacts associated with this brief. However, it is anticipated that implementing any changes to the WAC could reduce the combined potable and non-potable WAC revenue by around \$40 million over four years. The financial impact estimates provided below are only indicative and are likely to change based on the final configuration of the options presented in the business case.

	2025-26	2026-27	2027-28	2028-29	Total
Expense Impacts					
Expense	-	-	-	-	0
Revenue	-	-	-	-	0
Revenue Forgone	-13.46	-14.34	-15.02	-	-42.81
Net Expense	0	0	0	0	0
Staffing Impact					
Total Additional FTEs (number)	0.0	0.0	0.0	0.0	

20. Work undertaken as part of the non-potable water review suggested that removing financial assistance for golf clubs would save government around \$163,456 in 2019- 20. Although this information is dated, it does provide an indication of the potential savings. Options on this matter will be incorporated into the business case.

Consultation

Internal

21. Nil.

Cross Directorate

22. Treasury and EPSDD continue to work collaboratively to progress this work.

External

23. Nil.

Work Health and Safety

24. Nil.

Benefits/Sensitivities

25. While increases to the WAC since 2003 have lacked transparency, the ICRC found no evidence that it had been levying charges for the purpose of revenue raising. However, the ICRC noted that the ACT appears to have over recovered water management and planning costs due to the nature of reporting, which compares the total WAC revenue against costs. The ICRC's recommended methodology would address this issue.
26. Implementing the ICRC's recommended WAC pricing approach could have a negative budget impact and potentially reduce the Government's capacity to fund projects that help achieve other Government priorities and policy objectives, noting WAC goes into the Territory's consolidated revenue.

27. Conversely, the community would potentially receive cost of living benefits, for example:

- a. Potable water – average households could save approximately \$33 a year on their water and sewerage bills in 2025-26, increasing to \$74 by 2027-28.
Non- residential customers using 5,000kL with 50 billable fixtures are estimated to save \$1,136 in 2025-26, increasing to \$2,472 by 2027-28.
- b. Non-potable water – users of surface and ground water will be positively impacted through lower water charges.

28. The Government faces potential reputational risk of a delayed response to the non-potable water review, given that December 2024 marked three years since Treasury published the review report. Discussions are continuing with Treasury around how best to communicate next steps to stakeholders who participated in the review.

29. The timing of changes to the ACT Government’s fees and charges determination also needs to be considered. This is particularly important for the golf clubs. Removing the existing subsidy (known as the Market Equity Scheme) will increase their water costs. Advice will need to be provided in a timely way as they will need consider these costs as part of their broader business planning.

Communications, media and engagement implications

30. Any major changes to water pricing are expected to be announced following the 2025-26 Budget Review.

31. A communication plan will be built into the 2025-26 business case. This will consider when and how decisions of government will be communicated to key stakeholders.

1.

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Action Officer: Phone:

Attachments

Attachment	Title
Attachment A	ICRC Final Report on the ACT WAC Pricing Methodology
Attachment B	EPSDD Views – ICRC proposed pricing methodology
Attachment C	Non-potable Water Review Final Report
Attachment D	Non-potable Water Review Listening Report



ICRC
independent competition and regulatory commission

CONFIDENTIAL

Review of the ACT Water Abstraction Charge pricing methodology

February 2024



The Independent Competition and Regulatory Commission is a Territory Authority established under the *Independent Competition and Regulatory Commission Act 1997* (the ICRC Act). We are constituted under the ICRC Act by one or more standing commissioners and any associated commissioners appointed for particular purposes. Commissioners are statutory appointments. Joe Dimasi is the current Senior Commissioner who constitutes the Commission and takes direct responsibility for delivery of the outcomes of the Commission.

We have responsibility for a broad range of regulatory and utility administrative matters. We are responsible under the ICRC Act for regulating and advising government about pricing and other matters for monopoly, near-monopoly and ministerially declared regulated industries, and providing advice on competitive neutrality complaints and government-regulated activities. We also have responsibility for arbitrating infrastructure access disputes under the ICRC Act.

We are responsible for managing the utility licence framework in the ACT, established under the *Utilities Act 2000* (Utilities Act). We are responsible for the licensing determination process, monitoring licensees' compliance with their legislative and licence obligations and determination of utility industry codes.

Our objectives are set out in section 7 and 19L of the ICRC Act and section 3 of the Utilities Act. In discharging our objectives and functions, we provide independent robust analysis and advice.

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Correspondence or other inquiries may be directed to the Commission at the following address:

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Executive summary

Water is essential to everyday life and for maintaining a sustainable environment. In the ACT, high-quality drinking water is available at the turn of a tap and it is easy to forget that water is a scarce natural resource, both for consumptive use and for maintaining the health of our waterways.

Enormous efforts have been put in at the national and jurisdictional level across Australia to reform the water sector over the past 30 years. Commencing with the 1994 COAG reforms, the water sector has seen the introduction of the National Water Initiative, the Water Act 2007 and the Murray-Darling Basin Plan, all aimed at the sustainable management of our water resources.

However, despite these extensive reforms, most urban water charges continue to omit the costs associated with water sustainability. Instead, governments have relied on non-price demand mechanisms or supply augmentation to manage water scarcity and environmental externalities. These alternatives can be costly, particularly when implemented as a reactive response to short-term conditions.

The ACT Government sought to include water sustainability costs into ACT water charges using the approach developed by the commission in 2003. However, since its introduction, the approach has not been reviewed or developed in 20 years to ensure consistency with national legislative requirements or ACT policy objectives.

Water charges in the ACT should include the costs associated with achieving water sustainability. The concept of sustainability underpins the national legislative framework for water and there are specific requirements in the legislation to include environmental externalities in water charges where feasible. The inclusion of such costs provides a signal to consumers about the value of the scarce resource they are using, it provides the appropriate incentives to consider alternative options such as recycled water, and the resulting funds can be used directly to address water sustainability, including environmental damage caused by urban water consumption.

We recommend that the water charges comprise two separate components.

- A water sustainability charge: we recommend that a water sustainability charge reflect both the estimated economic value of water as a scarce resource and an estimate of negative environmental externalities associated with extracting water for consumptive purposes.
- A water planning and management charge: this charge reflects the costs associated with planning and managing water and catchment areas in the ACT. These costs are directly related to the provision of potable water and are not included in Icon Water's regulated costs.

For this review, we propose using a methodology similar to that used in our 2003 review, with changes to reflect the legislative requirements that have since been introduced. In future, we recommend that the methodology be reviewed more regularly, perhaps every 5 years in line with the water price investigation process. This way, the methodology can be developed and refined over time to better reflect the costs of achieving a sustainable water supply in the ACT.

Implementation of our recommended methodology results in hypothetical charges for 2023-24, levied on the volume of water extracted, of 16.4 cents per kL for water planning and management and 26.5 cents per

kL for water sustainability. The corresponding placeholder estimates for 2024-25 are 23.2 cents per kL and 28.9 cents per kL for water planning and management and water sustainability, respectively. We estimate a small but improved level of water affordability compared with current rates.

We recommend that both charges are applied to potable water, while only the sustainability charge is applied to non-potable surface water and ground water. For stormwater and recycled water, we recommend that neither charge is applied. We consider the use of both water sources to be beneficial to the environment and to improving water sustainability in the ACT. Imposing a sustainability charge would provide the perverse incentive of discouraging use of these water sources. Our recommended estimates are summarised in Table 1. Water charges based on the current approach are also presented for comparison.

Table 1: Recommended water charges for 2023-24 and 2024-25, cents per kL, nominal

	WPM charge	Water sustainability charge	2023-24 current approach	2023-24 proposed approach	2024-25 current approach	2024-25 proposed approach
Potable water	✓	✓	69.0	42.9	71.1	52.1
Non-potable water						
Surface water	✗	✓	33.4	26.5	34.4	28.9
Ground water	✗	✓	33.4	26.5	34.4	28.9
Stormwater	✗	✗	33.4	0.0	34.4	0.0
Recycled water	✗	✗	33.4	0.0	34.4	0.0

We recommend that the sustainability charge be used to compliment other supply and demand mechanisms such as augmentation of current supplies, investment in alternative supply options, extraction limits, water restrictions and community education and awareness programs. These alternatives all impose costs, and the use of a sustainability charge can reduce or delay these costs. Having a full complement of tools available to maintain a sustainable supply of water in the ACT is more important than ever as we face the substantial challenges ahead associated with population growth and climate change.

1. Introduction

On 30 October 2023, the ACT Government requested the commission to undertake a review of the pricing methodology for determining the ACT Water Abstraction Charge (WAC). The context provided for the review includes:

- Agreement by the ACT Executive in August 2022 to a program of priority reform activities for the management of the ACT's water. This included improving accountability and transparency of current funding arrangements, including the WAC, a regulatory water charge for potable and non-potable water levied by the ACT Government.
- Advice EPSDD received in 2022 from a consultant on the appropriateness of current WAC reporting and that the cost components of the current WAC are potentially inconsistent with eligible costs in the Water Charge Rules.
- A request by the Minister for Water, Energy and Emissions Reduction to take into consideration the outcomes of this review in the Government's response to a report prepared by Treasury in 2021 on non-potable water pricing.
- Recognition that the ACT has entered into a series of intergovernmental agreements since the commission's review of the WAC in 2003 and the WAC has not been reviewed to ensure it remains fit for purpose and adheres to these agreements¹.

The scope of work for this review identifies the following key issues for consideration:

1. Consider the WAC for potable and non-potable water and determine:
 - a. If the current WAC rate and individual components that comprise the pricing methodology for the WAC are compliant with the Water Act 2007 (Cwlth), with its [water charging objectives and principles](#), [Water Charge Rules 2010](#) and [National Water Initiative Pricing principles](#); and
 - b. If the Charge is effective in supporting the Territory's water policy outcomes.
2. Consider alternative methods taken by other Australian jurisdictions regarding:
 - a. the applicability of these methods, or elements of these methods, to setting water charges for the stated water policy outcomes in the ACT;
 - b. relevant prior considerations by the Urban Water Sub-Committee (National Water Reforms) on water charge methodology, particularly regarding environmental externalities and water scarcity; and
 - c. any other economic considerations deemed to be informative relative to setting water charges.
3. Based on findings in 1 and 2, recommend a methodology for setting the Territory's fees and charges for potable water and non-potable water that:

¹ ACT Government 2023

- a. considers the appropriateness and feasibility of including environmental externalities and water scarcity in fees and charges for water take, its effectiveness for achieving the water policy outcome, and the implications to water affordability or the like from such an inclusion;
 - b. include provision(s) which ensure transparency and accountability in price setting and reporting, particularly to assist in setting out all components of the water charges;
 - c. provide a suitable process for the periodic review of the methodology to ensure that charges meet their intended purposes, with the ICRC to advise on an appropriate cadence for reviews that ensure the charges remain cost reflective and continue to meet water policy outcome; and
 - d. considers any other economic matters to ensure a robust methodology.
4. Test the method to assess financial impact on water users by:
- a. applying the proposed pricing method to derive a hypothetical water charge for the 2023-24 financial year and comparing it with the WAC applied in 2023-24; and
 - b. applying the method to derive the potable and non-potable water charge for the forward 2024-25 financial year.

The work is to be undertaken under section 12 of the ICRC Act 1997. The commission is to provide advice in the form of a final report, including any findings and recommendations, to the Treasurer and the Minister for Water, Energy and Emissions Reduction. This document is the final report providing the requested advice.

The remainder of this report is structured as follows:

- Section 2 provides a summary of the commission's 2003 WAC review and changes to the WAC rate that have occurred since to assess whether they are compliant with the current national legislative framework and effective in supporting the Territory's water policy outcomes.
- Section 3 reviews the approach taken in other Australian jurisdictions to estimating components of the WAC to help guide our recommendations.
- Section 4 sets out our recommended approach for calculating the WAC going forward, considering our previous methodology, changes in the water market that have occurred since our last review and the methods used by other Australian jurisdictions.
- Section 5 applies our proposed pricing methodology to derive a hypothetical water charge for 2023-24. We also apply our proposed methodology to derive the potable and non-potable water charges for 2024-25.
- Section 6 examines the financial impacts of our proposed methodology, including the impacts for water users.
- Attachment 1 identifies the major water reforms that have taken place since our 2003 review, including Commonwealth agreements and ACT water policy, to understand the implications for the WAC methodology going forward.
- Attachment 2 identifies the activities relevant for calculating water planning and management costs.
- Attachment 3 provides responses to the issues raised in the 2022 consultancy advice received by EPSDD.

2. Current WAC methodology and rates

The methodology for calculating the WAC was last reviewed by the commission in 2003. Since that time, the ACT Government has increased the WAC rate significantly for potable water, independent of the methodology that the commission recommended in 2003. This section summarises the 2003 WAC review undertaken by the commission and the change in WAC rates that have occurred since to provide a view on whether they are compliant with the current legislative framework and effective in supporting the Territory's water policy outcomes.

2.1 2003 WAC review

In 2003, the Treasurer issued a reference to the commission to investigate and provide advice on an appropriate level for the WAC. The reference also required that the commission advise on an appropriate methodology for the calculation of the WAC in future years.

In this review, it was determined that the WAC should, to the extent possible, reflect actual costs that are incurred by the ACT Government and the costs that are reflected in the imposts that are borne as a result of the ACT's abstraction of water for consumptive purposes (excluding those incurred by Icon Water, at the time ACTEW)². The commission concluded that the methodology for calculating the WAC must satisfy four criteria: transparency, reliability, flexibility and legality.

The commission identified three possible costs of water not covered by the regulatory arrangements applying to Icon Water:

- catchment management costs directly incurred by the ACT Government
- environmental costs associated with consumptive water use
- the scarcity value of water

The commission's decision was to spread catchment management costs over the total amount of water abstracted to arrive at a cost per kilolitre (kL). For environmental costs and the scarcity value of water (referred to in the commission's report as flow costs), the commission's decision was to limit these costs to flows not returned to the system. It reported that of the 65 gegalitres (GL) of water abstracted, only 35 GL are returned through the water treatment facility, with the remainder lost to the water system each year.

2.1.1 Catchment management costs

For catchment management costs, the commission decided to spread any one-off capital expenditure items over three years instead of establishing a regulatory asset base and calculating the return on and return of capital (as is done for Icon Water's pricing determination). The commission identified Government water supply expenditures at \$5.3 million, which it divided through by 65 GL of annual water abstracted to arrive

² ICRC 2003

at a catchment management cost of 8.2 cent per kL. The commission noted that this estimate excluded bushfire recovery costs, which it expected to add an additional 2 cents per kL.

2.1.2 Scarcity value

The commission considered that because water not used in the ACT can flow downstream and be used for other purposes which have economic value, such as irrigation, there is a scarcity value associated with consumptive use of water in the ACT and it is reasonable to reflect this in the WAC. It concluded that the scarcity value can be determined from traded water prices.

The commission took the weighted average of trading prices for temporary entitlements for the previous two years. At the time, there was no market for tradable water that included the ACT and therefore the commission considered that water abstracted downstream from the ACT (ie along the Murrumbidgee River) was the best proxy for the scarcity value of water in the ACT. Based on data from the Water Exchange, the weighted average price of water for 2001-02 and 2002-03 was \$96 per ML for the 2003-04 year. Multiplying this by the share of total abstracted water not returned to the system (ie 30GL/65GL or 46%) gave a scarcity value of \$44 per ML or 4.4 cents per kL.

2.1.3 Environmental costs

The commission identified environmental costs as the most difficult cost to measure and concluded that only those costs relating to environmental flows should be included in the WAC. Specifically, the commission only included environmental costs associated with the effect on the flow of water downstream associated with altering the timing and magnitude of downstream flows by retaining water in dams and not returning all the water we abstract to the downstream water system. The commission used the Murray Darling Basin Commission's estimate of the average downstream cost of maintaining or augmenting river flows as a proxy for this environmental cost. While the Conservation Council at the time argued for a broader interpretation of environmental costs, which recognised that ecosystems have an inherent value, the commission concluded it was not appropriate to include these given the measurement difficulties.

According to MDBC estimates, the average cost to preserve or permanently recover one ML of water in the system was \$2,000. The commission multiplied this by the average interest rate on ten-year government bonds in September 2003, which was 5.54%. This gave an annualised environmental cost of \$111 per ML. Multiplying this by the share of total abstracted water not returned to the system gave an annual environmental cost of \$51 per ML or 5.1 cents per kL.

2.1.4 Total WAC

Based on the above estimates, the commission arrived at a total WAC estimate of 17.7 cents per kL, which it suggested could increase to approximately 20 cents per kL, taking into account costs associated with the bushfire recovery.

2.1.5 Application of the WAC to non-potable water

In its draft report, the commission concluded that the WAC for non-potable water (formal reuse water and water extracted from dams and similar holdings) should reflect the flow costs but not the catchment management costs. However, in the final report, the commission considered that given the stage 3 water restrictions that were in place at the time, even a reduced WAC may send the wrong signal to consumers of reused water and may even discourage use. Therefore, while the commission noted the theoretical advantages of applying a WAC to reuse water and urban storm water used within urban areas, it concluded that the application of the WAC to this water was inappropriate in the current climate.

2.1.6 Administration of the charge

The commission recommended that the WAC be passed directly on to consumers as a separate charge and should be applied on a per kL basis to all potable water charged for by Icon Water, at the same constant rate per kL for all customers. The commission also set out the methodology and data sources that should be used in updating the WAC annually.

2.2 WAC rates and revenue

As discussed above, the commission's 2003 review resulted in a potable WAC estimate of 20 cents per kL, including estimated costs associated with recovery from the January 2003 bushfires. From 1 January 2004, the ACT Government increased the WAC from 10 cents per kL to the commission's proposed rate of 20 cents per kL. The same rate was set for both potable and non-potable water.

The commission's 2003 review set out a methodology and data sources for updating the WAC annually. However, to the commission's knowledge, this approach was not adopted by the ACT Government in determining annual WAC charges.

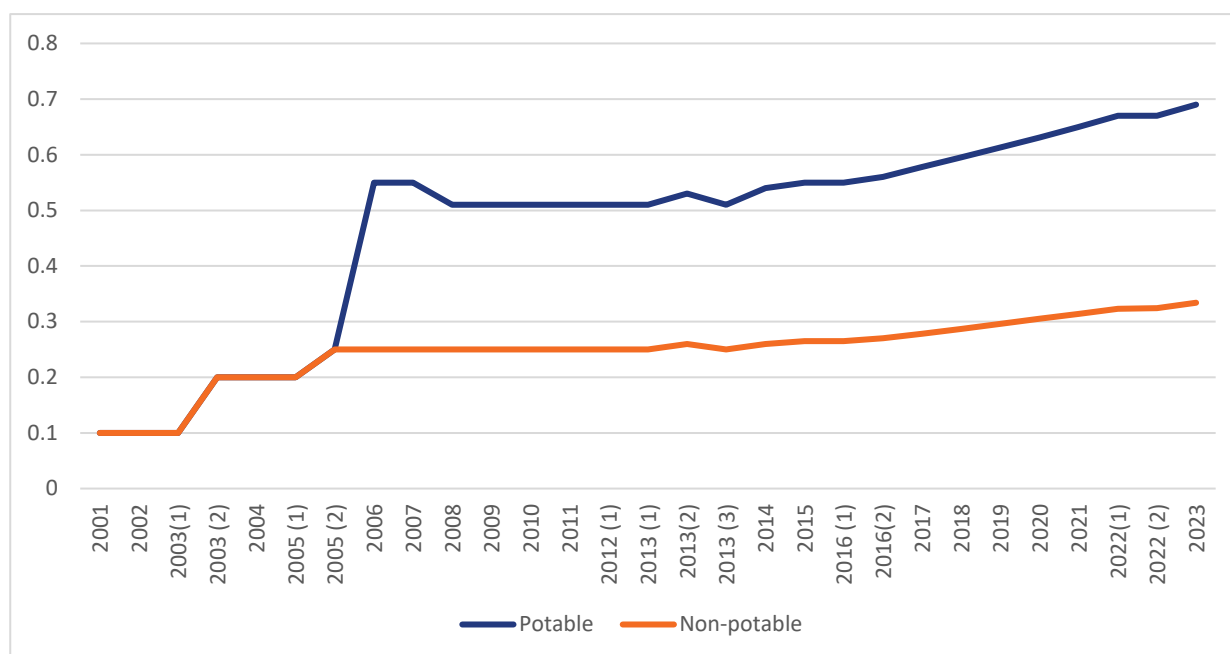
The WAC has increased significantly since our 2003 review, with the most notable increase being in 2006-07 when the potable WAC was increased 120% from 25 cents to 55 cents per kL (see Figure 1). In 2006-07, no change was made to the non-potable WAC, which remained at 25 cents per kL. The gap between the potable and non-potable WAC, introduced in 2006-07, has remained a feature of the WAC, with the non-potable WAC being set just below half the potable WAC since this time. In 2023-24, the WAC is set at 69 cents per kL for potable water and 33.4 cents per kL for non-potable water.

The ACT Government provides reasoning for increases in the annual WAC charges in explanatory statements to its fee determinations. For example, in explaining the large increase in the WAC in 2006-07, the explanatory statement stated:

This increase in the WAC represents the decision of Government to charge a price for water that more fully reflects its true economic value. This value represents an appropriate price for a scarce resource and is likely to achieve a more economically sustainable approach to water consumption within the Territory.

ACT GOVERNMENT 2006

The WAC raises considerable revenue. For 2023-24, the commission included an allowance of \$35.9 million for the WAC in potable water prices based on a potable WAC rate of 69 cents per kL and estimated forecast releases of 51,982 ML. At the current rate of increase in the WAC, the commission expects that the potable WAC rate will be 78 cents per kL by the end of the current regulatory period for water, raising \$41.9 million in revenue in 2027-28. The revenue recovered from the potable WAC, represents 11% of Icon Water's total regulated revenue allowance for 2023-24.

Figure 1: WAC rates, 2001-02 to 2023-24, \$nominal

Source: Water Resources (Fees) Determination, Disallowable Instrument, from 2001 to 2023.

2.3 Compliance with current legislation

During the 20 years since our last WAC review, there have been significant water reforms introduced across Australia, largely in recognition of the environmental damage caused by water extractions. In 2004, the National Water Initiative (NWI) was introduced, providing a framework and principles to underpin the sustainable management of our water resources. The Water Act 2007 introduced a framework to manage water resources in the Murray Darling Basin (MDB) and established the MDB Authority to develop a plan to return extractions to environmentally sustainable levels. The Basin Plan, which was adopted in 2012, establishes the volume of water that can be extracted from the Basin (the 'environmentally sustainable level of take') and the volume of water required to be recovered by 30 June 2024. The first review of the plan is to take place in 2026.

The Water Act 2007 also provides for the Water Charge Rules, which provide transparency in charges and costs for customers of monopoly water infrastructure providers across the Basin. The ACCC monitors regulated charges and compliance and enforces these rules. The ACCC's role in the water sector is largely focused on irrigation infrastructure operators and bulk water suppliers, as other water infrastructure operators are regulated by state agencies and fall outside the coverage of the Water Charge Rules. However, the ACCC does monitor and report on the charges and costs of water planning and management in MDB jurisdictions, including the ACT.

The ACT Water Strategy 2014-44 is consistent with national water objectives and compliant with the Basin Plan. The vision for water management in the ACT over the 30-year period covered by the strategy is 'A community working together, managing water wisely to support a vibrant, sustainable and thriving region'. For this review, the most relevant of the three key outcomes of the water strategy is a sustainable water supply used efficiently.

Appendix 1 provides details of the national and ACT water reforms that have been introduced since our last WAC review in 2003 and the implications for our recommended methodology.

2.3.1 2003 WAC review

It is our view that the methodology set out in our 2003 review is consistent with the NWI pricing principles, Water Act 2007 and Water Charge Rules 2010, with the exception of the calculation of catchment management costs (referred to in the current legislation more broadly as water planning and management or WPM costs). The methodology is also effective in supporting the Territory's water policy outcomes.

Regarding WPM costs, the NWI pricing principles set out the WPM activities that can be included in water charges and the activities that should be excluded. The NWI pricing principles also set out the methodology for converting capital expenditure to annual costs. Given that the NWI pricing principles were not in place at the time of our 2003 review, the commission's methodology may include some costs in the WAC charge that should be excluded such as the costs associated with developing water policy. In addition, the methodology proposed in our 2003 review for converting WPM capital expenditure to annual costs was to spread the capital expenditure over 3 years. The NWI pricing principles set out a different approach to annualising capital expenditure.

There is clear guidance in both the NWI and Water Act 2007 for including environmental externalities in water charges where feasible (see Box 1). The commission's 2003 methodology included an estimate of negative externalities associated with diverting water from the MDB. A cost-based methodology was proposed to approximate the value of the negative externalities by using an estimate of the cost of permanently returning water to the MDB system. In our view, this methodology is compliant with both the NWI and Water Act 2007.

Box 1: Environmental externalities in the NWI and Water Act 2007

Under the NWI, the States and Territories agree to:

- i) continue to manage environmental externalities through a range of regulatory measures (such as through setting extraction limits in water management plans and by specifying the conditions for the use of water in water use licences);
- ii) continue to examine the feasibility of using market based mechanisms such as pricing to account for positive and negative environmental externalities associated with water use; and
- iii) implement pricing that includes externalities where found to be feasible

Similarly, the Water Act 2007 (Part 3) requires the cost of environmental externalities to be included in water charges where feasible:

- 1) Market-based mechanisms (such as pricing to account for positive and negative environmental externalities associated with water use) are to be pursued where feasible.
- 2) The cost of environmental externalities is to be included in water charges where found to be feasible.

In terms of the scarcity value included in our 2003 methodology, there are no specific pricing principles or guidance in the relevant national legislation that require the inclusion of a scarcity value in water charges. Similarly, there is nothing in the current legislative framework that prevents the inclusion of a scarcity value in water prices. Water sustainability is clearly one of the key objectives underlying legislative reforms over the past 20 years and recognising its value as a scarce resource in water charges assists in curbing demand and encouraging the use of more sustainable water sources. Our 2003 methodology involved estimating the scarcity value of water using traded water allocation prices outside urban areas. In our view, this is not only appropriate but consistent with the objectives of the current water legislation.

The methodology proposed in our 2003 WAC review is also likely to be effective in supporting the Territory's water policy outcomes. Specifically, the inclusion of environmental costs and a scarcity value in water charges provides a signal to water consumers about the true economic value of their water usage. Consumers will only use water to the extent that the value they place on usage exceeds the underlying cost of supplying water, including its economic value as a scarce resource and the negative environmental externalities that arise because of consumption. While our 2003 methodology only provides an approximation of these costs, the inclusion of these costs should still ensure more efficient use of water in the ACT compared with the alternative of excluding them from water charges.

2.3.2 Current WAC rate

While the current WAC rate may be effective in supporting the Territory's water policy outcomes, it is not transparent in how it complies with the national legislative framework.

The ACT Water Strategy 2014-44 includes as one of its key outcomes; a sustainable water supply, used efficiently. Demand side management is part of the ACT Government's strategy to achieve this outcome and scarcity pricing is identified as a strategy to be explored in promoting efficient water use. On this basis, an increase in the WAC to more fully reflect its true economic value is likely to be effective in supporting the Territory's water policy outcomes by reducing demand for potable water usage and providing improved signals for alternative water supply options.

However, there is not adequate explanation of the methodology used to calculate the charge or details of the underlying cost components of the charge. While the substantial increase in the WAC may have been appropriate during the drought, it was not subsequently reduced to reflect changes in water availability. It is also unclear what costs the ACT Government is including in the WPM component of the WAC and whether this reflects the current legislative framework.

3. Approaches used in other Australian jurisdictions

A review of approaches used in other Australian jurisdictions reveals that most jurisdictions across Australia allow for the recovery of WPM costs, some jurisdictions impose charges towards environmental costs, but no jurisdiction applies a specific environmental externality charge. While we could not find any jurisdiction that included a scarcity value in urban water charges, flexible water usage pricing has been implemented for Sydney Water and Hunter Water, which signals to customers the increased costs of providing water during drought. The scarcity value of water is also reflected in the traded price of water outside urban areas.

3.1 Water planning and management costs

All MDB jurisdictions across Australia allow for the recovery of at least some of the costs of associated with water planning and water catchment management, through bulk water charges and the pass-through of state government fees. For example, Melbourne Water, Water NSW and SEQ Water provide bulk water to retail water companies within their respective states. They usually own and operate water supply assets such as dams, weirs and transport pipelines as well as having responsibility for some water planning and catchment management. State regulators include the water planning and management costs undertaken by bulk water providers in determining bulk water charges. In addition, state government costs are also passed through to water users.

For example, in NSW the Independent Pricing and Regulatory Tribunal (IPART) regulates the prices that can be charged for bulk water supply by Water NSW and the water management services delivered on behalf of the Water Administration Ministerial Corporation (WAMC). In both cases, IPART determines charges using a building block methodology.

The Queensland Government undertakes a range of activities to sustainably manage state's water resources. To cover a portion of the costs associated with water management and planning, fees and charges are applied to certain aspects under the Water Act 2000. The fees include application and administrative fees, water charges, royalties for riverine quarry material, and drainage rates.³

In South Australia, the Essential Services Commission of South Australia (ESCOSA) issues advice on new water licence fees to be set by the Treasurer under the Water Industry Act 2012. Under the Water Industry Act 2012 of South Australia, the water retailers are bound to a fixed water industry licence fee to cover the base and additional costs attributable to activities associated with departmental and agency costs. The base costs also include the costs borne by the Department of Environment and Water (DEW) which have wide ranging functions, including water planning. Over the 2020-24 period, the proposed prescribed costs for DEW are \$2.3 million, contributing to total prescribed costs of \$33.4 million.⁴ These prescribed costs are included in ESCOSA's final determination operating expenditure allowance for SA Water⁵.

³ Queensland Government, 2023

⁴ ESCOSA 2019, p.3

⁵ ESCOSA 2020, p.149

3.2 Environmental costs

South Australia and Victoria appear to be the only other Australian jurisdictions that operate schemes to recover environmental costs. This is consistent with the findings of the Productivity Commission (PC) in its 2017 review of the NWI.⁶ The PC found that all jurisdictions had continued to use measures such as extraction limits and/or water licence conditions in their management of environmental externalities. It found that the Northern Territory, Tasmania and Western Australia had made no progress toward using charges to recover the cost of environmental externalities from users and there had been no change to this position since 2014.

In South Australia there are two levies related to environmental costs – the water levy and landscape levy. The water levy is legislated and governed under the Landscape South Australia Act 2019 and is payable by all licence holders within the South Australian proportion of the Murray-Darling Basin. The water levies are used to fund water planning and management activities, including water resource management, floodplain and wetland management, landscape planning, research, and management programs.⁷ The levy is collected by the Department of Environment and Water and does not apply where the water is taken for domestic purposes or for the watering of farming not subject to intensive farming.

The landscape levy, previously known as the Natural Resource Management levy, is charged to all ratepayers across the state. The levy acknowledges that all landowners are responsible for sustaining and managing the state's landscapes for the benefit of the community. The levy is collected by local councils but raised by regional landscape boards to fund programs indicated in the annual business plan for landscape management and deliver its commitments under the Regional Landscape Plan.⁸

South Australia did operate another levy, Save the Murray Levy, between 2003 and 2015, which cost residential and business customers approximately \$40 and \$182 per year, respectively.⁹ The levy funded works and measures to improve the health of the river in South Australia and the decision to abolish it was in recognition that the original purpose of the fund, to allow South Australia to lead the campaign to Save the River Murray, had been achieved.

In Victoria, the Victorian Government introduced an Environmental Contribution Levy (ECL) in 2004 as a funding mechanism for the Victorian Government's *Our Water Our Future* policy which identified several water reforms and environmental initiatives aimed at improving the sustainability of the water supply and usage. The intention of the levy was both as funding for water management initiatives following years of environmental degradation and prolonged drought, and to provide price signals to Victorian water users about the impact of their water consumption on the environment¹⁰.

The ECL is collected from water supply authorities under the *Water Industry Act 1994*. The first tranche of environment contributions commenced in 2004. The current and fifth tranche of contributions began on 1 July 2020 and is expected to raise \$694 million over 4 years¹¹. The Essential Services Commission (ESC) of Victoria allows the environmental contributions to be included in the operational expenses allowance of regulated water companies. The environmental contributions are set by the Victorian Government and calculated as 5% of revenue for urban water businesses and 2% of revenue for rural water businesses¹².

⁶ Productivity Commission 2017, p.425-427

⁷ Government of South Australia 2020

⁸ [landscape-levy-factsheet-2021.pdf \(environment.sa.gov.au\)](#)

⁹ Government of South Australia 2023

¹⁰ Victorian Auditor General 2014, p.vii

¹¹ Victoria State Government 2023

¹² Victorian Auditor General 2014, p.ix

In 2014 the Victorian Auditor General undertook an audit of the administration and governance arrangements for the ECL, whether funded initiatives had achieved intended outcomes and the transparency and public reporting of the levy. The audit found that while the Department of Environment and Primary Industries' administration of individual projects had been sound, there were deficiencies in the management of the ECL. It found there were weaknesses in the processes for selecting and prioritising proposed projects, articulating the levy's strategic priorities and costs and evaluation of the effectiveness of the levy and public reporting of the ECL. In response to the audit, the secretary of the Department of the Environment and Primary Industries accepted all the report's recommendations¹³.

The PC reports that in NSW, the costs incurred by water utilities in meeting regulatory measures designed to address environmental externalities are scrutinised by IPART and passed through to users in price determinations.¹⁴ Overall, it finds that no jurisdiction is applying a specific 'environmental externality' charge. It notes that the levies of Victoria, South Australia and the ACT raise funds for a variety of purposes, including WPM activities. It states that while these charges and levies may not be suited to dealing with specific externalities (including those that arise regardless of the amount of water used), they can be a cost-effective way of raising revenue to address a range of environmental externalities. The PC states that the effectiveness of such an approach relies on transparency as to how the tax is determined and how the funds are used.¹⁵

3.3 Scarcity value

In its 2020 decision for Sydney Water, IPART introduced flexible water usage prices. In response to the 2017-19 drought and to address future climate uncertainty, IPART decided to implement dynamic water usage pricing to manage Sydney Water's additional costs during drought, and to send a stronger signal to customers to conserve water in periods of scarcity¹⁶. This mechanism means Sydney Water charges customers at a higher per kL rate in drought when water storage levels are low. As a result, the water usage price varies between a non-drought price of \$2.35 per kL and a higher drought price of \$3.18 per kL based on water storage levels. The drought water usage price applies from 31 days after dam levels fall below 60% and return to the base price 31 days after dams exceed 70% again¹⁷. IPART implemented a similar approach for Hunter Water.

It is also important to note that the value of water as a scarce resource is reflected in the traded prices of water rights, which occurs mainly between irrigators in non-urban areas. The Department of Climate Change, Energy, the Environment and Water (DCCEEW) states that water users can buy or sell water rights, on a permanent or temporary basis and this encourages the best use of our scarce water resources¹⁸. Water trading in Australia is well developed, particularly in the MDB, which represents the largest set of water markets in Australia. Basin markets have an annual average value of more than \$1.8 billion per year and rising, against an underlying value of entitlements estimated at around \$30 billion and rising¹⁹. Water rights can be traded freely, except where they are restricted by physical constraints or trading rules. Water is traded by public and private market participants mostly through intermediaries (brokers, water exchange platforms and other entities that facilitate water market trades) and through approval authorities.

¹³ Victorian Auditor General 2014, p.30-31

¹⁴ PC 2017, p.426

¹⁵ PC 2017, p.427

¹⁶ IPART 2020, p.77

¹⁷ IPART 2020, p.79

¹⁸ DCCEEW 2023d

¹⁹ Quinlivan 2022

Water markets have not developed in urban areas, as water is usually allocated to Government agencies or Government-owned water companies and is held together with other assets for supplying water services. There have been studies suggesting the decoupling of water ownership from catchment and supply infrastructure to allow the development of competitive urban water markets²⁰. While this approach has the potential to address the current underpricing of water as a scarce resource and provide improved incentives for investment, it has not been pursued in Australia despite being an agreed outcome of the NWI²¹.

3.4 Implications for recommended methodology

State governments pass through WPM costs to water users, either in part or in full. IPART appears to have the most prescriptive methodology for state agency fees, including the calculation of a RAB and operational expenditure for WAMC.

Some state governments do have, or have had, a charge for addressing environmental costs. Victoria's ECL is the closest to the environment costs included in the 2003 WAC methodology. Victoria's ECL is 5% of revenue for urban water users and was subject to audit to assess appropriate governance, outcomes and transparency.

IPART has included the concept of scarcity pricing in water usage prices for Sydney Water and Hunter Water and the value of water as a scarce resource is reflected in traded water prices in non-urban areas.

²⁰ Sibly and Tooth 2007

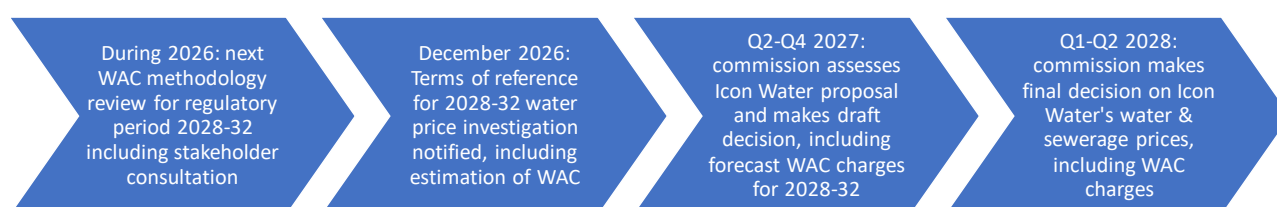
²¹ NWI 2004, paragraph 90(iv)

4. Recommended approach

In our view, the methodology used in the commission's 2003 review remains valid, although some changes are recommended to bring the charges in line with legislative changes introduced since 2003, current information and the increased costs associated with addressing environmental damage.

For the four-year period from 2024-25 to 2027-28, we propose that water abstraction charges are set using the approach recommended in this review. For future periods, we recommend that the methodology for calculating the relevant costs be reviewed as part of the 5-year price investigation process for determining Icon Water's water and sewerage service prices. In the lead-up to the price investigations, the commission can undertake a full review of the methodology and then estimate the costs using that methodology as part of the price investigation. To facilitate transparency, we propose the methodology and estimated costs be made publicly available. Ideally, the process for determining the methodology would be subject to public consultation to ensure the methodology considers the views of stakeholders. The proposed review process for the next regulatory period is set out in Figure 2.

Figure 2: Proposed review process for WAC, 2028-32 regulatory period



4.1 Water planning and management costs

The costs associated with planning and managing water and catchment areas in the ACT should be included in water charges. These costs are directly related to the provision of potable water in the ACT and are not included in Icon Water's regulated costs. The NWI, Water Act 2007 and Water Charge Rules 2010 set out the planning and management costs that can be recovered from water charges. Given that the application of the Water Charge Rules 2010 to the ACT are limited to the monitoring and reporting of WPM costs, we recommend that the charges to recover WPM costs are separated from charges related to water sustainability. This will ensure that the methodology for WPM charges can be clearly identified and reported, consistent with the NWI pricing principles, Water Act 2007 and Water Charge Rules 2010. In addition, it will provide clarity for ACCC reporting purposes on WPM cost recovery.

The commission's original decision on the proposed methodology and estimate of catchment management costs was made prior to the introduction of the NWI, Water Act 2007 and Water Charge Rules 2010. Our recommendation is to adjust our 2003 methodology and calculation of WPM costs using the approach set out in relevant legislation.

4.1.1 Legislative requirements

The legislation dealing with WPM charges includes the NWI, the NWI pricing principles and the Water Charge Rules 2010.

Under the NWI (paragraphs 67 and 68), the States and Territories agree to bring into effect consistent approaches to pricing and attributing costs of water planning and management involving:

- i) the identification of all costs associated with water planning and management, including the costs of underpinning water markets such as the provision of registers, accounting and measurement frameworks and performance monitoring and benchmarking;
- ii) the identification of the proportion of costs that can be attributed to water access entitlement holders consistent with the principles below:
 - a. charges exclude activities undertaken for the Government (such as policy development, and Ministerial or Parliamentary services); and
 - b. charges are linked as closely as possible to the costs of activities or products.

The States and Territories agree to report publicly on cost recovery for water planning and management as part of annual reporting requirements, including:

- i) the total cost of water planning and management; and
- ii) the proportion of the total cost of water planning and management attributed to water access entitlement holders and the basis upon which this proportion is determined.

The NWI pricing principles set out background and principles for recovering the costs of WPM activities (see Box 2). The pricing principles require Government activities to be excluded from WPM water charges, the costs to be subject to cost-effectiveness test, the allocation of costs to be based on an impactor pays approach, costs to be differentiated by catchment, valley or region where practicable and community service obligations to be eliminated or minimised.

Appendix B to the NWI pricing principles sets out the WPM activities and identifies those activities that should be excluded from WPM charges²². The activities broadly cover:

- a) collecting and analysing data to gain a better understanding of the levels of extractions as well as the potential implications of extraction for the water system, and managing this data;
- b) developing policies to manage the resource, including managing the interstate sharing of the resource;
- c) developing plans and strategies/frameworks to allocate water among users and the environment, and to remediate impacts associated with water use;
- d) implementing these plans/strategies/frameworks and monitoring compliance against the plans;
- e) undertaking capital works, such as the modification of weirs to achieve environmental outcomes;
- f) administering water entitlements, compliance, metering and trading systems.

²² Appendix B of the NWI Pricing Principles is reproduced in Attachment 1

Box 2: NWI pricing principles for WPM

Principle 1: Water planning and management

Water planning and management activities include the activities outlined in the water planning and management activities framework provided at Appendix B.

Principle 2: Government activities

Water planning and management charges levied on to water users should exclude the cost of activities undertaken for government such as policy development and Ministerial or Parliamentary services (Paragraph 67 (ii a) of the NWI refers). These activities are marked with an asterisk in the activities framework provided at Appendix B, and the associated activity costs should be allocated entirely to governments.

Principle 3: Cost-effectiveness test

Having identified water planning and management costs to be recovered from water users, in whole or in part, activities should be 'tested' for cost-effectiveness by an independent party and the findings of the cost-effectiveness review are to be made public.

Principle 4: Cost allocation

Costs are to be allocated between water users and governments using an impactor pays approach.

Principle 5: Differentiation of costs

Water planning and management costs are to be identified and differentiated by catchment or valley or region and by water source where practicable. Water planning and management charges should in turn, recover the costs of the activities concerned and be differentiated by catchment or valley or region and by water source (e.g. regulated, unregulated or groundwater sources) where practicable.

Principle 6: Community Service Obligations

Where practical, jurisdictions should aim to reduce or eliminate subsidies or Community Service Obligations. Any shortfall between the revenue required to achieve cost recovery from water users and the total costs recovered through water charges, should be transparently reported.

The Water Charge Rules 2010 (Part 4, rules 12 and 13) set out the requirements for the schedule of charges for a person, other than an infrastructure provider, who determines or levies planning and management charges.

4.1.2 Methodology

Our recommended methodology involves identifying the operating and capital costs associated with the WPM activities set out in the NWI pricing principles. We propose using a building block approach to calculate the total annual WPM revenue required to recover costs. This approach involves establishing an asset base for WPM activities and calculating the return on and return of this asset base each year. We then add the annual operating expenditure and a notional tax allowance to these annual capital costs to arrive at an estimate of total annual costs. We deduct from these total annual costs the annual revenues that the ACT Government collects toward recovery of these costs from other sources (ie sources other than the WAC). These include water access entitlement fees, application fees and administration fees. The result of this calculation is the total annual revenue required to be recovered from WPM charges.

This is the same approach the commission uses for determining Icon Water's water and sewerage charges and is consistent with the NWI.

We propose establishing an asset base starting from 2018-19 and extending this to 2027-28. This period aligns with our price investigation decisions for Icon Water. We will use actual capital expenditure for the period 2018-19 to 2022-23 to establish a starting asset base for 2023-24 and then forecast capital expenditure to estimate a RAB for the 5-year period from 2023-24 to 2027-28. This approach 'draws a line in the sand' for the period prior to 2018-19 and assumes any capital expenditure made prior to 2018-19 has been fully recovered, either through the WAC or consolidated revenue. We will also use forecast operational expenditure for the period 2023-24 to 2027-28 to calculate total annual costs for WPM activities. We will deduct forecast revenue from other sources to calculate an annual net revenue requirement, which will allow us to estimate WPM charges for the 5-year period from 2023-24 to 2027-28.

Consistent with the approach used to set water and sewerage charges for Icon Water, at the time of the next price investigation (for the 5-year period commencing 1 July 2028) we will roll-forward the RAB using actual capital expenditure for 2023-24 to 2027-28 and assess actual operating expenditure against forecast expenditure to assist in determining operational expenditure for the next regulatory period. At least for the first regulatory period, we propose implementing an annual true-up of costs using the existing pass-through mechanism. Given this is the first time WPM costs are being forecast, there may be a significant difference between forecast and actual costs.

4.2 Water sustainability costs

The scope of work for this review asks us to consider the appropriateness and feasibility of including scarcity costs and environmental externalities in fees and charges for water take and the effectiveness of such inclusion for achieving water policy outcomes and the implications to water affordability. We consider scarcity costs and environmental externalities together as 'water sustainability' costs, as they are aimed at achieving a sustainable water supply both for consumptive use and the environment.

4.2.1 Appropriateness

Water sustainability has been at the heart of Commonwealth water reforms for over 20 years and is central to the ACT Government's water policy outcomes (see attachment 1). The ACT Government identifies scarcity pricing as one of the approaches to be explored to promote efficient water use²³. This approach, aimed at reducing demand, to help achieve sustainable use of water in the ACT has been in place in some form since 2003 when the commission proposed the inclusion of a scarcity value and environmental costs in the WAC. The ACT Government's decision to increase the WAC significantly in 2006-07 was explicitly aimed at charging a price for water that more fully reflects its true economic value.²⁴

Therefore, it is appropriate to signal the costs associated with water sustainability in water charges, both as a scarce resource for consumption and as necessary for achieving sustainable environmental outcomes. It is also consistent with what would occur in a competitive market. As evidenced in non-urban areas where water is traded freely, there is a value placed on water as a scarce resource and this value increases and decreases over time based on supply and demand conditions.

However, it is also important to recognise that the ACT already has in place extraction limits under the MDB Plan that are aimed at improving environmental outcomes across the Basin. Including a price-based externality charge in addition to the quantity restriction may be viewed as doubling-up on addressing

²³ ACT Government 2014, p.37

²⁴ ACT Government 2006

environmental externalities. In our view, extraction limits do play a role in balancing consumptive use and environmental needs, but they are not effective in internalising environmental externalities. Unless the extraction limits have some impact on consumption decisions, for example, forcing water restrictions to be enacted, they do not provide any signal to consumers about the impact of their water use on the environment and will not assist in ensuring the right trade-offs are made between different water supply options. Further, the quantity limits do not raise revenue that could potentially be used for addressing environmental damage to our waterways.

4.2.2 Feasibility

In terms of feasibility, scarcity values and environmental externalities are inherently difficult to identify and accurately estimate. However, it is possible to arrive at an approximation of these costs and therefore move prices in the right direction. In our view, this provides a better outcome than the alternative of excluding these costs entirely from water charges. This position is supported by the Productivity Commission which states:

It can be difficult to estimate accurately the appropriate scarcity charge. However, any move in the right direction will have efficiency advantages and so precision is not essential.

PRODUCTIVITY COMMISSION 2008, P.51

Over time, as the methodology is developed and refined, better estimates of these costs will be available and will more accurately signal to customers the costs of achieving a sustainable water supply.

4.2.3 Effectiveness and affordability

The effectiveness and affordability of including these costs in water charges are, to some extent, linked. We assess the affordability of moving from the current WAC rates to the rates that would apply under our recommended approach in section 6. We find that our recommended approach has a small but positive impact on water affordability. However, to assess the effectiveness of including the WAC in water charges, it is not the impact of a change in the rate from its current level to the recommended level that is relevant. Rather, it is the impact of including such charges versus excluding them all together that is important. We find that including our recommended rates in water prices versus excluding them all together (ie setting the WAC to zero) has a significant impact on water prices. For example, we estimate that potable water prices would be between 5% (in 2023-24) and 30% (in 2027-28) higher as a result of including our recommended WAC charges versus excluding them. Even assuming a highly inelastic demand for water with respect to price, differences of this magnitude will assist in reducing demand for potable water.

It is also relevant to observe that elasticities are likely to be higher in the long run than in the short run. As consumers become more aware of price changes, and greater opportunities to use potable water more efficiently (including the use of alternatives to potable water), there will be a greater quantity response. The ACT has already achieved its water efficiency targets (set under the ACT's previous water strategy) to reduce mains water by 25% compared with 2003 levels, with the bulk of these reductions achieved through increased efficiencies and reduced demand in residential water use²⁵. The ACT Government also reports that the per capita use of ACT mains water supply has more than halved over the last 15 years²⁶. It is likely that pricing, coupled with other demand measures, have contributed to these results. Studies in the United States have also found that demand responses can be greater in times of drought. These studies found that

²⁵ ACT Government 2014, p.37

²⁶ ACT Government 2014, p.4

drought levies have been effective in reducing demand, particularly when coupled with other demand measures and public awareness and education programs²⁷. While empirical studies result in a high degree of variability in elasticity estimates for water demand, they tend to indicate that there is scope to use prices to significantly affect the demand for water in urban areas²⁸.

In addition, reflecting the economic cost of water sustainability in prices, ensures that water consumers make the appropriate trade-offs between alternative sources of water. For example, the inclusion of a sustainability charge in potable water prices will make it more attractive for residential consumers to invest in alternative water sources such as rainwater tanks and, for non-residential users, it makes the use of recycled water or stormwater more attractive options. Finally, if the revenue raised from the charges is used for improving water sustainability then the charges are likely to be more effective, while also having a limited impact on water affordability in the ACT.

On balance, we consider it appropriate to signal the economic value of water as a scarce resource through prices. We recommend that a water sustainability charge reflect both the estimated economic value of water as a scarce resource (referred to in our 2003 review as a scarcity value) and an estimate of negative environmental externalities associated with extracting water from the MDB system (referred to in our 2003 review as environmental costs). In making this recommendation, we are not suggesting that the sustainability charge be used in place of other supply and demand mechanisms. We will still need to plan and invest in future supply options, set extraction limits to assist in balancing consumption and environmental water uses and we may still need water restrictions in times of extreme and prolonged droughts.

However, it is important to recognise that other supply and demand mechanisms also involve substantial costs to the community. For example, in 2008, the Productivity Commission estimated that water restrictions were costing in the order of \$1 billion annually across Australia with the burden falling heavily on the household sector and those least able to afford mitigation measures²⁹. A 2006 study found that Canberra households were willing to pay between \$109 and \$268 per year to have lower level 1 or 2 water restrictions imposed rather than level 3 to 5 restrictions³⁰. There are also costs associated with the loss of amenity and recreational opportunity, costs to businesses in forcing changes to production processes and the costs of administering restriction regimes. The cost to taxpayers of Government funded supply augmentations such as desalination plants has also been substantial.³¹ The use of a sustainability charge assists in reducing or delaying these costs by reducing demand and encouraging the use of alternative, more sustainable, water sources.

4.2.4 Future considerations

We consider our recommended approach is sufficiently robust to provide a signal to consumers that the water they are using is a valuable resource due to its scarcity and importance to sustaining the environment. However, in future, we recommend further consideration be given to the methodology used to estimate sustainability costs, particularly whether the economic value of water as a scarce resource should be considered as a longer-term concept. The methodology recommended in this review reflects a short-term concept, looking at the value of water over the forecast year. This approach has the advantage of signalling to customers the current level of water scarcity in the ACT but may not capture the longer-

²⁷ See for example Frontier Economics 2011, p.28-29

²⁸ Productivity Commission 2008, p.47

²⁹ Productivity Commission 2008, p.28

³⁰ Hensher, Shore and Train 2006

³¹ See for example NWC 2011, p.16-20

term concept of sustainability central to national water reforms and the ACT Water Strategy. For example, the definition of water security under the town and city water security framework is:

Ensuring that needs for water in towns and cities – encompassing quantity, quality, and affordability and access – can be met, over time and under changing supply and demand profiles. And, that this is achieved by investment coordination and operations that are economically efficient, financially and environmentally sustainable, culturally appropriate, and resilient to shocks.

AITHER 2023A, P.12

In future we could consider the costs associated with augmenting supply or introducing new supply options as a method for approximating the sustainability cost. This could include recognising the option value associated with investing in water supply infrastructure in an uncertain environment and directly linking the option value with ACT dam levels.

4.3 Economic value of water

In our 2003 review, we used the traded price of temporary water allocations as a proxy for the scarcity value of water. Our decision gave more weight to more recent years given these years would better reflect the value that society currently puts on water. At the same time, we recognised that this may create short-term fluctuations in prices that mean a degree of averaging is desirable. Given no future prices were available at the time, the commission used prices from the previous 2 years but doubled the weight given to the more recent year.

We consider that prices for temporary water allocations (sale of a specific volume of water allocated to a water access entitlement in a given year) remain a good indicator of the short-term economic value of water. Water allocation prices vary considerably over time, with traded prices determined by the value placed on water by buyers and sellers in response to many factors such as the purpose of water use, weather patterns, available allocations, storage volumes, jurisdictional legislative arrangements and commodity market conditions³². As shown in Figure 3, average annual allocation prices in the NSW Murrumbidgee region have varied considerably over time reaching nearly \$900 per ML during the Millennium drought and increasing again during the 2017 to 2019 drought. In contrast, the average allocation price for 2022-23 was very low due to continued wet conditions and high carryover balances.

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) provides information on the historical average price of water allocations in the southern MDB (and individual regions within the southern MDB) as well as a forecast for the upcoming year. We propose using ABARES' forecast for the NSW Murrumbidgee region to approximate the economic value of water as a scarce resource in the ACT. We propose that the forecast is updated annually.

This approach of using a single forecast year has the potential to result in significant annual fluctuations, depending on market conditions. However, we estimate that the economic value of water as a scarce resource would account for a relatively small share of Icon Water's water prices. For example, based on our estimate for 2023-24, the economic value of water as a scarce resource would account for just 0.5% of an average residential bill. Even at an average annual allocation price of \$900 per ML, as occurred during the

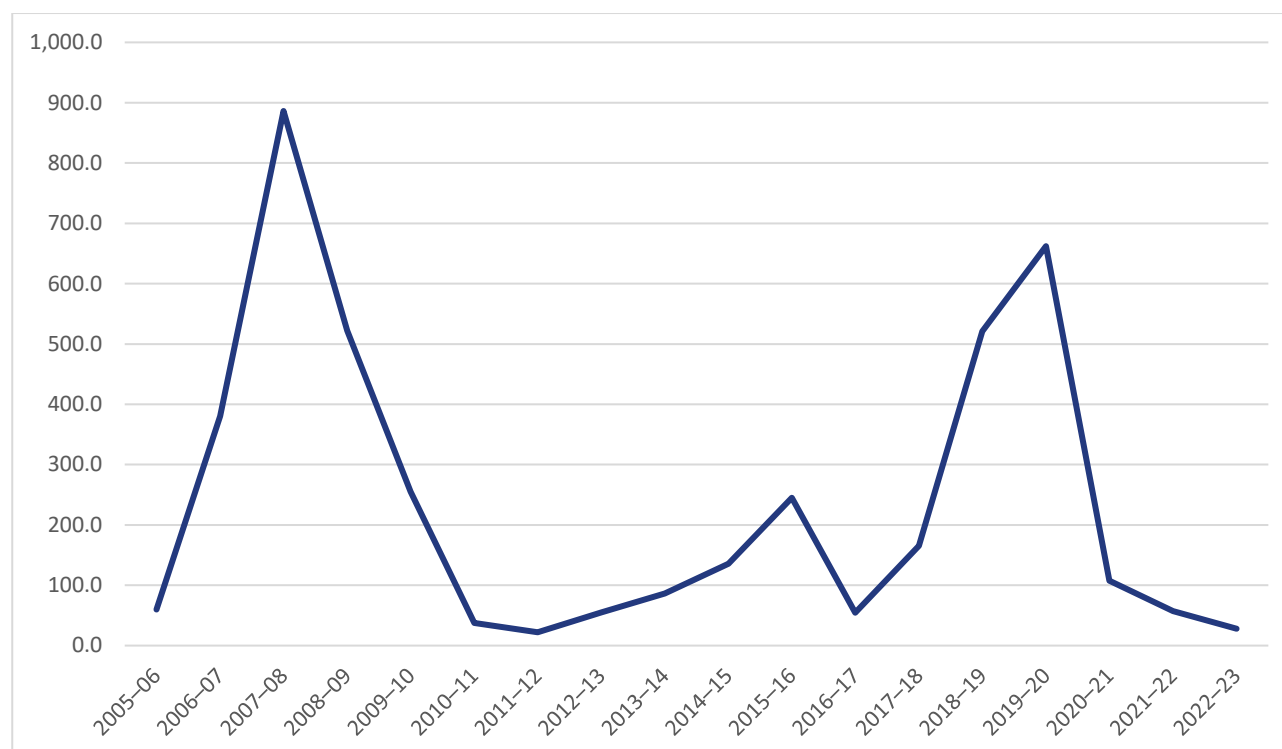
³² Bureau of Meteorology 2023

Millennium drought, our estimate of the economic value of water as a scarce resource would only increase to 6% of an average residential bill.

While this is appropriate for signalling the short-term economic value of water, an alternative approach of using a longer averaging period could result in more stable prices. We examine both options in section 5.2.

Consistent with our methodology review in 2003, we propose that the economic value of water is applied only to flows not returned to the MDB system.

Figure 3: Historical water allocation prices in NSW Murrumbidgee region



Source: ABARES 2023

4.4 Environmental externalities

Negative environmental externalities arise when the costs associated with environmental damage are excluded from the transaction between a buyer and seller³³. That is, the costs are 'external' to the party causing the damage and are instead social costs borne by third parties which, in the case of water, includes future generations. These externalities are not reflected in market prices, which results in prices being too low. The inclusion of the costs of environmental damage into charges is referred to as internalising externalities and allows appropriate trade-offs to be made about the use of natural resources such as water.

It is for these reasons that national water reforms have encouraged the inclusion of environmental externalities in prices where feasible.

Under the NWI, the States and Territories agree to:

³³ Similarly, the Productivity Commission defines externalities as the effects of consumption or production decision on people other than those directly involved, see Productivity Commission 2017

- i) continue to manage environmental externalities through a range of regulatory measures (such as through setting extraction limits in water management plans and by specifying the conditions for the use of water in water use licences);
- ii) continue to examine the feasibility of using market based mechanisms such as pricing to account for positive and negative environmental externalities associated with water use; and
- iii) implement pricing that includes externalities where found to be feasible

Similarly, the Water Act 2007 (Part 3) requires the cost of environmental externalities to be included in water charges where feasible:

- (1) Market-based mechanisms (such as pricing to account for positive and negative environmental externalities associated with water use) are to be pursued where feasible.
- (2) The cost of environmental externalities is to be included in water charges where found to be feasible.

Given the clear guidance on environmental externalities in the relevant legislation, it is our view that it is appropriate to include environmental externalities in water charges for the ACT.

There are a range of different techniques used to evaluate the costs of environmental externalities which can be broadly divided into three categories:

- Revealed preference approaches: valuations take account of the market price of goods and services, pricing that reflects the value of environmental amenities and production functions – the effects of using goods on future production possibilities.
- Cost-based approaches: These include costs to replace ecosystem goods and services, expenditure on mitigation or averting damage and the damage costs avoided by preventing pollution or maintaining ecosystems.
- Stated preference approaches. This technique uses surveys to directly measure people's willingness to pay to maintain ecosystem services that are not traded.

The approach used in our 2003 review was to include the environmental costs associated with altering the timing and magnitude of downstream flows by not returning all the water we abstract to the downstream water system. The commission used the MDB Commission's estimate of the average downstream cost of maintaining or augmenting river flows as a proxy for this environmental cost.

We propose using a similar cost-based approach to calculating environmental externalities in this review.

5. Calculation of WAC

This section presents the results of implementing the recommended approach for estimating the different components of the water charge. Our figure for 2024-25 is a placeholder value and should be updated when ABARES releases its water market outlook forecasts for 2024-25, expected in April 2024.

5.1 Planning and managements costs

As discussed in section 4.1, we propose calculating WPM costs using a building block approach and estimating the charges for a 5-year regulatory period consistent with the water and sewerage price investigation. We recommend an annual true-up to account for the difference between forecast and actual costs.

We have obtained actual capital and operating costs for the period 2018-19 to 2022-23 for all WPM activities from the Office of Water within EPSDD. We have been informed that the cost information from 2020-21 onward is more robust following clarity provided on the definition of WPM activities. We have excluded costs associated with water reform, strategy and policy as required under the NWI and Water Act 2007. We have also excluded costs that EPSDD advised should not have been reported as WPM activities. We then forecast costs for the new regulatory period from 2023-24 to 2027-28.

We forecast operating costs using the same approach as for our water and sewerage price investigation. This methodology is referred to as base-step-trend and involves the following steps.

- Establishing a representative base year of actual costs. We use average operating expenditure incurred over the 2-year period from 2021-22 to 2022-23 as our base year. EPSDD identifies these 2 years as the most reliable for estimating the base year.
- Determining if there are any step changes in operating costs over the forecast period. These are costs that are not reflected in the base year but are expected to be incurred during the forecast period. EPSDD has provided cost estimates for a range of projects for inclusion in the WPM charge that are reflected in their bid for the 2024-25 budget cycle and to be considered in early 2024.
- Applying a trend factor to the base year to move the base year value forward to the forecast years using forecast changes in real wages.

We forecast base capital costs using the average capital expenditure for the 3-year period from 2020-21 to 2022-23. EPSDD has identified a further three capital projects for inclusion in the WPM charge, that are not reflected in base capital costs. This additional expenditure is dominated by a water recovery project that involves \$12 million of capital expenditure in 2024-25 and \$16 million per year in the following 3 years.

We also forecast other revenue that the ACT Government collects toward the recovery of WPM costs (other than the WAC revenue). This includes water access entitlement fees, application fees and administration fees. This revenue has been relatively stable over time and we forecast future values based on a linear trend.

The resulting expenditure and revenue forecasts are presented in Table 2.

Table 2: Forecast operating and capital expenditure and other revenue, \$ nominal

	2023-24	2024-25	2025-26	2026-27	2027-28
Operating expenditure	6,884,083	9,409,241	9,420,022	9,695,393	9,778,215
Capital expenditure	3,570,690	16,024,930	19,782,212	19,892,626	20,006,264
Other revenue	119,730	125,949	132,430	139,181	146,213

Source: EPSDD and our calculations

Consistent with the NWI pricing principles, we convert capital expenditure to annual expenditure by calculating the return on and return of capital. To do this we must establish a RAB. As discussed in section 4.1, we draw a line in the sand at 2018-19. We assume that all capital expenditure incurred prior to 2018-19 has been fully recovered, either through the WAC revenue or consolidated revenue. Therefore, our starting RAB for 2018-19 is zero and we establish an opening asset base as at 2023-24 based on actual expenditure from 2018-19 to 2022-23. We then forecast the RAB for future years using our opening RAB as at 2023-24, forecast capital expenditure and forecast depreciation. We also index the RAB annually for inflation. The resulting RAB values over the forecast period are set out in Table 3 below.

Table 3: Regulatory asset base, \$ nominal

	2023-24	2024-25	2025-26	2026-27	2027-28
Opening RAB	18,124,117	21,133,908	36,066,345	54,257,721	72,097,554
Forecast capital expenditure	3,570,690	16,024,930	19,782,212	19,892,626	20,006,264
Indexation	581,218	850,871	1,341,638	1,874,311	2,396,769
Depreciation	1,142,117	1,943,364	2,932,474	3,927,106	4,927,419
Closing RAB	21,133,908	36,066,345	54,257,721	72,097,554	89,573,168

Source: EPSDD and our calculations

Based on this information, we can then calculate the building blocks that determine the total revenue required each year to fully recover WPM costs. We use the same rate of return, inflation and tax parameters as used in our water and sewerage decision for Icon Water. The resulting building blocks for each year of the regulatory period are set out in Table 4.

Table 4: Building blocks, \$ nominal

	2023-24	2024-25	2025-26	2026-27	2027-28
Return on capital	1,171,918	1,749,386	2,811,634	4,002,315	5,213,049
plus depreciation	1,142,117	1,943,364	2,932,474	3,927,106	4,927,419
less indexation	581,218	850,871	1,341,638	1,874,311	2,396,769
plus opex	6,884,083	9,409,241	9,420,022	9,695,393	9,778,215
less other revenue	119,730	125,949	132,430	139,181	146,213
plus tax payable	19,759	28,926	45,611	63,720	81,481
less imputation credits	9,880	14,463	22,805	31,860	40,741
Total revenue requirement	8,507,049	12,139,633	13,712,868	15,643,181	17,416,441

Source: EPSDD and our calculations

Finally, we divide the total revenue requirement by the total forecast volume of water extracted for potable use. The forecast volumes are taken from our final decision for Icon Water's water and sewerage services and are presented in Table 5 with the estimated WPM charge.

Table 5: Forecast volumes and estimated WPM charges, \$ nominal

	2023-24	2024-25	2025-26	2026-27	2027-28
Forecast releases, ML	51,982	52,307	52,845	53,414	53,952
WPM charge, \$/kL	\$0.164	\$0.232	\$0.259	\$0.293	\$0.323

Source: our calculations

5.2 Economic value of water

As discussed in section 4.3, we propose calculating the economic value of water using the forecast price of water allocations in the Southern MDB. We propose applying this price only to the share of abstracted water that is not returned to the system.

In April 2023, ABARES published its forecast for average allocation prices for 2023-24³⁴. ABARES' forecasts are aligned with state water agency allocation outlooks and are based on historical inflow and rainfall conditions: wet, average, dry and extreme dry. For the NSW Murrumbidgee region of the MDB, ABARES allocation price forecast is between \$54 per ML and \$271 per ML. ABARES considers the average scenario most likely for 2023-24 implying a water allocation price of \$81 per ML, only slightly higher than for the whole southern MDB (see Table 6). ABARES report that prices are presented in 2022-23 dollars and therefore we have applied CPI for 2023-24³⁵ to arrive at a price of \$83 in 2023-24 terms.

³⁴ BoM 2023

³⁵ We have used CPI forecasts consistent with that used in our final decision for Icon Water's water and sewerage prices for 2023-28. As we recommend aligning the decision for Icon Water with the decision for the WAC, we would, in future reviews, be using consistent inputs and assumptions.

Table 6: Average allocation price scenarios for 2023-24, \$ per ML (\$2022-23)

	2022-23	Wet	Average	Dry	Extreme Dry
Southern MDB	\$29	\$53	\$80	\$129	\$202
NSW Murrumbidgee	\$28	\$54	\$81	\$157	\$271

Source: ABARES Water Market Outlook, April 2023

ABARES has not yet released its forecast average allocation prices for 2024-25. Given the expected drier conditions moving into 2024-25, we expect the forecast allocation price to be higher than 2023-24. As a placeholder, we have used the midpoint between the average and dry condition price forecasts for 2023-24 and adjusted for CPI. This gives a value of \$126 per ML. We recommend this value is updated when ABARES releases its 2024-25 forecast in April 2024.

In addition to the allocation price of water, we also need a measure of flows not returned to the river system. The ACT Water Resources Environmental Flow Guidelines 2019 state that, through Icon Water, the ACT can divert up to 71GL a year from urban water supply. Of the amount diverted, around 60% is returned to streams as treated effluent³⁶. Downstream of the Queanbeyan and Lower Molonglo sewage treatment works on the Molonglo River there is a significant increase in base flows as a result of the return of treated effluent to the river. Augmented flows are not necessarily of benefit to the aquatic ecosystems because natural ecosystems are not adapted to the constant, high base flows that large sewage treatment plants can discharge. In addition, contaminants such as nutrients and salt in the discharged effluent from sewage treatment plants may compromise the value of the returned flows to rivers.

While it may be the case that not all return flows are beneficial to the environment, we do consider it appropriate they be included as flows available for alternative use and therefore use the split of 60%/40% for returned and unreturned flows, respectively.

To arrive at an estimate of the economic value for water in the ACT, we take the annual water allocation price of \$83 per ML for 2023-24 and \$126 per ML for 2024-25 and multiply it by 40% (the share of abstractions not returned to the system) to arrive at an economic value of \$33.23 per ML for 2023-24 and \$50.36 per ML for 2024-25 (or 3.3 cents and 5.0 cents per kL for 2023-24 and 2024-25, respectively).

The alternative approach of using a 5-year average of water allocation prices, as discussed in section 4.3, results in an economic value of water of 7.7 cents per kL for 2023-24 and 3.3 cents per kL for 2024-25. This result is somewhat counterintuitive given that BOM forecasts suggest we are moving from wet conditions in 2023-24 into drier conditions in 2024-25 and therefore would expect the economic value of water to be increasing. In addition, this approach does not smooth prices, at least not between 2023-24 and 2024-25.

On balance, we recommend the approach of using a single forecast year but include the alternative option for the Government's consideration.

5.3 Environmental externalities

As discussed in section 4.4, we propose using the same cost-based methodology as our 2003 review for estimating environmental externalities. This involves estimating the cost of permanently returning water flows to the river system for environmental purposes.

³⁶ ACT Government 2019, p.17

Since our 2003 review, the cost of returning flows to the system has increased substantially. As discussed in Attachment 1, the Commonwealth Government has purchased water entitlements close to the limit of 1,500 GL permitted under the Water Act, with only 46 GL remaining available for buybacks. Another 424 GL of environmental water remains to be recovered to meet the Basin targets. To date, the method for meeting the environmental water target has been through efficiency programs³⁷, which have proven substantially more costly than buybacks.

In its recent implementation review of the MDB plan, the Productivity Commission reports that since the implementation of the Basin Plan in 2012, the cost of recovering water – through purchase and infrastructure projects – has increased substantially³⁸. In 2022-23, the Aither water entitlement price index sat at about three times its 2012 value having grown at an average rate of 15% a year since 2015-16³⁹.

In December 2021, the second independent review of the Water for the Environment Special Account (WESA) was provided to the Commonwealth Government. The independent review panel was tasked with determining whether the amount available in the WESA is sufficient to increase, by 30 June 2024, the volume of the Basin water resources that is available for environmental use by 450 GL⁴⁰. The panel engaged Marsden Jacob Associates (MJA) to assist with estimating the costs of meeting the 450 GL environmental target. Based on the MJA study, the panel found that, putting aside program and timing limitations, the estimated cost to recover the full 450 GL through efficiency measures is between \$3.4 billion and \$10.8 billion⁴¹, substantially more than the WESA funding of \$1.575 billion.

In our view, the MJA analysis provides a useful basis for estimating the cost of permanently returning flows to the MDB for environmental purposes. MJA first estimate the cost of purchasing permanent water entitlements and then estimate a range of multiples to apply to these costs to arrive at the total cost of achieving the 450 GL environmental water target.

5.3.1 Costs of purchasing permanent water entitlements

MJA calculate the cost of permanent water entitlements by taking the average Southern Basin volume weighted average price for general and high security water entitlements of \$2,000/ML and \$7,000/ML (nominal) respectively⁴². These nominal values are converted to long-term average annual yields (LTAAY)⁴³ by applying water recovery factors. All water recovery figures are expressed in LTAAY terms to enable different types of entitlements to be counted on equal terms to track the volume of water that has been recovered in a way that is consistent and accurate across the Basin.

MJA reports that the average cap factor in NSW Murrumbidgee, NSW Murray, Vic Murray and Goulburn is 0.6 for general security entitlements and 0.95 for high security entitlements. Based on these water recovery factors, the cost of permanent entitlements equates to approximately \$3,300/ML LTAAY for general security and \$7,400/ML LTAAY for high security⁴⁴. MJA notes that these prices are considerably higher than when the WESA was established but have remained relatively stable since the first WESA

³⁷ On 3 March 2021, the Commonwealth Government announced the closure of the Water Efficiency Program for any further projects and launched a new approach to the recovery of the 450 GL of additional environmental water through the new Off-Farm Efficiency Program (OFEP).

³⁸ PC 2023, p.64

³⁹ Aither 2023b, p.10

⁴⁰ The Panel was also asked to determine if the WESA funding of \$200 million is sufficient to ease or remove constraints identified by the MDBA on the capacity to deliver environmental water to the environmental assets of the MDB.

⁴¹ Independent Panel 2021, p.21

⁴² MJA 2021, p.55

⁴³ Also known as long-term diversion limit equivalents

⁴⁴ MJA 2021, p.55

review in 2020. Additionally, MJA uses southern MDB prices, as most potential recovery is expected to occur in the Southern Basin.

5.3.2 Multiples

Prior water efficiency program initiatives have revealed that paying market rates for water entitlements is not enough to fund efficiency measure projects and even at 1.75 times the market rate there was not a lot of interest in the water efficiency program⁴⁵. Analysis of market multiples used for historical infrastructure projects funded by the federal government shows that approximately 83% of the projects involved a market multiple of between 1.75 and 3.0⁴⁶. MJA also notes that most efficiency measure opportunities for off-farm infrastructure networks have already been undertaken through historical programs⁴⁷. The remaining opportunities are therefore likely to be more costly.

MJA calculated the cost of meeting the 450 GL WESA target by using a range of market multiples (from 1.75 to 3.75) and different combinations of general and high security entitlements. As shown in Table 7, the cost per ML LTAAY range between \$7,659 and \$23,906. The total estimated cost of recovering 450 GL is between \$3.4 billion and \$10.8 billion with MJA concluding that the cost is most likely to be at least \$6.5 billion because the market multiple (previously 1.75) has been relaxed and the average market multiple to recover the 450 GL through efficiency programs is likely to be at least 2.75⁴⁸.

Table 7: Cost of meeting 450 GL target for environmental water

High/General security entitlement mix	Cost per ML LTAAY at 1.75 market multiple	Cost per ML LTAAY at 2.75 market multiple	Cost per ML LTAAY at 3.75 market multiple
25%/75%	\$7,569	\$11,894	\$16,219
50%/50%	\$9,363	\$14,713	\$20,063
75%/25%	\$11,156	\$17,531	\$23,906
High/General security entitlement mix	Total cost (\$m) 450 GL at 1.75 market multiple	Total cost (\$m) 450 GL at 2.75 market multiple	Total cost (\$m) 450 GL at 3.75 market multiple
25%/75%	\$3,406	\$5,352	\$7,298
50%/50%	\$4,213	\$6,621	\$9,028
75%/25%	\$5,020	\$7,889	\$10,758

Source: our calculations based on MJA 2021

5.3.3 Our calculation

To estimate the cost of permanently returning water to the MDB system for environmental purposes, we propose using a market multiple of 2.75 and an assumption of 50%/50% allocation of general and high security entitlements. This represents the midpoint of the assumptions used by MJA, although we recognise the range around this value is large. Under these assumptions, the cost of permanently returning water to the MDB is \$14,713 per ML (2021-2022 dollars). This figure is consistent with the cost of the

⁴⁵ MJA 2021, p.31

⁴⁶ MJA 2021, p.32

⁴⁷ MJA 2021, p.38

⁴⁸ MJA 2021, p.58

current suite of projects under the OFEP which are contracted to recover 23.4 GL/y at a cost of almost \$347 million, representing an average cost, in LTAAY terms of \$14,800 per ML (2022 dollars).⁴⁹

Permanent water entitlements represent assets with an ongoing value that do not depreciate over time. To convert these costs to an annual cost we calculate the annual financing costs associated with securing permanent water entitlements. The Commonwealth Government finances debt through long-term treasury debt securities. Therefore, we use the same risk-free rate (based on 10-year Commonwealth Government Securities) as in our final decision on Icon Water's water and sewerage prices for 2023-28 (3.59%).

We apply this financing cost to our total estimated cost of \$14,713 per ML to arrive at an environmental cost of \$528 per ML. As with the scarcity value, we only apply this figure to flows not returned to the system (40%) giving an environmental cost of \$211 per ML or 21 cents per kL. The MJA study was undertaken in 2021-22 so we adjust this value for inflation to arrive at an estimated environmental externality of:

- 23.2 cents per kL for 2023-24
- 23.9 cents per kL for 2024-25

We recognise that not all treated wastewater returned to the MDB system is necessarily beneficial to the environment and our approach of applying the environmental cost only to flows not returned to the system may understate environmental costs. There may also be other environmental externalities associated with water consumption in the ACT that are not captured in our estimate of the costs of returning water permanently to the MDB.

5.3.4 Implications of recently announced changes to the MDB Plan

We note the recent agreement (August 2023) by Basin states (with the exception of Victoria) and the Commonwealth Government to extend the period of recovery for the 450 GL of environmental water to 31 December 2027. The Agreement states that the Commonwealth will work with communities on the design and delivery of water recovery programs towards the 450 GL target with all options on the table, including water purchase. In the case of water purchase towards the 450 GL for the environment, this includes providing funding for community adjustment assistance and working with Basin governments and communities in delivering this assistance.

In January 2024, the Australian Government released a draft framework for delivering the 450 GL of environmental water, outlining 3 new programs to deliver the target including infrastructure projects and voluntary water purchases coupled with adjustment assistance for Basin communities impacted by water purchases (see section A.1.5 for details)⁵⁰. The consultation on the draft framework is open until 4 March 2024.

At the time of undertaking this review, it is unclear what the final programs for recovering the full 450 GL of environmental water might be. Further, there is no clarity over the level of funding for community assistance if further water buybacks were to be used. Given these uncertainties, we believe it is appropriate for the purposes of this review to use the cost of securing permanent water entitlements via efficiency programs as an approximation of environmental externalities. It is reasonable to expect that if other options are used to recover the 450 GL of environmental water, including water purchases coupled with funding for community assistance, the costs are likely to be well above the market price of permanent water entitlements.

⁴⁹ PC 2023, p.65

⁵⁰ DCCEEW 2024

This is supported by the PC's recent implementation review of the MDB, which also notes the potential disruption to the water market given the proposed timeframe for water recovery:

The costs of achieving the enhanced environmental outcomes (schedule 5 of the Basin Plan) through water recovery have risen substantially.

The budget available to recover the 450 GL/y will not be adequate to achieve the target even if water purchases are allowed. Recovering water towards the supply measure shortfall and 450 GL/y targets at the same time over a three-year period would risk significant disruption to water markets and Basin communities.

The 2026 Basin Plan review is an opportunity to assess how to deliver the enhanced environmental outcomes that the 450 GL/y target is designed to meet.

PC 2023, INTERIM FINDING 2.5, P. 79

We propose reviewing the implications of any changes to the Basin Plan and Water Act 2007 as part of the next methodology review.

5.4 Total water sustainability charge

Based on the methodology set out above, the total water sustainability charge is 26.5 cents per kL for 2023-24 and 28.9 cents per kL for 2024-25. We note that these rates result in a sustainability charge that represents approximately 5% of Icon Water's total regulated revenue, bringing the charge into line with the ECL for urban water utilities in Victoria.

We also note that our methodology has the potential to result in significantly higher water charges in periods when water is scarce. For example, during the Millennium drought the average annual traded price of water allocations reached nearly \$900 per ML. If this rate was used in our calculation for 2023-24 the sustainability charge would be 60.2c per kL instead of 26.5c per kL. In our view, this is entirely appropriate as an indicator of the short-term scarcity value of water.

5.5 Application of water charges

In terms of how the water charges are applied to potable and non-potable water, we propose the following approaches.

5.5.1 Potable water

For potable water, we recommend both the WPM charge and the water sustainability charge apply. WPM costs are spread across water abstracted for potable purposes and are recovered from potable water prices. This results in a total notional charge of 42.9c per kL for 2023-24 and 52.1c per kL for 2024-25. Consistent with the current methodology, these charges would be applied to the total volume of water abstracted to determine the total level of costs to be recovered through Icon Water's potable water service prices.

We also considered whether the application of these charges should be limited to 'discretionary use'. The argument in favour of this approach is that households have access to essential water at all times at an affordable price. For example, it would be possible to apply the WAC only to tier 2 water charges in the

ACT, resulting in lower tier 1 water charges. However, the effect of this would be to exempt over 60% of total water use from the WAC charge, resulting in an extremely high tier 2 charge. This approach would also undermine the benefits of a sustainability charge in signaling the cost of water consumption to consumers and thereby reducing demand and encouraging the use of alternative supply options. Attempting to achieve multiple objectives with a single instrument, in this case efficient water use and affordability, is problematic and unnecessary. There are more direct and efficient instruments available to the ACT Government to achieve water affordability objectives.

5.5.2 Non-potable water

Given WPM costs are fully recovered through potable water charges, only the water sustainability charge should apply to surface water and groundwater. This results in a charge of 26.5c per kL for 2023-24 and 28.9c per kL for 2024-25.

For recycled water and stormwater, the NWI requires that in metropolitan areas, States and Territories develop pricing policies for recycled water and stormwater that are congruent with pricing policies for potable water, and stimulate efficient water use no matter what the source⁵¹. In addition, parties to the NWI agree that one of the outcomes for urban water reform is to encourage the re-use and recycling of wastewater where cost effective⁵². The NWI pricing principles include a separate set of principles for recycled and stormwater use. Principle 7 specifies that prices should recover efficient, full direct costs – with system wide incremental costs (adjusted for avoided costs and externalities) as the lower limit, and the lesser of stand-alone costs and willingness to pay (WTP) as the upper limit. Any full cost recovery gap should be recovered with reference to all beneficiaries of the avoided costs and externalities.

We interpret the NWI and NWI pricing principles to mean that the pricing policies for recycled water and stormwater should be consistent with the policies for potable water by encouraging the efficient use of water, regardless of source. Further, the benefits of using recycled water and stormwater, including avoided costs and positive externalities should be taken into account when considering cost recovery.

Our proposed methodology for potable water seeks to ensure the appropriate trade-offs are made between sources of water by including the value of negative environmental externalities and the economic value of water as a scarce resource in potable water charges.

For recycled water and stormwater, there are significant benefits associated with using these water sources in addition to the costs that can be avoided in supplying potable water. The use of recycled water and harvested stormwater can reduce the volume of polluted discharges into the water system and can reduce the volume of water that needs to be extracted from the MDB. In addition, recycled water has already had the full level of water charges applied when used as potable water and applying it again would involve double counting. Given that both recycled water and stormwater can assist in achieving water sustainability, we consider it inappropriate and inconsistent with the NWI⁵³ to apply a water sustainability charge. We recommend that neither the WPM charge or the water sustainability charge apply to recycled water and stormwater.

A summary of our water charges using our proposed approach compared with the current approach is provided in Table 8.

⁵¹ NWI 2004, paragraph 66 (ii)

⁵² NWI 2004, paragraph 90(iii)

⁵³ NWI 2004, paragraph 64(v) states as one of the best practice water pricing outcomes “avoid perverse or unintended pricing outcomes”

Table 8: Recommended water charges for 2023-24 and 2024-25, cents per kL, nominal

	WPM charge	Water sustainability charge	2023-24 current approach	2023-24 proposed approach	2024-25 current approach	2024-25 proposed approach
Potable water	✓	✓	69.0	42.9	71.1	52.1
Non-potable water						
Surface water	✗	✓	33.4	26.5	34.4	28.9
Ground water	✗	✓	33.4	26.5	34.4	28.9
Stormwater	✗	✗	33.4	0.0	34.4	0.0
Recycled water	✗	✗	33.4	0.0	34.4	0.0

Source: ACT Government 2023a and our calculations

Notes: 2024-25 current approach rates calculated by indexing 2023-24 rates by 3%. 2024-25 proposed approach values are placeholders and need to be updated for ABARES 2024-25 forecast for water allocation prices.

6. Financial impacts

We have assessed the financial impacts of our recommended approach on consumers of potable water by examining the indicative bill impacts at varying levels of consumption. Our recommended approach has a small but positive impact on affordability, reducing water prices (supply and usage charges) for 2023-24 and 2024-25 by 1.7% and 3.4% per year, respectively, compared with the current approach. Given consumers receive a combined bill for water and sewerage, the bill impact is lower than the price impact, reducing the average residential consumer bill by 1.0% in 2023-24 and 1.9% in 2024-25.

It is important to note that we have included the notional price change for 2023-24 in our analysis of price estimates and bill impacts. Our model sets prices by smoothing the revenue requirement over the 5-year regulatory period to achieve a constant X-factor (annual price change) in every year. Given that the 2023-24 WAC rate has already been set and included in 2023-24 water prices, this approach overstates the price reductions that could be achieved over the regulatory period if the recommended rates were introduced in 2024-25. In other words, the price and bill impacts should be interpreted as notional changes had the recommended approach been introduced in 2023-24.

6.1 Impact on water prices

The forecast WAC rates, abstraction volumes and the resulting total WAC charges included in water prices for the current regulatory period are presented in Table 9. The commission recalibrates water prices annually and includes a true-up for the difference between the forecast and actual WAC charges.

Table 9: Current WAC rates and revenue

	2023-24	2024-25	2025-26	2026-27	2027-28
WAC rate (\$/kL)	\$0.69	\$0.71	\$0.73	\$0.75	\$0.78
Forecast releases (ML)	51,982	52,307	52,845	53,414	53,952
Total WAC charges	\$35,867,354	\$37,190,015	\$38,682,570	\$40,273,862	\$41,920,335

Source: ICRC 2023

Under our recommended approach, the WAC rates for 2023-24 and 2024-25 would be significantly lower than the current rates. We have estimated WAC rates for 2025-26 to 2027-28 by using our forecasts for the WPM charge and applying forecast CPI to the sustainability charge. This results in the WAC rates and total WAC charges in Table 10.

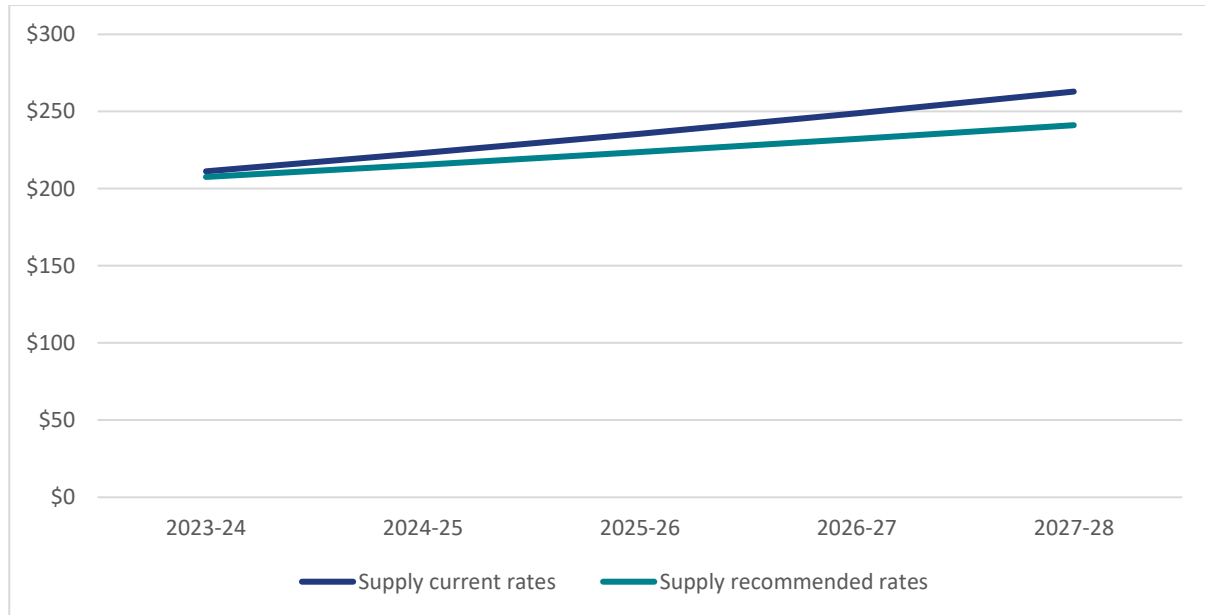
Table 10: Recommended WAC rates and revenue

	2023-24	2024-25	2025-26	2026-27	2027-28
WAC rate (\$/kL)	\$0.43	\$0.52	\$0.56	\$0.60	\$0.64
Forecast releases (ML)	51,982	52,307	52,845	53,414	53,952
Total WAC charges	\$22,288,776	\$27,257,622	\$29,432,355	\$31,995,634	\$34,415,760

Source: Our calculations

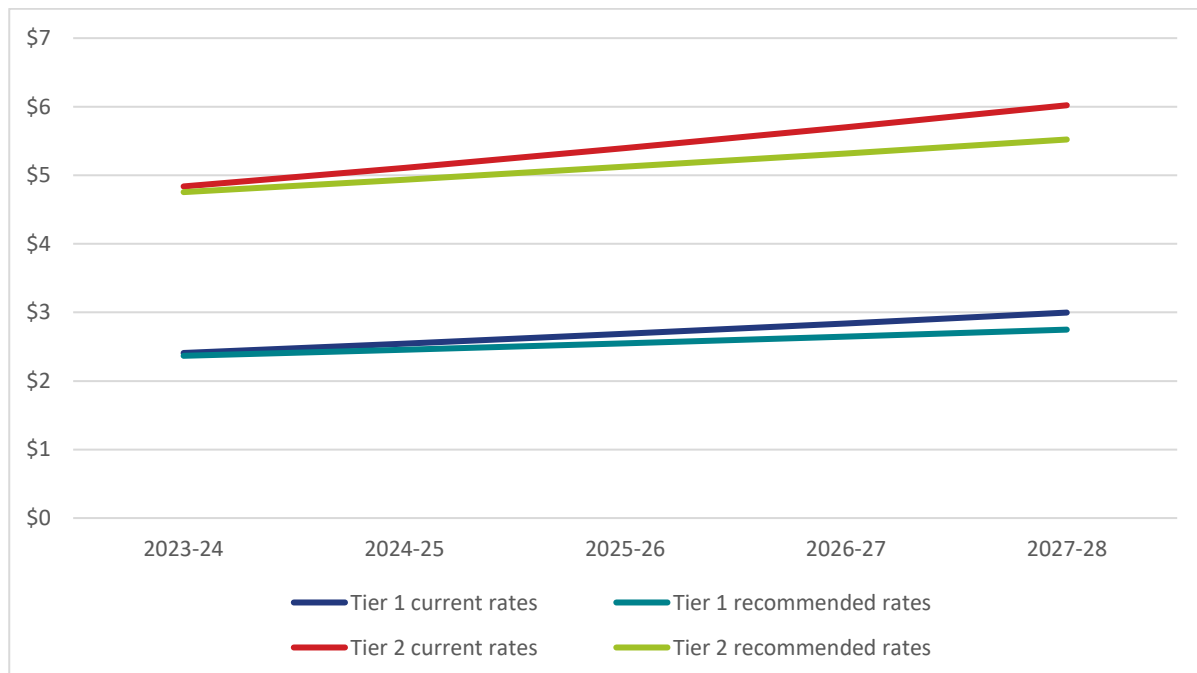
We have calculated the impact on water prices by rerunning our revenue model for Icon Water using the recommended WAC rates instead of the current WAC rates. The impact on the water supply charge and the water usage rates are shown in Figure 4 and Figure 5, respectively. In 2023-24, the supply charge and usage charges would have been 1.7% lower under the recommended rates than the current rates. By the end of the regulatory period, the supply charge and usage charges would be 8.3% lower under the recommended rates compared with the current rates.

Figure 4: Water supply charge, \$ nominal per year



Source: Our calculations

Figure 5: Water usage charges, \$ nominal per kL



Source: Our calculations

6.2 Impact on bills

The change in the methodology for estimating the water charges for abstractions only impacts the water component of customer bills. There is no change to sewerage charges. Therefore, the impact on the combined consumer bill is less than the impact on water prices.

The estimated reduction in the water and sewerage bill for an average residential customer using 200kL of water per year is 1.0% (or \$12 per year) in 2023-24, increasing to 4.7% (or \$74 per year) by 2027-28 (see Table 11). The estimated reduction in the water and sewerage bill for a non-residential customer using 5,000kL of water per year with 50 billable fixtures is 0.8% (or \$410 per year) in 2023-24, increasing to 3.8% (or \$2,467 per year) by 2027-28 (see Table 12).

Table 11: Indicative annual residential water and sewerage bill impacts, \$nominal

	Water consumption (kL/year)	2023-24	2024-25	2025-26	2026-27	2027-28
Current WAC rates	100	988	1,049	1,114	1,183	1,257
	200	1,249	1,325	1,406	1,491	1,582
	350	1,954	2,070	2,192	2,322	2,460
	750	3,889	4,114	4,351	4,602	4,868
Recommended WAC rates	100	980	1,033	1,089	1,148	1,210
	200	1,237	1,299	1,365	1,435	1,508
	350	1,930	2,019	2,112	2,211	2,314
	750	3,832	3,993	4,162	4,338	4,522

Source: Our calculations

Table 12: Indicative annual non-residential water and sewerage bill impacts, \$nominal

	Annual water usage (kL/year)	No. of billable fixtures	2023-24	2024-25	2025-26	2026-27	2027-28
Current WAC rates	1,000	10	10,339	10,982	11,666	12,392	13,164
		50	31,299	33,345	35,526	37,849	40,325
		100	57,499	61,299	65,351	69,671	74,277
	5,000	10	29,689	31,420	33,253	35,194	37,248
		50	50,649	53,784	57,113	60,651	64,409
		100	76,849	81,738	86,939	92,473	98,361
	15,000	10	78,065	82,517	87,223	92,198	97,458
		50	99,025	104,880	111,083	117,656	124,620
		100	125,225	132,834	140,908	149,477	158,571
Recommended WAC rates	1,000	10	10,261	10,818	11,408	12,032	12,693
		50	31,221	33,181	35,268	37,490	39,854
		100	57,421	61,135	65,093	69,311	73,806
	5,000	10	29,279	30,561	31,904	33,309	34,781
		50	50,239	52,924	55,764	58,767	61,942
		100	76,439	80,878	85,589	90,588	95,894
	15,000	10	76,824	79,919	83,143	86,502	90,001
		50	97,785	102,282	107,003	111,959	117,162
		100	123,985	130,236	136,828	143,780	151,114

Source: Our calculations

Attachment 1 Water reforms since 2003

This attachment provides details of the major water reforms that have been implemented since our last WAC review in 2003. These include the NWI, the NWI pricing principles, the Water Act 2007 and the MDB plan. In addition, the ACT Government has published its Water Strategy for 2014-2044. The implications of these reforms for our recommended approach are also discussed.

A.1.1 National Water Initiative

By 2003, understanding of water management and water markets had grown, as had national demand for water. It was clear more work was required to build on the previous reform framework. This led to the development of the NWI⁵⁴. The NWI is the blueprint for national water reform, created in 2004 and signed by all states and territories. This shared commitment by all Australian governments provides a framework and principles to underpin the sustainable management of our water resources.

The NWI included agreement to review the 1992 Murray-Darling Basin (MDB) Agreement and a separate agreement to address the overallocation of water and achievement of environmental objectives in the MDB (MDB Intergovernmental Agreement).

The NWI includes a set of outcomes and actions to deliver best practice water pricing, which includes pricing that promotes economically efficient and sustainable use of water resources, water infrastructure assets and government resources devoted to the management of water. The NWI requires States and Territories to implement pricing that includes externalities where found to be feasible and sets out the cost recovery approach for planning and management costs.

A.1.2 NWI pricing principles

The NWI pricing principles⁵⁵ set out principles for three areas where the Steering Group on Water Charges (established by the NWI Committee) identified marked differences in pricing approaches across jurisdictions. These are recovery of capital expenditure, setting urban water tariffs and recovering the costs of water planning and management. The NWI pricing principles also include a set of principles for recycled water and stormwater reuse. Collectively, these four sets of principles are referred to as the NWI pricing principles.

The capital expenditure pricing principles set out how capital expenditure should be recovered, including the establishment of a regulatory asset base (RAB) and the calculation of annual capital costs. Principles for urban water tariffs include the recovery of efficient costs (including externalities) and pricing transparency, including the use of a transparent methodology, through a process which seeks and takes into account public comment or which is subject to public scrutiny. The principles for WPM set out the activities to be included and excluded in charges and a cost-effectiveness test.

⁵⁴ Intergovernmental Agreement on a National Water Initiative 2004

⁵⁵ Intergovernmental Agreement on NWI pricing principles 2010

A.1.3 Water Act 2007

In 2007 there was widespread agreement across governments that a plan was needed to manage water carefully and protect the MDB for future generations. The Water Act 2007⁵⁶ seeks to return to environmentally sustainable levels of extraction for MDB water resources, promote the use and management of Basin water resources in a way that optimises economic, social and environmental outcomes, protect, restore and provide for the ecological values of the Basin. Key features of the Water Act include:

- a national framework to manage Basin water resources
- establishment of the Murray-Darling Basin Authority
- establishment of the Commonwealth Environmental Water Holder
- requirements for the Murray-Darling Basin Plan.

An amendment to the Water Act in 2012 established the Water for the Environment Special Account (WESA) which can be used for improving environmental outcomes, including purchasing water access rights in relation to Basin water resources.

The Water Act 2007 includes water charging objectives and principles consistent with the NWI, including those on environmental externalities.

The water charging objectives⁵⁷ are concerned with promoting economic efficiency and giving effect to the principles of users-pays and pricing transparency in respect of water storage and delivery in irrigation systems and cost recovery for WPM activities. The water charging objectives also aim to avoid perverse or unintended pricing outcomes. The water charging principles⁵⁸ set out the key principles for water storage and delivery in rural systems, cost recovery for WPM, environmental externalities and benchmarking and efficiency reviews.

For cost recovery for WPM, the Water Act 2007 requires all costs associated with WPM to be identified, the proportion of costs that can be attributed to water access entitlement holders to be identified and for charges to be linked as closely as possible to the costs of activities or products. In addition, WPM charges are to exclude activities undertaken for the Government (such as policy development and Ministerial or Parliamentary services) and States and Territories are to report publicly on cost recovery for WPM annually.

For environmental externalities, market-based mechanisms (such as pricing to account for positive and negative environmental externalities associated with water use) are to be pursued where feasible. In addition, the cost of environmental externalities is to be included in water charges where found to be feasible.

A.1.4 Water Charge Rules 2010

The Water Act provides for the Water Charge Rules, which provide transparency in charges and costs for customers of monopoly water infrastructure providers across the Basin. The Water Charge Rules 2010⁵⁹ set out the determination of infrastructure charges for Part 6 operators. An infrastructure operator is a Part 6 operator if it is not required to have all its infrastructure charges determined or approved by a single State Agency under a law of the State. The Water Charge Rules do not apply to charges in respect of urban water

⁵⁶ Water Act 2007

⁵⁷ Water Act 2007, Schedule 2, Part 2

⁵⁸ Water Act 2007, Schedule 2, Part 3

⁵⁹ Water Charge Rules 2010

supply activities beyond the point at which the water has been removed from a Basin water resource⁶⁰. The Water Charge Rules only apply to charges in relation to Basin water resources (or infrastructure that carries Basin water resources)⁶¹.

The Water Charge Rules 2010 do set out requirements in relation to WPM charges for persons other than Part 6 infrastructure operators, including a schedule of charges that must set out details of the charges being levied.

The ACCC publishes an annual Water Monitoring Report to inform the minister and stakeholders about regulated water charges, compliance with the Water Charge Rules 2010, the Water Market Rules 2009 and transformation arrangements in the MDB.

As WPM activities are included in the Water Charge Rules 2010, the ACCC reports on the recovery of these costs for MDB jurisdictions, including the ACT. In its 2020-21 report⁶², the ACCC notes the challenges in reporting WPM activity costs and revenues including the difficulty in separating WPM costs from other costs, the level of charges not clearly relating to the cost of WPM activities, allocating costs to MDB areas and the recovery of capital expenditure, which may take place over an extended period. The ACCC published the extent to which each MDB jurisdiction recovers WPM costs from water consumers (see Figure 6). The ACT is a stand-out among MDB states in terms of recovery, which reflects the total WAC revenue being compared only against WPM costs.

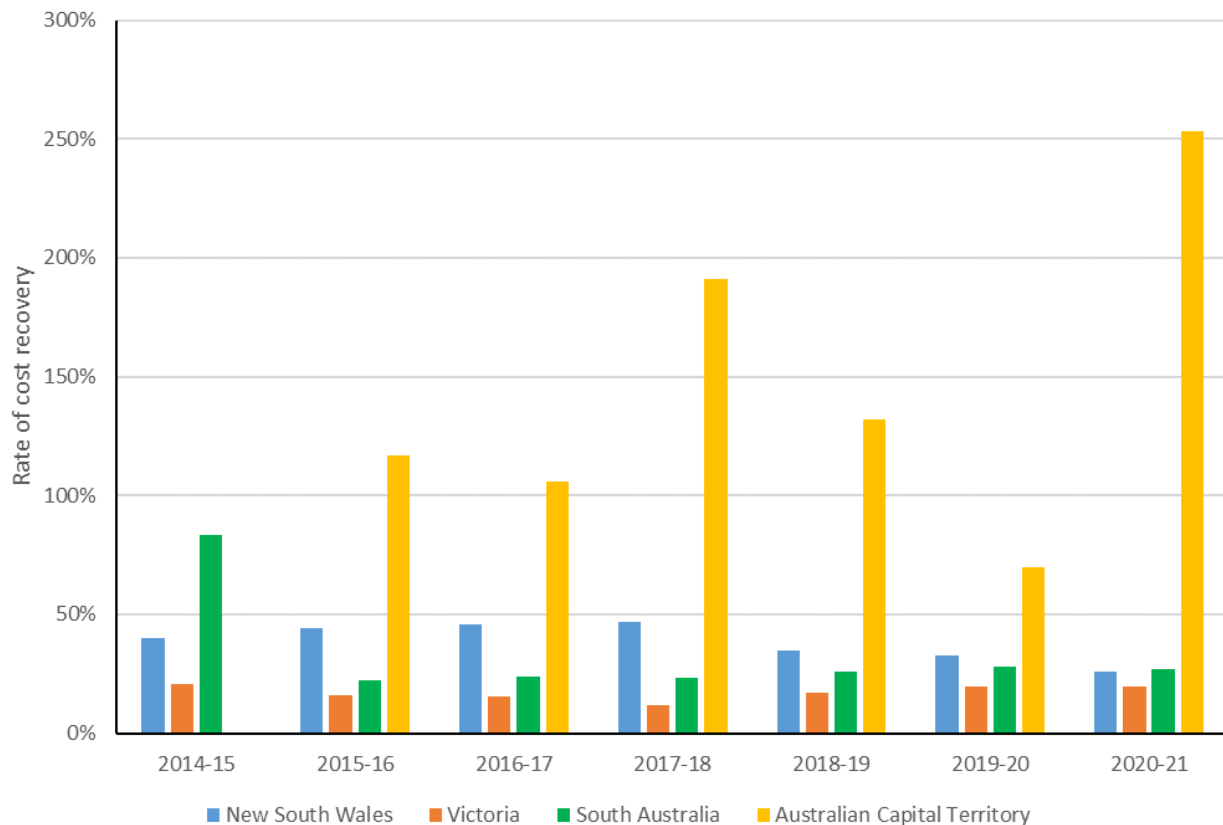
In August 2023, the ACCC released its 2021-22 Water monitoring report⁶³, which does not present the same cost recovery graph as in the 2020-21 report, but which shows similar trends. The ACCC reported a recovery rate of 85% for Water NSW, 17% for Victoria and 24% for the South Australian Department for Environment and Water. For the ACT, the ACCC reports that costs of WPM fell by 4% nominal to \$11.8 million, while the revenue from WPM charges fell by 4.2% to \$29.9 million. These figures imply a recovery rate of 253%, consistent with 2020-21, although the ACCC did not report this recovery rate in its 2021-22 report. The ACCC reported that the urban water abstraction fee comprises 98.5% of the water planning and management revenue generated in the ACT, with the remainder comprised of revenue generated through water access entitlement fees, application fees and administration fees.

⁶⁰ Water Act 2007, 91(3)

⁶¹ Water Act 2007, 91(2)

⁶² ACCC 2022

⁶³ ACCC 2023a

Figure 6: Rates of cost recovery for Basin states, 2014-15 to 2020-21

Source: ACCC 2022. The ACCC notes that Queensland's rate of recovery could not be calculated due to the absence of spending data.

A.1.5 Murray Darling Basin Plan

In line with the Water Act 2007, the MDB Authority developed the Basin Plan⁶⁴ which, at its heart, sets the amount of water that can be taken from the Basin each year. The aim of the Basin Plan is to bring the Basin back to a healthier and sustainable level, while continuing to support farming and other industries for the benefit of the Australian community. The Basin Plan was adopted in 2012 and the first Basin Plan Review will be conducted in 2026.

The Basin Plan establishes the volume of water that can be extracted from the Basin (the 'environmentally sustainable level of take' or Sustainable Diversion Limit (SDL)). In 2012, the Basin states and the Australian Government agreed that 2750 GL of water from across the Basin would be recovered for the environment by 30 June 2024⁶⁵. Following amendments to the Basin Plan under the Sustainable Diversion Limit Adjustment Mechanism (SDLAM), the overall target for water recovery was changed to 2,075 GL coupled with a package of supply measures to achieve improved environmental outcomes with 605 GL less water⁶⁶.

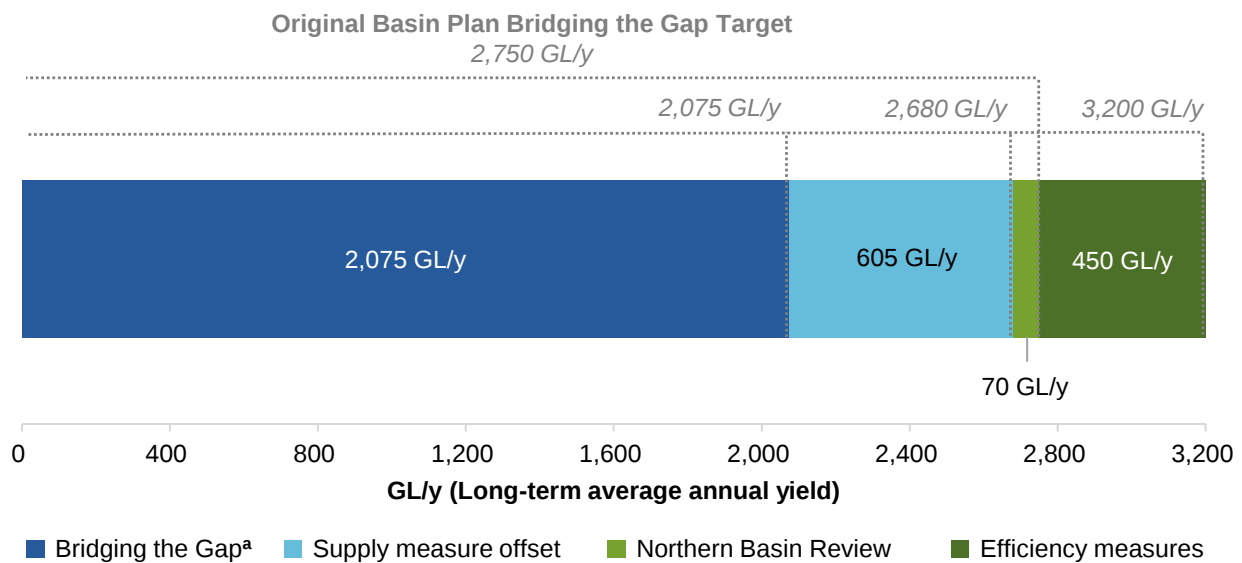
⁶⁴ MDB Authority 2012

⁶⁵ Water recovery in the MDB is presented in this report in long-term average annual yield terms.

⁶⁶ As well as a 70 GL/y reduction in the northern Basin water recovery target, which was agreed on the condition that the northern Basin toolkit measures would be implemented to ensure effective management of environmental water in the northern Basin.

plus the recovery of an additional 450 GL to support enhanced environmental outcomes by 2024. The Basin surface water recovery and SDL adjustment targets are shown in Figure 7.

Figure 7: Basin surface water recovery and SDL adjustment targets



a. Bridging the Gap relies on 2,075 GL/y of surface water recovery and the supply measure offset.

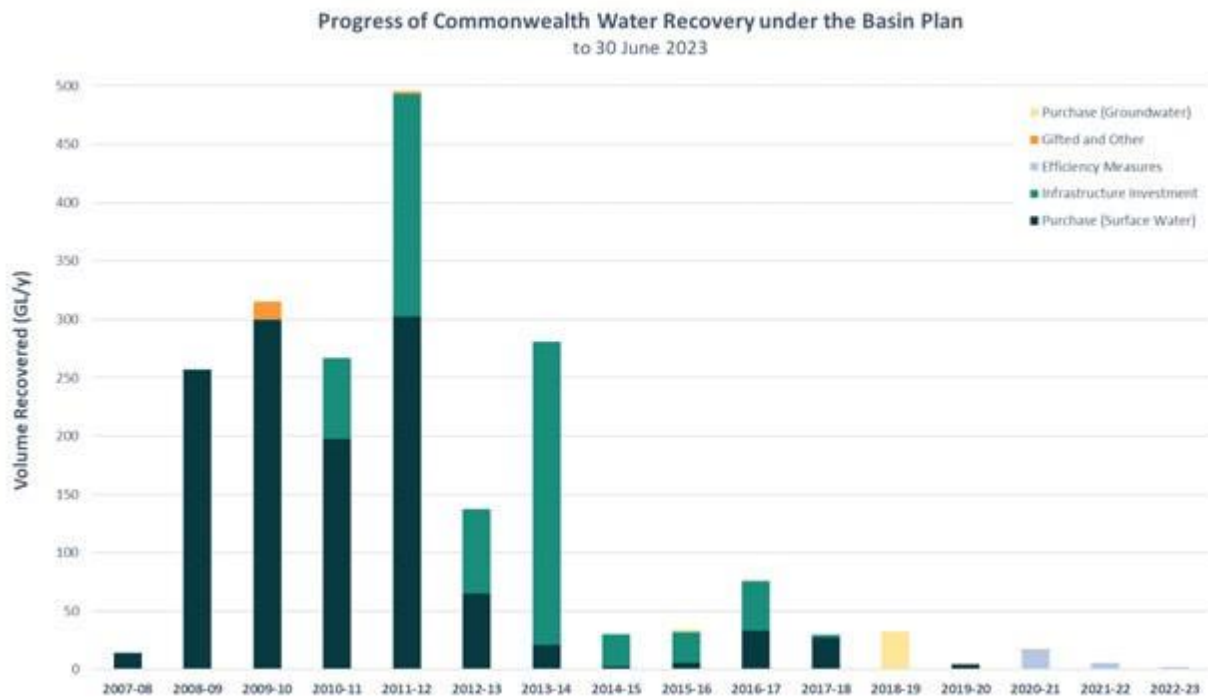
Source: PC 2023, p.4

Since 2007 the Australian Government has recovered water entitlements through a combination of direct purchase from willing sellers and investments in water saving infrastructure. These water entitlements are transferred to the Commonwealth Environmental Water Holder to use to improve environmental outcomes. Significant progress toward meeting the Basin Plan targets were achieved between 2008-09 and 2013-14, however since this time water recovery has been minimal (see Figure 8).

The buyback of water by the Commonwealth has been contentious, driven by the negative socio-economic impacts it has had on communities in the Basin. In 2015 the Water Act was amended to set a cap of 1,500GL on the volume of water that could be recovered through buybacks until the first review of the Basin Plan is completed. Water recovery has since been focused on infrastructure-based efficiency solutions.

As at 30 September 2023, only 46 GL remains to meet the 2,075 GL 'Bridging the Gap' target.⁶⁷ However, there remains a 315 GL shortfall on supply measures and the progress towards the 450GL for enhanced environmental outcomes has been limited with only 26.0 GL of the total target of 450 GL contracted, leaving 424GL to be recovered.

⁶⁷ DCCEEW 2023a

Figure 8: Water recovery under the Basin Plan

Source: DCCEEW 2023b

On 3 March 2021, the Minister of Resources and Water announced the Off-Farm Efficiency Program (OFEP) as the vehicle to recover up to 450 GL of additional environmental water using funds from the WESA. The OFEP invests in water delivery infrastructure to reduce water losses in the MDB, providing benefits to water users and the community by sharing the water saved between consumptive users and the environment. The previous water efficiency program in place limited funding to a fixed market multiple of 1.75⁶⁸ whereas the OFEP removes this multiple with project funding instead based on infrastructure costs. The second review of the WESA found that full recovery of 450 GL through efficiency measures would likely cost between \$3.4 billion and \$10.8 billion⁶⁹. This is well beyond the \$1.575 billion of funding set aside in the WESA for achieving enhanced environmental outcomes.

A further tender for the strategic water rights purchasing of 44.3 GL by the Australian Government to deliver the 'Bridging the Gap' target opened on 23 March 2023 and closed on 19 May 2023⁷⁰. The Government received around 250 tender responses and started accepting water offers in the relevant catchments in August 2023. The Government states that offers were based on an assessment of value for money and environmental utility. At the time of this review, the outcome of the tender process had not yet been disclosed due to privacy and confidentiality requirements under the procurement rules. The plan also includes 4.9 GL of surface water in the ACT, which is currently held by Icon Water. The Commonwealth Government states that it will continue to work with the ACT Government to recover this water.

In July 2023, the MDB Authority advised that the full implementation of the MDB Plan would not be possible by the legislated deadline of 30 June 2024. In August 2023, the Australian, NSW, South Australian, Queensland and ACT governments agreed to support amendments to the Water Act 2007 and the Basin

⁶⁸ 1.75 times the market value of permanent water entitlements

⁶⁹ Independent Panel 2021

⁷⁰ DCCEEW 2023c

Plan 2012 to deliver the Basin Plan in full⁷¹. The Victorian Government is not party to the agreement. The amendments include extending the time to deliver SDLAM supply and constraints projects to 31 December 2026 and extending the timeline for the recovery of the 450 GL of additional environmental water to 31 December 2027.

The Agreement states that the Commonwealth will work with communities on the design and delivery of water recovery programs towards the 450 GL target with all options on the table, including water purchase. Should any negative social and economic impacts from delivering environmental outcomes intended under the Basin Plan be identified, the Commonwealth supports minimising these impacts on communities. In the case of water purchase towards the 450 GL for the environment, this includes providing funding for community adjustment assistance and working with Basin governments and communities in delivering this assistance.

The agreement requires amendments to the Water Act and the Basin Plan. The Water Amendment (Restoring Our Rivers) Bill 2023⁷² was introduced to Parliament on 6 September 2023 and was passed by both the House of representatives and the Senate on 30 November 2023, receiving assent on 7 December 2023.

In January 2024, the Commonwealth Government released the Restoring our Rivers: Draft framework for delivery the 450 GL of additional environmental water for consultation⁷³. The draft framework outlines 3 new programs that the Australian Government will establish to deliver the 450 GL target:

- *Resilient Rivers Program* – infrastructure projects, rules changes, land and water partnerships and other ways to recovery water.
- *Voluntary Water Purchase Program* – purchase of water entitlements from willing sellers
- *Sustainable Communities Program* – adjustment assistance for Basin communities impacted by voluntary water purchase.

The draft framework for delivering the 450 GL also outlines the three key principles that will guide the approach to water recovery: enhancing environmental outcomes, minimising socio-economic impacts, and achieving value for money.

Consultation on the draft framework for delivering the 450 GL is open from 30 January to 4 March 2024.

A.1.6 ACT Water Strategy 2014-2044

The ACT Water Strategy 2014-44⁷⁴ is consistent with national water objectives of achieving sustainable water resources and has been informed by the NWI and COAG urban water reform. The ACT is wholly situated within the Murrumbidgee River catchment, which feeds into the Murray-Darling river system. Therefore, the ACT Water Strategy adheres to the MBD Plan and commits to meeting MDB-wide environmental objectives for water dependent ecosystems and water quality.

The ACT Water Strategy 2014-44 is focussed on achieving three outcomes:

1. Healthy catchments and waterbodies
2. A sustainable water supply used efficiently
3. A community that values and enjoys clean, healthy catchments.

⁷¹ DCCEEW 2023d

⁷² Water Amendment (Restoring our Rivers) Bill 2023

⁷³ DCCEEW 2024

⁷⁴ ACT Government 2014, p.4

The scope of work for this review specifically requires the commission to have regard to the second of these outcomes, a sustainable water supply used efficiently, which is explained as:

An integrated and efficient water supply system that provides for the optimal mix of supply options, encourages efficient use of water, is resilient to climate variability, and supports the social, economic and environmental needs of the ACT community.

ACT GOVERNMENT 2014, P4

The ACT has already taken steps to secure long term water supplies through increasing water storage capacity and through infrastructure projects such as the enlarged Cotter Dam project and Murrumbidgee to Googong pipeline. The ACT Water Strategy also notes that a key action will be to take advantage of the evolving water trading arrangements with NSW based on rules under the Basin Plan. The ACT will also continue to investigate the costs and benefits of alternative water supply options such as treated effluent, grey water and stormwater. The costs associated with these supply-side projects and actions will be included either in Icon Water's regulated cost base or in the WPM costs incurred by the ACT Government. In either case, the costs will be passed onto ACT consumers in their water charges.

Maintaining efforts to reduce demand over the longer term is another central focus of the ACT Government's strategy. The per capita use of ACT mains water supply has more than halved over the last 15 years and total water use has significantly reduced. Permanent water conservation measures are in place. However, with a growing population and the impacts of climate change, the Government will continue to pursue demand reduction initiatives and ways to use water more efficiently. The ACT Government identifies scarcity pricing as one of the approaches to be explored in promoting water use efficiently⁷⁵.

A.1.7 Other relevant considerations

While the legislative reforms discussed above outline the current framework, there have been numerous reviews, assessments, agreements, consultations and projects undertaken by various parties, including the Productivity Commission, Independent Panels, consultants, the MDB Authority, academics and other government agencies, all aimed at identifying potential changes to the water sector to improve outcomes for consumers and the environment.

It is impossible to survey all the material available in the context of the current review, however, it is useful to identify some of the more important and relevant agreements and reviews.

First, it is important to note that the impetus for reform came from a recognition of the environmental harm that was occurring as a result of relatively unconstrained water use. The need to take action in the water sector commenced in earnest with the introduction of the 1994 Council of Australian Government (COAG) reforms. COAG agreed:

That action needs to be taken to arrest widespread natural resource degradation in all jurisdictions occasioned, in part, by water use and that a package of measures is required to address the economic, environmental and social implications of future water reform.

COAG 1994

⁷⁵ ACT Government 2014, p.37

Second, there was clear guidance that both supply and demand options should be considered and that there was a role for pricing in achieving the appropriate urban water supply/demand balance. COAG endorsed the National Urban Water Planning Principles in 2008. These principles included the requirement to consider the full portfolio of water supply and demand options. The aim was to optimise the economic, social and environmental outcomes and reduce system reliability risk, recognising that in most cases there is no one option that will provide a total solution. In addition, pricing and markets were to be used, where efficient and feasible, to help achieve planned urban water supply/demand balance.

Tariff structures for water supplies should be designed to signal the full value of finite water resources to end users to encourage efficient water use.

COAG 2008

Third, a clear need was identified to recognise the economic value of water in setting water charges. For example, in 2011, the National Water Commission (NWC) released a report that considered whether changes to the underlying institutional and policy settings for the urban water sector were needed to reshape and improve performance⁷⁶.

The NWC report identified inflexible pricing arrangements as one of the policy and regulatory settings that limits the ability of the water sector to balance supply and demand efficiently. While prices are the principal means by which supply and demand for most goods and services are brought into balance, it states that this has not been the case in the urban water sector.

Water has a tremendous value. We all know that without it we cannot live, and we cannot grow the food we need to eat. The worlds' ecological web which maintains all life on earth depends on fresh water. Water is a key input to almost every industrial and economic activity. Past failures to assign water its true economic value have led to wasteful and damaging use of the resource. One of the most profound developments of recent decades is the realisation that water is in fact an economic good, supporting almost every activity, and needs to be treated as such.

Contributor report, NWC 2011, p.23

The standard approach adopted by regulators, which involves assessing the long-term cost of supply to accommodate demand growth over time, works well when applied to 'steady state' natural monopoly water businesses. However, in times of drought, it does not allow prices to respond to fluctuations in available supply. As regulated prices do not reflect the true value of water, this effective under-pricing does not provide a signal for efficient water use during times of scarcity and necessitates blunter mechanisms to manage demand. Under-pricing of potable water during times of shortage also does little to encourage the take up of alternative sources, such as recycled water, that could help to bridge the gap between supply and demand.

The NWC noted that while moving towards more flexible pricing approaches that better signal the scarcity value of water is not necessarily simple, the apparent lack of willingness of most of the industry and regulators to rigorously explore or even consider such options is a source of concern.

⁷⁶ NWC 2011

A.1.8 Implications for recommended methodology

It is clear that the concept of water sustainability underpins the national reform agenda and is reflected in the key outcomes of the ACT's water strategy. The reforms recognise the environmental harm caused by water diversions and both the NWI and the Water Act 2007 include an explicit requirement to consider environmental externalities in prices if feasible. The ACT Water Strategy specifically identifies the use of scarcity pricing as a potential option to encourage efficient use of water to ensure water sustainability. In our view, water charges that include the costs associated with achieving water sustainability are consistent with both the national and ACT legislative framework.

There is clear guidance in the legislative framework on the costs that can be included in WPM charges, and how these costs are reported and reviewed. For the ACT, it is only WPM costs that are relevant under the Water Charge Rules 2010, as the other costs associated with urban water supply fall outside the coverage of these rules⁷⁷. The ACCC reports on WPM costs annually for all Basin states, including the ACT. To date, the ACT appears to be over-recovering WPM costs due to the nature of reporting, which compares the total WAC revenue against WPM costs only. In our view, there is scope for improving both the calculation and reporting of WPM costs. The methodology for calculating WPM costs should align with the legislative requirements and separating the calculation of these costs and charges from other elements of the WAC would allow clear reporting to the ACCC.

The costs associated with meeting environmental targets has increased substantially over the past 20 years. Minimal water remains to be collected through water purchases under the Water Act 2007 and the costs associated with meeting targets through efficiency projects is much higher. Even if water purchases were used to meet the remaining Basin targets, this would need to be accompanied by adjustment assistance for Basin communities. In our view, the higher costs associated with achieving sustainable environmental outcomes should be reflected in water charges. This ensures consumers take into account the environmental costs associated with using water and make appropriate trade-offs between different sources of water.

⁷⁷ Water Act 2007, 91(3)

Attachment 2 NWI pricing principles (Appendix B)

Appendix B:

A framework for classifying water planning and management activities

This Appendix outlines a framework which classifies water planning and management activities. It is important to note that the costs of some of these activities will be allocated entirely to governments (e.g. water reform, strategy and policy). An asterisk (*) denotes the activities where this is the case.

It should be noted also that there will be capital and corporate services costs associated with each of the activities listed in the framework.

Capital costs can include the provision of infrastructure (e.g. physical works such as streamflow gauging stations, monitoring bores and control weirs) and systems (e.g. water registers and water accounting systems).

Corporate services can include the delivery of corporate services (e.g. legal, IT, communications, human resources, financial management and records management) and corporate planning functions (business and strategic planning and reviewing performance against these plans).

A. WATER REFORM, STRATEGY & POLICY (*)

1. Development of intergovernmental agreements
 - a) e.g. the National Water Initiative, Murray-Darling Basin Agreement, Lake Eyre Basin Intergovernmental Agreement etc.
2. Development of broad strategies for managing water
 - b) e.g. State Water Plan (Western Australia), Securing our Future Together – White Paper (Victoria), State Water Management Outcomes Plan (NSW).
3. Development and/or refinement of overarching statutory instruments
 - c) e.g. Water Management Act 2000 (NSW), Water Act 2000 (Queensland). Overarching legislation does not include statutory-based, catchment/valley/regional level water plans or other secondary/subordinate legislation that operationalises water planning and management.

B. WATER PLANNING

1. Water resource planning
 - a) Development of water resource plans:
 - i. Cross border water plans - sharing and management (inc. allocation) of water resources in cross-border areas;

- ii. Regional water plans - sharing and management of water resources between catchments where interconnectivity occurs (either naturally, or as a result of infrastructure, i.e. a pipeline);
- iii. Catchment scale water plans - allocation and sustainable management of water resources (strategic and operational), including planning for current and future water use, environmental flow arrangements;
- iv. Localised water plans - plans developed to address specific water resource problems (quantity or quality) at a local level;
- v. Other water plans - plans developed at a local or catchment level to address other water management issues, such as water or floodplain harvesting or drainage issues;
- b) Operationalisation and implementation of plans:
 - i. development of rules for water sharing (including environmental shares);
 - ii. determining water availability and distribution (e.g. announced/seasonal allocations);
 - iii. establishing system operating rules, monitoring and reporting requirements etc.;
 - iv. storage and delivery of water to achieve environmental outcomes;
- c) Monitoring and evaluation of planning outcomes and progress against targets
(including compliance);
- d) Review of water resource plans / development of new plans.

2. Environmental and ecosystem management planning

- a) Development of environmental management plans where related to water resources
(e.g. salinity, blue green algae, riverine management);
- b) Development of plans to manage water-dependent ecosystems (e.g. riverine zones, estuaries, wetlands).

C. WATER MANAGEMENT

1. Measures to improve water use

- a) Water use efficiency programs (irrigation, commercial, urban);
- b) Development of property level water management plans;
- c) Great Artesian Basin Sustainability Initiative;
- d) Flood Plain Management.

2. Construction of works (not significant water supply infrastructure)

- a) Construction of weirs, replacement of bores etc., to achieve water management outcomes.

3. Environmental works

- a) Works to reduce or remediate environmental impacts arising from water use.

D. WATER MONITORING & EVALUATION

1. Monitoring and evaluation of water resources

- a) Water resource monitoring:
 - i. Streamflow gauging;

- ii. Groundwater bore monitoring (pressure and levels);
- iii. Water quality monitoring (surface and groundwater resources).

b) Water use monitoring:

- i. Collection of water use information (metering, surveys).

c) Water resource assessment:

- i. Hydrological and hydraulic assessment;
- ii. Water quality assessment (e.g. turbidity, nutrient monitoring, salinity, algal blooms etc);
- iii. Surface water / groundwater interconnectivity;
- iv. Effects of land use change, land clearing, climate change, etc.

2. Monitoring and evaluation of water dependent ecosystems

- a) Monitoring and evaluation of riverine health (flow and non-flow elements), wetland health, estuary health.

E. INFORMATION MANAGEMENT & REPORTING

1. Water resource accounting

- a) Development of frameworks and systems;
- b) Data collection and processing.

2. Publication of water resource information

- a) Water use statistics, water trading statistics, resource condition and assessment reporting, etc.

F. WATER ADMINISTRATION & REGULATION

1. Administration of entitlements and permits

- a) Granting of water allocations, entitlements and permits to users (incl. bulk water entitlements);
- b) Processing of applications and transactions;
- c) Management of bulk water entitlements;
- d) Ensuring compliance with licence and other conditions;
- e) Regulation of water-related works or developments (e.g. dams, bores, pumping equipment);
- f) Benchmarking costs and standards of water planning and management activities (where applicable).

2. Development of entitlement frameworks

- a) Overland flow, interception, non-use 'entitlements'.

3. Administration of water trading arrangements

- a) Development and regulation of trading frameworks;
- b) Facilitation and administration of water trading.

4. Business administration

- a) Pricing review and implementation;
- b) Financial management and reporting (e.g. costing, revenue monitoring);
- c) Billing and debt management.

5. Administration of water metering arrangements

- a) Development of metering requirements and standards;
- b) Implementation of metering requirements;
- c) On-going management of metering activities.

G. WATER INDUSTRY REGULATION

1. Oversight of water businesses

- a) Review of water business operations to ensure compliance with statutory requirements.

Attachment 3 Responses to consultancy report

A review of the WAC was undertaken by Slattery & Johnson in December 2022 for EPSDD (consultancy report). The terms of reference for the review included the following tasks.

- (1) Review and confirm the appropriateness of the criteria used by EPSDD for allocating relevant expenditure collected from the WAC. Proposed amendments to the criteria if required to align with the statutory basis for the charge.
- (2) Conduct a desktop assurance review of WPM expenditure allocated from the WAC reported to the ACCC for the 2021-22 year, using the criteria from task 1.
- (3) Report on Task 1 and Task 2 and discuss the appropriateness of current reporting and provide advice on potential improvements in relation to:
 - Statutory reporting requirements under the Water Act (Cth)
 - Best practice guides and Audit Insights by the Australian National Audit Office
 - Act Government policies relevant to financial reporting

Advise on any strategic risks associated with current reporting on the expenditure of revenue raised through the WAC.

Given that the findings of the consultancy report prompted the ACT Government's request to the commission to review the WAC, we consider it appropriate to provide a response to the issues raised in the consultancy report.

A.3.1 Definition of Water Charge Rules

Section 3 of the consultancy report defines the Water Charge Rules as the:

- Water charge pricing objectives and principles included in the Water Act 2007, and
- NWI pricing principles agreed in 2010

This definition leads to some confusion, as the Water Charge Rules 2010 are a separate legal instrument, given effect under the Water Act 2007. The Water Charge Rules 2010 should not be confused with the Water Act 2007, the NWI or the NWI pricing principles.

As explained in section A.1.4 of this report, the Water Charge Rules 2010 are mainly concerned with the regulation of irrigation infrastructure operators and bulk water suppliers. The only part of the Water Charge Rules 2010 that impact the ACT are those in relation to WPM cost recovery. The Water Charge Rules 2010 set out the monitoring and reporting requirements for WPM costs for all Basin jurisdictions, including the ACT.

A.3.2 Updated WAC estimate

Section 4 of the consultancy report correctly identifies the components of the WAC included in the commission's 2003 review. However, the recalculation of the WAC for 2022-23 assumes that most of the increase in the WAC over time is a result of the increase in a single component, the scarcity value. We do

not agree that this is necessarily the case. In explaining the large increase in the WAC in 2006-07, the explanatory statement noted:

This increase in the WAC represents the decision of Government to charge a price for water that more fully reflects its true economic value. This value represents an appropriate price for a scarce resource and is likely to achieve a more economically sustainable approach to water consumption within the Territory.

ACT GOVERNMENT 2006

In our view, the “true economic value” of water as a “scarce resource” does not necessarily limit the increase in the WAC to the scarcity component. The true economic value of water as a scarce resource could also be referring its value to the environment and therefore be referring to the total cost of achieving a sustainable water supply, both for consumptive use and for the environment.

Regardless of the ACT Government’s intention, it is our view that the increases in the WAC since our initial review in 2003 have lacked transparency and can therefore, not be broken down into the individual components set out in our 2003 review.

A.3.3 Reporting on the WAC

Section 5 of the consultancy report recommends:

- the method to calculate the WAC is published annually (5.1)
- the costs used to calculate the WAC are published annually (5.2.1)
- the WAC is independently reviewed and that review is published (5.3)
- the review should advise on how often the WAC should be reviewed (5.3)
- the independent review includes advice on whether part of the WAC is levying charges for the purpose of revenue raising and, if so, what risk does that pose to the Government (5.4)

We agree with the recommendations to make the method and costs associated with the WAC publicly available. Our recommended approach involves reviewing the methodology every 5 years in line with our price investigation process for Icon Water’s water and sewerage services. We propose a public consultation process on the methodology review and making the estimated costs publicly available as part of the price investigation process (see section 4 of this report).

While as noted above, the increases to the WAC since our initial review in 2003 has lacked the transparency necessary to break them down to individual components, we found no evidence that the WAC has been levying charges for the purpose of revenue raising. If adopted, the proposed WAC methodology provides a clear, transparent process fully compliant with the NWI Pricing Principles and Water Change Rules.

A.3.4 Contributions to the WAC

Section 5.5 of the consultancy report identifies potential issues with each of the components of the WAC included in our 2003 methodology.

A.3.4.1 Water supply (WPM) costs

For water supply costs (referred to in our report as WPM costs), the consultancy report correctly identifies that legislative requirements introduced since our 2003 review require some WPM costs to be excluded from water charges and recommends:

- The independent review should review Water Supply Costs against the Water Abstraction Charge Cost Framework to ensure they do not include costs relating to the business of Government.

We agree with this recommendation and our proposed methodology and implementation involves excluding water reform, strategy, and policy consistent with the current legislative framework (see sections 4.1 and 5.1 of this report).

A.3.4.2 Environmental externalities and the ACCC

Section 5.5.2.2 of the consultancy report notes that the ACCC is responsible for monitoring and enforcement of the water charge rules but notes:

However, it does not appear to require the inclusion of environmental externalities in water charges. It conducted a review of water charge rules in 2016 which did not mention the reporting or monitoring of environmental externalities.

SLATTERY AND JOHNSON 2022, P.17

As discussed in Appendix 2, this observation is a result of confusion between the definition of the water charge rules in the consultancy report and the Water Charge Rules 2010. The ACCC is required to enforce, monitor and report on the latter. The Water Charge Rules 2010 do not include any reference to environmental externalities and this is the reason the ACCC's monitoring reports and review of the Water Charge Rules 2010 do not mention them. The only application of the Water Charge Rules 2010 to the ACT is with respect to WPM costs and charges and that is why these are reported by the ACCC.

The consultancy report states that other Basin jurisdictions do not appear to include environmental externalities in their regulated water charges. While it may be the case that no Basin jurisdictions include a true estimate of externalities associated with environmental damage, both South Australia and Victoria do impose charges to assist in addressing environmental issues (see section 3.2 of this report). The ECL in Victoria has, as one of its objectives, providing a price signal to water consumers.

The consultancy report queries the calculation of environmental costs in our 2003 review and argues that because the ACT Government has not incurred any costs for water recovery, it cannot rightfully argue that water recovery is a cost to be recovered. The consultancy report recommends that the independent review should advise on best practice:

- treatment of environmental externalities (as opposed to cost recovery) in water pricing, and
- method to incorporate environmental externalities into regulatory water charges.

As discussed in section 4.4, environmental externalities refer to costs that are 'external' from the transaction between buyer and seller and are instead borne by third parties, which in the case of water, includes future generations. Consequently, externalities are not reflected in market prices, which results in prices being set too low. The practice of 'internalising' externalities by including the costs of environmental damage into water charges allows the appropriate trade-offs to be made about the use of water. It is for these reasons that national water reforms have encouraged the inclusion of environmental externalities in prices where feasible.

Whether these costs are referred to as environmental externalities or environmental costs is irrelevant. The concept involves estimating the environmental costs caused by water extractions and reflecting these in water charges.

Whether the ACT Government contributed in the past to water purchases is also irrelevant. The cost of permanent water entitlements is simply being used as an approximation of the negative environmental externality. It is a practical and measurable cost-based approach commonly used to estimate externalities.

In section 3.2 of this report, we propose a methodology to incorporate environmental externalities into water charges, consistent with the recommendation in the consultancy report. However, we consider that ongoing work on the methodology over time is required to refine and improve the accuracy of the estimates.

Also, while the Water Change Rules do not deal with environmental externalities, the Minister may make rules and charges that contribute to the water charging objectives and principles which includes the costs of environmental externalities.

A.3.4.3 Scarcity value

Section 5.5.3.2 of the consultancy report criticises the commission's 2003 methodology for estimating the scarcity value on the basis that it is unclear what specific licence categories were used, the weightings not being explained, and the traded prices potentially omitting a large share of trades. The consultancy report states that while it is possible to re-estimate a WAC using the method advised by the commission, it is unlikely to be meaningful and should not be relied on with any confidence. The consulting report recommends that the independent review include consideration of the:

- inclusion of a scarcity value in the WAC, and
- If appropriate, a method to incorporate a scarcity value into water charges

For the reasons explained in section 4 of this report, we consider it appropriate to recognise the economic value of water as a scarce resource in water charges. In our 2003 methodology, we did not claim that the proposed approach was an accurate or exact measure of scarcity. However, the available traded prices for temporary water allocations were the best approximation available. We explained the rationale of the weighting used as follows:

The commission considers it appropriate to give greater weighting to more recent years on the basis that more recent years better reflect the value that society currently puts on water, and the fact that the water market is still developing. At the same time the commission recognises that there will be short-term fluctuations in price that mean that a degree of averaging is desirable and hence the commission suggests the use of data from the previous two years, but with a (somewhat arbitrary) greater weighting applied to the most recent year.

ICRC 2003, P.12 (FOOTNOTE 11)

As discussed in section 4.3 of this report, we propose estimating the economic value of water as a scarce resource using a forecast of the average water allocation price in the NSW Murrumbidgee region of the MDB. These forecasts are prepared by ABARES annually.

A.3.4.4 Capital costs

Section 5.5.4 of the consultancy report correctly identifies that the commission's 2003 methodology for estimating annual capital costs is inconsistent with the NWI pricing principles that were introduced 7 years later. The NWI pricing principles require annual capital costs to be calculated using a return on and return of capital. The consultancy report recommends that the independent review include:

- method to incorporate capital costs into the WAC
- recalculation of historic capital costs reported to the ACCC
- preparation a 'Capital Cost Register' to calculate capital costs for reporting to the ACCC and future calculations of the WAC.

Capital costs are incurred in undertaking WPM activities and our recommended approach set out in section 4.1 and implemented in 5.1 involves the establishment of a RAB and the calculation of building blocks to determine the notional net revenue requirement. This is the same approach the commission uses to determine Icon Water's annual water and sewerage prices and is consistent with the NWI pricing principles.

Our estimation of environmental externalities is based on the cost of permanent water entitlements. These entitlements represent assets, so we calculate an appropriate return on those assets to convert the capital costs to annual costs. Permanent water entitlements do not depreciate over time so there is no return of assets to calculate.

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ICRC

Independent competition and regulatory commission

www.icrc.act.gov.au

This information was brought to the ICRC's attention during the review.

Water Sustainability Charge

The water sustainability charge reflects both the estimated economic value of water as a scarce resource and an estimate of negative environmental externalities associated with extracting water for consumptive purposes.

Environmental Externalities

The *Water Act 2007* (Commonwealth) requires that, *where feasible, pricing to account for positive and negative environmental externalities associated with water use should be pursued and included in water charges*. However, the National Water Commission (2011) explored pricing environmental externalities as a policy response to managing the negative effects of extracting water¹. They found that environmental externality pricing is rarely feasible and that there are more effective policy and regulatory tools to manage environmental externalities.

- a. Externalities can be adequately managed by adopting standard NWI pricing reforms (full cost recovery, tariffs for service provision that reflect the costs of their provision, recovery of the costs of water planning and management, and independent economic regulation) combined with effective policy and regulatory tools.
- b. The ACT has for some time had a range of policy and regulatory tools in place to manage sustainable water use. These include the ACT's sustainable diversion limit, Environmental Flow Guidelines (DI2019-190), Reasonable Use Guidelines (DI2007-194), water licensing requirements, and permanent water conservation measures.
- c. At this stage, the ACT continues to operate well within its sustainable level of water take. These existing policies are achieving their policy intent.

Including a priced based externality charge in addition to these tools could be considered a doubling up on addressing environmental externalities.

Water Scarcity

Water scarcity pricing is a response to environmental externalities. Although EPSDD acknowledges the value of water scarcity pricing and accepts that pricing can affect demand elasticity (generally when price increases, water demand decreases) it would like to better understand this relationship within an urban context and the impact it may have on affordability. This is especially important given that it is difficult to quantify the contribution of pricing and other tools such as water restrictions and awareness programs in reducing

¹ National Water Commission, 2011. Externality pricing in the Australian Water Sector. By Frontier Economics.

demand. A review of price elasticity in the ACT would assist in understanding this relationship.

Further, EPSDD questions the need to pass on the water scarcity component of the water sustainability charge to all Icon Water customers.

- a. Urban water used in the ACT is assumed to comprise essential water use and discretionary water use.² This is reflected in Icon Water's two-tier water tariff (Tier 1 and Tier 2).³
- b. The higher Tier 2 price sends a price signal to conserve water while the lower Tier 1 price ensures some water is available at a more affordable price to meet essential needs.⁴

If the scarcity component is only passed onto Tier 2 water users, then it would only apply to discretionary water use. However, if the scarcity charge is also passed onto Tier 1 water users, it is applied to essential water use. If the scarcity component is applied uniformly to Tier 1 and Tier 2 water users, it represents 20 percent of Tier 1 prices and 10 percent on Tier 2 prices.⁵ If this is the case, the scarcity charge could be borne disproportionately by essential household water use. This appears to create a mismatch between the policy intent of the water sustainability charge and the two-tiered system. If the water sustainability charge particularly the scarcity component was not passed to Tier 1 water users, the policy intent of the water sustainability charge and the two-tiered pricing system would seem consistent.

Water Planning and Management

Differential pricing

Water planning and management costs relate to the management of water sources and are not specific to water uses. The proposed method assigns charges to potable water uses but not to non-potable water uses. EPSDD would like to understand the rationale for this as these uses have the same source for supply. There is no difference in water quality between that delivered into Icon Water's network and water not supplied through a water supply network (e.g. direct take from a river or dam). The cost of urban water supply is built into Icon Water's supply charges that are priced through a different pricing mechanism.

² Barrett. 2005. *Pricing in response to ACT Government's per capita demand management targets*.

³ The current Tier 1 price is \$2.28 per KL for the first 50KL used each quarter, and the Tier 2 price is \$4.58 per KL thereafter.

⁴ Icon Water. 2022. *Attachment 12: Tariff structure and proposed prices*. <https://www.iconwater.com.au/~media/files/icon-water/2022-23-pricing/docs/attachment-12-tariff-structure-and-proposed-prices.pdf#search=%22pricing%22>

⁵ ICON Water. 2022. *ACT 2022-2023 water and sewerage pricing*. <https://www.iconwater.com.au/Media-Centre/Media-Releases/2022/June/15/2022-2023-water-sewerage-pricing>



ACT
Government

Chief Minister, Treasury and
Economic Development

Non-potable Water Review

Final Report

Chief Minister, Treasury and Economic Development Directorate

December 2021

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Definitions / Acronyms

A number of water-related terms are used throughout this paper. To ensure consistency in the meaning of each term, definitions are provided below.

ACAT	ACT Civil and Administrative Tribunal
CEP	Competition Equalisation Payment
CMTEDD	Chief Minister, Treasury and Economic Development Directorate
Effluent	Outflow of wastewater from any water processing system or device.
EPA	Environment Protection Authority
Ground water	Water located underground in permeable soil or rock. It includes both naturally occurring water and water pumped underground for storage. However, it does not include water held in underground tanks, pipes or other works.
ICRC	Independent Competition and Regulatory Commission
INRN	Inner North Reticulation Network
Integrated urban water management	A comprehensive approach to urban water services, where water supply, stormwater management and wastewater management are viewed as components of an integrated system.
kL	Kilolitres – one thousand (1,000) litres.
LMWQCC	Lower Molonglo Water Quality Control Centre
MES	Market Equity Scheme
ML	Megalitres – one million (1,000,000) litres.
Non-potable water	Water that is not of drinking quality, and has not been treated to the standards outlined in the Australian Drinking Water Guidelines (2011) and ACT Public Health (Drinking Water) Code of Practice. In the ACT, it is water in rivers, lakes, ponds, dams, aquifers, stormwater system and includes treated effluent as well as recycled water.
NWI	National Water Initiative
Overland flows	Rainwater that has fallen to the ground but not yet reached a defined surface watercourse, body or ground water source.
PAGA	Parliamentary and Governing Agreement of the 10 th Legislative Assembly.

Potable water	Water suitable for human consumption (alternatively termed drinking water), which is of a quality suitable for drinking that meets the Australian Drinking Water Guidelines (2011) .
Recycled water	Includes water sourced from wastewater (treated effluent from a water treatment plant or sewer mining scheme and greywater).
Reticulation	Distribution through a network of pipes used to transport water to the point where it is consumed.
Stormwater	Water that originates from rain falling in the urban area and is collected into the public stormwater network.
Surface water	Water on or flowing over land (including in a waterway) after having fallen as rain or hail or precipitated in any other way; or risen to the surface naturally from underground; or been returned to the environment following treatment or use.
TAMS	Territory and Municipal Services
TCCSD	Transport Canberra and City Services Directorate
UNFT	Utilities Network Facilities Tax
WAC	Water Abstraction Charge

Executive Summary

In the Parliamentary and Governing Agreement for the 10th Legislative Assembly (the PAGA) the Government has committed to ensuring clubs continue to support the community, while reducing harm from gaming.¹ One of the initiatives to achieve this goal is to:

“Conduct a review into water costs for high-intensity club users of non-potable water in 2021, with the goal to allow clubs to maintain operations while not requiring cross-subsidisation by other ACT water users.”²

The Non-potable Water Review (the Review) commenced on 1 March 2021 with the release of the Terms of Reference for the Review and a Discussion Paper. The Terms of Reference outlined the Review’s objectives and process, including that the Review would be conducted by ACT Treasury supported by specialist advice from the Independent Competition and Regulatory Commission (the ICRC). The Discussion Paper set out key issues to be considered and sought feedback and input from stakeholders.

On 9 April 2021, the Standing Committee on Economy and Gender and Economic Equality (the Standing Committee) made the follow recommendation in its *Report on Inquiries into Annual and Financial Reports 2019-20 and ACT Budget 2020-21*:

“The Committee recommends that any recommended changes to pricing frameworks for non-potable water arising from the Non-potable Water Review into water costs for high -intensity club users of non-potable water should be consistent with the following principles: (i) the price of non-potable water should generally reflect the cost of supply; (ii) any subsidy provided should be transparent and based on a demonstrated need; and (iii) cases for support should have regard to the ongoing wider benefits to the community such as economic, social and environmental outcomes.”³

The Government agreed in principle to the recommendation and noted that these principles would be considered in the Review.

This Final Report (the Report) set outs the key findings and recommendations, informed by feedback from the community, and government stakeholders and advice from the ICRC.

On behalf of the Government, Treasury thanks all stakeholders, including individuals, clubs, associations, utility providers, and other ACT government agencies for taking time to participate through making submissions, and/or providing advice, information and data.

¹ PAGA 2020.

² PAGA 2020.

³ SCEGE 2021.

Overview of key findings and recommendations

The Review was established to examine the costs related to non-potable water use and provide advice to the Government on the appropriateness of the current pricing frameworks in the ACT, whether any adjustments could be made, and arrangements in other jurisdictions.

The findings and recommendations in the Report reflect the associated costs, prices and revenues from non-potable water use in the ACT, and arrangements in other jurisdictions.

Key findings

The key overarching findings of the Review are:

- Non-potable water usage and costs for high-intensity club users are closely linked to weather conditions and vary significantly from year to year. The revenue received by the Government and Icon Water from charges for non-potable water is equally volatile.
- Users with access to surface and ground water sources for irrigation purposes, and to a lesser extent recycled water and stormwater, have lower water usage costs than those who only have access to potable water sources for irrigation purposes.
- While water usage costs vary from year to year, they are generally less than 10 per cent of a club's overall costs and do not have a significant impact on the ongoing financial viability of most high-intensity club users. Other factors such as member base, prices charged, and other capital and operating costs can have a greater impact on a club's financial situation.
- Various assistance measures provided by the Government have resulted in golf clubs and rural irrigators paying significantly less for surface and ground water, compared to other users.

More specific findings relating to surface and ground water are:

- Users of surface and ground water incur the costs associated with infrastructure to store and pump the water for irrigation purposes. The extent of these costs depends on a club's circumstances and are relatively fixed.
- The charges for ground and surface water (including non-potable Water Abstraction Charge (WAC)) are sufficient to recover direct costs incurred by the Government.
- Charges vary significantly for different groups of surface and ground water users. Most high-intensity club users, including golf clubs, and rural irrigators have not had to pay the non-potable WAC for surface and ground water due to a range of assistance measures. However, some of the assistance measures have recently ended.
- The existing concessional arrangements are complex to administer, not as transparent as other concessional arrangements, and result in high administration costs.
- No other jurisdiction charges for surface water collected and stored in infrastructure located on users' premises (e.g. ponds). However, they do have licence arrangements.

More specific findings relating to recycled water from LMWQCC and stormwater from INRN are:

- As demand is volatile from year to year, pricing for stormwater and recycled water broadly reflect the average cost and usage over time.
- Recycled water supply costs are relatively fixed each year. This includes costs associated with the pumps and pipes required to transport the recycled water to the end user.
- Icon Water takes into account the National Water Initiative (NWI) and ICRC pricing principles when setting non-potable water prices, and these are broadly cost reflective. However, prices reflect the cost of infrastructure that was built for a greater capacity than current usage. As a result, the water usage costs for recycled water are higher than those for surface and ground water.
- Prices for INRN stormwater were initially set having regard to the tier two price of potable water and subsequently indexed by the Wage Price Index (WPI) each year.
- Given volatility in stormwater usage, prices for INRN stormwater are broadly cost reflective, but have not fully recovered the associated costs since inception.
- Some jurisdictions have either explicitly adopted NWI pricing principles for stormwater and recycled water pricing or use them as guiding pricing principles.

Recommendations

Taking into consideration the key findings above, the Review recommends the Government consider:

1. Adjusting ground and surface water charges to better align with the fixed and variable costs. This could be achieved through increasing licensing fees to ensure that all users contribute equally to cover the fixed costs and reducing the variable non-potable WAC.
2. Reforming assistance measures to make them simpler and more transparent and equitable.
3. Continuing to provide targeted short-term support to some sporting clubs in exceptional circumstances such as extreme or prolonged dry weather to reflect the social benefits of community clubs. Assistance should be targeted towards clubs that have no other option than to use significant quantities of recycled or potable water for irrigation purposes.
4. Reviewing the application of NWI pricing principles, that suggest full cost recovery for stormwater costs, in the forthcoming review of INRN stormwater prices.

1 Introduction

1.1 Background

As part of the PAGA for the 10th Australian Capital Territory Legislative Assembly, the Government committed to undertaking a review into water costs for high-intensity club users of non-potable water in 2021 (Appendix 1 – E.8). Funding for the Review was provided as part of the 2020-21 Budget in February 2021.

1.2 Terms of Reference

The Terms of Reference for the Review are at Appendix A. They require the Review to examine costs related to the usage of non-potable water by clubs and provide recommendations on:

- The appropriateness of the current pricing framework for non-potable water, informed through an analysis of the associated costs in its supply;
- Whether any adjustments can be made to the current framework which would enable clubs to continue operating, without entailing cross subsidisation from other users;
- Whether there are other relevant arrangements which could achieve the goals set out in the PAGA, such as those adopted by other jurisdictions; and
- Any other issues identified through the Review.

The PAGA makes clear that any recommendations from the Review that aim to assist clubs in maintaining operations should not involve cross-subsidisation from other ACT water users. This means that the actual costs of non-potable water use should be reflected either in the prices charged to clubs or, if less than the costs of provision, transparently covered by a subsidy from the Government.

The Terms of Reference also note that Treasury will undertake the Review with specialist advice from the ICRC.

1.3 The Review process

A Discussion Paper was released in March 2021, through the ACT Government's YourSay website, with written submissions due by 30 April 2021. Copies of the Discussion Paper and the responses received are available on the Review's YourSay website at <https://www.yoursay.act.gov.au/non-potable-water-review>.

Nine submissions were received, including three from high-intensity club users, and these have formed a key source of information in the Review. Relevant excerpts are cited throughout the report to provide more context.

As part of the Review, the Government asked the ICRC to undertake an investigation into Icon Water's costs of supplying recycled water to high-intensity club users, and to provide its findings to the Government. The ICRC has relevant legal powers to access information for this purpose. Much of the detail in the report provided by the ICRC relates to Icon Water's commercial arrangements and is commercial in confidence. As a result, while the detail of

the report and its findings informed the recommendations of the Review, they are only referred to at a general level in the Report.

Information regarding the operation and administration of the non-potable WAC and the INRN schemes was provided by the Environment Protection Authority (EPA) and the Transport Canberra and City Service Directorate (TCCSD), and regular contact was maintained through the course of the Review.

The Review also examines and draws upon various reports and studies conducted on economic regulation and pricing principles on non-potable water, mostly conducted by independent pricing regulators in other Australian jurisdictions. A list of key reference documents is at Appendix E.

The Final Report (the Report) of the Review will be provided to the Government for consideration.

1.4 Report structure

The remainder of the Report is structured as follows:

- **Chapter 2** provides background information on non-potable water in the ACT and its users.
- **Chapter 3** presents an overview of the information, data and submissions received.
- **Chapter 4** sets out an overview of the assessment framework used for the Review.
- **Chapter 5** examines the appropriateness of the current pricing framework for surface water and groundwater.
- **Chapter 6** examines the appropriateness of the current pricing framework for recycled water supplied by Icon Water.
- **Chapter 7** examines the appropriateness of the current pricing framework for water supplied from the INRN.
- **Chapter 8** concludes and provides recommendations in relation to the pricing framework for each source of non-potable water.

2 Types of non-potable water and its users

2.1 High-intensity club users of non-potable water in the ACT

The focus of the Review is on high-intensity club users of non-potable water who are associations incorporated in the ACT dedicated to promoting recreational, social, sporting, or athletic activities, and licenced by the EPA to take at least 3,000 kilolitres of surface and ground water each year.

2.2 Non-potable water

There are three key sources of non-potable water available to high-intensity club users for the purpose of irrigation of land providing services to the community:

- surface and ground water;
- stormwater; and
- recycled effluent (referred to as recycled water in this report).

Figure 2.1 below provides an overview of each source of non-potable water, the associated charges and the entities responsible for administering each charge.

Figure 2.1 - Overview of non-potable water sources

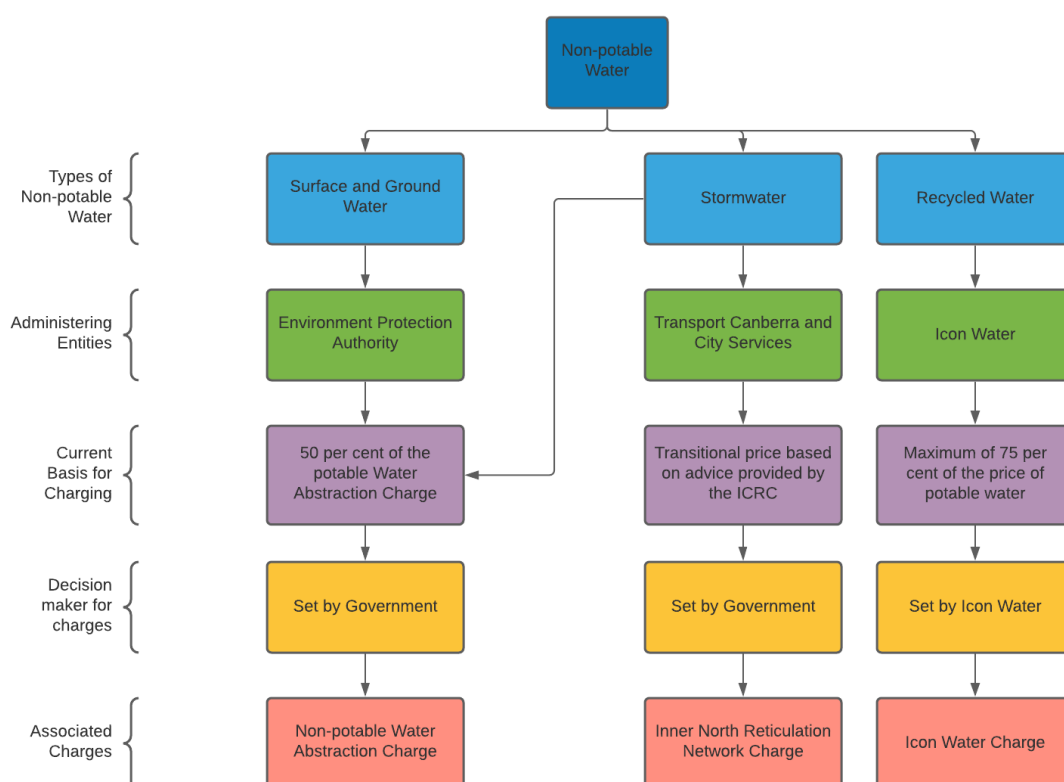


Table 2.1 below provides an overview of the associated non-potable water charges in the ACT and assistance measures available.

Table 2.1 – Water charges and assistance measures available 2021-22

Non-potable Water	Fixed Charges	Usages Charges	User type and assistance
Surface and ground water	\$481 per year (administration fee)	Non-potable WAC – \$0.314/kL	Rural irrigators receiving the Competition Equalisation Payment (CEP) 99 per cent reduction of usage charges
			Golf clubs - Market Equity Scheme (MES) – 50 per cent reduction of usage charges - Infrastructure Offset Scheme – 100 per cent reduction of usage charges after applying MES, ended in 2020⁴ - Non-potable water rebate – 100 per cent of 2020-21 usage charges - Non-potable water extension rebate – 100 per cent of usage charges from 1 July to 31 December 2021 up to applicable cap.
			Other high-intensity club users (excluding golf clubs) Non-potable water rebate – 100 per cent on 2020-21 usage charges.
			Other users No assistance.
Recycled water (LMWQCC)	N/A	\$3.140/kL ⁵ <i>Set commercially and the non-potable WAC does not apply.</i>	High-intensity club users - Non-potable water rebate – 100 per cent of 2020-21 usage charges. - Non-potable water extension rebate – 100 per cent of usage charges from 1 July to 31 December 2021 up to applicable cap.
Stormwater (INRN)	N/A	\$4.056/kL ⁶ <i>Originally set based on initial ICRC advice, then indexed. Non-potable WAC is applied.</i>	Community organisations (e.g. schools) Community Service Obligation (CSO) payments reduce bills by 50 percent.
			High-intensity club users - Non-potable water rebate – 100 per cent of 2020-21 usage charges. - Non-potable water extension rebate – 100 per cent of usage charges from 1 July to 31 December 2021 up to applicable cap.
			Other users No assistance

Source: Icon Water advice, ICRC 2021 and TCCSD data.

⁴ Subject to remaining offset available.

⁵ This is the standard recycled water prices for 2021-22. Lower prices can be negotiated between Icon Water and the user. For example, the Magpies noted in its submission to the Review that recycled water prices was \$2,400/kilolitre in 2020-21.

⁶ Figure is inclusive of non-potable WAC for 2021-22.

2.3 Non-potable Water Abstraction Charge framework in the ACT

The ACT Government plays a key role in water resource management. The WAC was initially implemented in 1999 as part of the *Water Resources Act 1998* (ACT), with the aim of fostering water conservation and providing a return on the use of a Territory asset. At a high level, the WAC provides a price signal to improve the efficiency of water use, and the charge is set at a level reflective of its value. The WAC is added to Icon Water's volumetric potable water charges to ensure that the full costs of service provision incurred in delivering potable water are reflected in charges.

The charge sends a signal to consumers about the true costs of water, by capturing its scarcity value along with the costs incurred by Government in providing water.

The WAC is based on a pricing framework consisting of three key components:

- the costs incurred by the ACT Government in maintaining water catchments;
- the environmental costs associated with the consumption of water in the ACT; and
- the scarcity value of water as a resource that holds significant value across the broader community.

Originally, the WAC was applied equally to both potable and non-potable water sources. In 2006, the WAC was separated into the potable WAC and non-potable WAC. The non-potable WAC was set at 50 per cent of the potable WAC.

The decision to base the non-potable WAC at 50 per cent recognised that the value of non-potable is much lower than potable water. The WAC for both potable and non-potable water has increased over time, primarily reflecting the scarcity value of water. This Review provides an opportunity to assess the level of the non-potable WAC in terms of:

- the costs incurred by the Government, which are primarily fixed; and
- the environmental costs and scarcity value.

The non-potable WAC is the volumetric charge for surface and ground water extracted by licence holders. The objective of the non-potable WAC is to encourage the efficient use of surface and ground water by ensuring that the charge paid by licence holders reflects the values set out above. This includes covering those costs incurred by Government as well as a component that reflects the value of the extracted water to the environment. Ground water comes from bores in aquifers, and its extraction has impacts on other users in the catchment.

The use of surface and ground water is regulated to ensure its impacts on the environment and availability for other users in a catchment is managed. The process of issuing a Water Access Entitlement for non-potable use by the Minister for Water, Energy and Emissions Reduction incorporates an efficient use assessment.

The ongoing water use licences have a maximum annual volume of water with ongoing compliance monitoring by the EPA. Restrictions on use can be put in place during extremely dry periods to ensure the protection of waterways and that use is equitably distributed amongst licences. Most of the costs associated with the regulation of non-potable water are fixed.

A significant component of the WAC for potable water is its scarcity value, which is set at a level to reflect the social values of potable water and the impacts of supply decreasing. It is important to note that a key difference between potable and non-potable water relates to the security of supply and the consumption purpose. If the supply of non-potable water runs out due to dry weather conditions, then there are alternative mechanisms for supply. In some cases, irrigators may pay to cart water from another catchment area (usually outside the ACT) or even purchase potable water, but the non-potable water provider is not required to find alternative sources in the same way that Icon Water and the Government would be if potable supplies run low.

For this reason the scarcity value of non-potable water is considerably lower than potable water.

2.4 Surface and ground water

The use of surface and ground water is regulated in the ACT by the EPA. All users must be licenced to use water for non-urban purposes under the *Water Resources Act 2007* (ACT). This licence is based on a water access entitlement that specifies a water management area that licensees are entitled to take surface water and groundwater from. For clubs, the water management area typically encompasses water sources such as reservoirs and bores located on or near each club's premises.

The EPA is a statutory office responsible for administering the *Water Resource Act 2007* (ACT), which aims to ensure the sustainable use and management of the Territory's water resources. As part of these responsibilities, the EPA oversees actual collection of the non-potable WAC through the regulatory process associated with the granting of licences. The EPA bills users annually based on meter readings and taking into account the MES, CEP and Infrastructure Offset Scheme.

Fees and charges

All users of surface and ground water are subject to the non-potable WAC of \$0.314 per kilolitre as set out in the *Water Resources (Fees) Determination 2021* (ACT).

The non-potable WAC is set at 50 per cent of the potable WAC, which takes into consideration the differences between the two water sources, such as the associated environmental costs, availability of the resource and its relative scarcity value. The basis of the non-potable WAC is outlined in further detail earlier in this chapter.

In addition to the non-potable WAC, an annual administration fee of \$481 applies to those licensed to use up to 1,000 megalitres of water in 2021-22. A higher administration fee of \$9,336 applies to those licensed to use more than 1,000 megalitres.

While licence holders do not face a higher administration charge for exceeding the amount specified in their licence, a maximum of 50 penalty units⁷ can be charged to those who contravene their licence conditions, under section 77A of the *Water Resources Act 2007*.

⁷ Under section 133 of the *Legislation Act 2001*, a penalty unit is \$160 for an offence committed by an individual and \$810 for an offence committed by a corporation.

Government assistance schemes

There are several Government assistance schemes related to surface and ground water use, with each targeting specific segments of the ACT community. In addition, while the Review was being undertaken, the Government introduced a temporary rebate for high-intensity club users for all non-potable water sources.

Assistance to golf clubs

There have been two schemes that provide assistances to golf clubs through discounts and offsets to the non-potable WAC:

- The Infrastructure Offset Scheme allowed clubs to offset their non-potable WAC obligations against investments into water saving infrastructure projects undertaken by the end of 2015, with approved offsets claimable until 31 December 2020.
- The Market Equity Scheme (MES) was introduced in 2014 to provide golf clubs with a 50 per cent discount on the non-potable WAC. The scheme was introduced to provide parity between ACT and NSW golf clubs, which do not pay a charge for water stored on their own land. This aimed to provide the same support to all golf clubs regardless of their ability to invest in significant infrastructure upgrades to improve water efficiency.

The MES was intended to replace the Infrastructure Offset Scheme. However, a transitional period was subsequently implemented to allow golf clubs to claim offsets for infrastructure projects undertaken until the end of 2015, with offsets available until the end of 2020.

The aim of the Infrastructure Offset Scheme was to encourage clubs to invest in water efficiency infrastructure that would enable optimal use of ground and surface water.

The combination of these two assistance programs has meant that many golf clubs have not paid the non-potable WAC for a number of years. With the conclusion of the Infrastructure Offset Scheme in December 2020 some golf clubs will now be paying the non-potable WAC. Golf clubs will continue to receive an ongoing subsidy for water prices under the MES.

Assistance to high-intensity club users

While this Review was being undertaken, the Government put in place a temporary rebate for non-potable water usage by high-intensity club users from 1 July 2020 to 30 June 2021, and extended the rebate up to a capped amount until 31 December 2021 as part of the 2021-22 Budget.

Assistance to rural irrigators

The Competition Equalisation Payment (CEP) scheme was established in 1999 to provide a subsidy to ACT rural irrigators. The CEP was designed to reduce the impact of increased water costs experienced by ACT rural irrigators as a result of the WAC through effectively providing them with similar water charges to those applied to water from the Murrumbidgee River. This allowed them to better compete with nearby irrigators in NSW. The net cost of surface and ground water to CEP recipients is between \$0.002 per kilolitre and \$0.008 per kilolitre.

The CEP is only applied to irrigated agricultural production.

Assistance to ground water users through a data sharing agreement

The EPA may enter into an agreement with ground water licence holders to enable it to access ground water sources for the purpose of monitoring and data collection. In return, the licensee does not have to pay the annual licence fee, which is \$481 for 2021-22. These arrangements augment ACT Government water monitoring programs.

Arrangements in other jurisdictions

There are a range of arrangements in place throughout all other Australian jurisdictions for surface and ground water, with each jurisdiction's water rights system encompassing different sources of surface and ground water.⁸

In general, water rights systems in most jurisdictions require users to obtain rights before taking water located in most surface and ground water sources such as aquifers, rivers, lakes, creeks and streams.

The treatment of overland flows⁹, however, varies significantly. The ACT is the only jurisdiction that places a universal restriction on users from harvesting overland flows without a licence.¹⁰ In other jurisdictions, overland flows are only included in the water rights system should they meet certain conditions, such as:

- in New South Wales, users must obtain a licence to collect overland flows if the users intend to harvest more than 10 per cent of average run-off, as part of the Harvestable Rights Orders;¹¹
- in Queensland, overland flows can be taken for any purpose unless there is a moratorium notice or a water plan that limits what can be taken.
- in Victoria, unlicensed collection of overland flows is limited to stock and domestic purposes; and
- in non-prescribed areas of South Australia, overland flows are not limited and can be harvested without a licence on the condition that the taking of water does not detrimentally affect other users of the same water source.

Jurisdictions also differ in their setting of fees and charges associated with the use of surface and ground water. A comparison of this is set out in Table C2 of Appendix C, and covers the following:

- New South Wales (WaterNSW) – fixed annual charge based on the size of the meter and variable charge for unregulated river and ground water only, not surface water collected or stored on the premises (e.g. ponds).
- Victoria – fixed annual charges based on volume of entitlement and no variable charge.
- Queensland – fixed annual charges to cover licence fees and meter service charges, and variable charge based on water usage or harvesting charges.

⁸ Productivity Commission 2003, Page 116.

⁹ Rainwater that has fallen to the ground but not yet reached a surface water channel or aquifer.

¹⁰ Productivity Commission 2003, Page 87.

¹¹ NSW Government 2006, Pages 1,628 to 1,631.

- South Australia – fixed annual charges reflecting access entitlements based on total water allocations, no variable charge, but a penalty charge to discourage excess taking of water.
- Western Australia – fixed annual charges to cover administrative and licence fees, and no variable charge.

In general, these jurisdictions have adopted either just a (fixed) access fee or a combination of a fixed access fee and a (variable) consumption-based charge to recover the various costs associated with surface and ground water, including:

- fixed annual fees to cover the costs involved in allocating, administering, monitoring and enforcing water rights;
 - In most jurisdictions, these fixed annual fees are calculated based on each user's total entitlement access or size of meter as a proxy for usage;
- variable usage charges where a two-part tariff pricing approach is adopted by having a charged based on entitlement and a charged based on usage, for a majority of the rural bulk water services in NSW; and
 - In its review of prices for rural bulk water services provided by WaterNSW, IPART noted that variable charges should ideally be set to recover variable costs and in some instances reflect the variability of supplementary water access.¹²
- penalty charges are in place for breaches of licence conditions such as the excess taking of water, which are in place as a deterrent and to recover some of the environmental costs associated the overuse of water.

2.5 Recycled water

The LMWQCC reuse scheme was established to supply treated effluent in the form of recycled water to nearby vineyards, water carters and golf courses for irrigation.

Fees and charges

Icon Water, the regulated sole provider of potable water and sewerage services in the ACT, provides recycled water on a commercial basis under their non-drinking water standard customer contract that can be viewed through Icon Water's [webpage](#). The contract sets out the standard terms by which Icon Water provides recycled water services to customers connected to a recycled water network in the ACT.

The price is not regulated; however, it is currently capped by Icon Water at a maximum of 75 per cent of the current price set for potable water. This is in line with NWI pricing principles relating to substitutes available to ensure that the cost of providing non-potable water does not exceed that of potable water.

¹² IPART 2017, Pages 116 to 119.

The non-potable WAC is not included in recycled water prices as the potable WAC has already been charged to users prior to it being recycled and supplied to the recycled water users. Similarly, Icon Water has excluded the Utilities Network Facilities Tax from recycled water prices. Customers can choose whether to accept the offer or negotiate a lower rate through volume discounts.

Arrangements in other jurisdictions

The ICRC was asked to examine arrangements in other jurisdictions in Australia for the pricing of recycled water and found that Icon Water's arrangement is broadly in line with those arrangements and with the NWI pricing principles.

The ICRC also found cost allocation for determining prices was generally reflective of a user pays basis, where any revenue shortfalls were recovered through community service obligation payments or the potable water system if it was seen to provide broader social benefits from the continuing operation of such user. However, the ICRC also noted such benefits are difficult to measure. Also, the treatment of sewerage water was generally excluded from the cost of supplying recycled water, as it is a required step regardless of whether recycled water is subsequently sold to customers.¹³

The ICRC also provided a cross-jurisdictional comparison for recycled water, which showed the NWI pricing principles have been adopted in full in several jurisdictions, including Queensland, South Australia, and Western Australia. Other jurisdictions such as NSW have chosen to align with the NWI pricing principles with a focus on ensuring prices recover the costs of supplying the recycled water minus any avoided or deferred costs in the potable water and sewerage systems.¹⁴

For the ACT, Icon Water has stated that it takes into account *NWI Pricing Principles for recycled water and stormwater use* (2010) and the pricing principles outlined by the ICRC in the *Final report: Regulated Water and Sewerage Services Price 2018-23*.¹⁵

2.6 Stormwater from the Inner North Reticulation Network

The INRN is Canberra's first neighbourhood-scale stormwater harvesting and managed aquifer recharge system, constructed with financial support from the ACT and Australian Governments. The system captures urban stormwater in constructed wetlands and treats it before pumping it through a reticulation network for irrigation of urban green spaces.

The INRN provides significant environment, social and economic benefits through reducing inflows of nutrient rich stormwater into Lake Burley Griffin, potentially reducing algal blooms in the lake. It also reduces demands on potable water through providing users with fit-for-purpose stormwater for irrigation.

¹³ ICRC Advice 2021.

¹⁴ ICRC Advice 2021.

¹⁵ Icon Water Submission 2021

TCCSD is responsible for the management of the stormwater network, which includes the management of the INRN.

Fees and charges

For 2021-22, the INRN supplied water to users at a rate of \$4.056 per kilolitre, consisting of the INRN's water usage charge (\$3.742 per kilolitre) and the non-potable WAC (\$0.314 per kilolitre). Income generated from water sales is used for operation and maintenance and to recover capital costs over the life of the infrastructure associated with the INRN.

The price of stormwater from the INRN is based on advice provided by the ICRC in 2009 reflecting the second-tier potable water price at the time. This resulted in an initial price of \$3.32 per kilolitre in 2015-16, which has increased by the WPI each year. This was a transitional price while the INRN became established. The intention is for the price to reflect the full costs of the scheme, after it has been in place for a sufficient period for these costs to be able to be reasonably estimated.

Assistance to community organisations

Community groups such as schools and churches receive a 50 per cent concession on the use of stormwater supplied through the INRN. This concession does not apply to the non-potable WAC charge, which is still required to be paid. The concession mirrors the 50 per cent price discount Icon Water provides to community organisations for potable water.

This assistance is funded by the Government under the Concessions Program.

Arrangements in other jurisdictions

There is less uniformity across jurisdictions in setting stormwater prices as there is a wide variety of stormwater harvesting and reuse schemes that differ significantly depending on particular circumstances in each jurisdiction. A summary of the pricing principles for stormwater reuse products from each jurisdiction can be found in Table C4 of Appendix C.

While there are a number of stormwater harvesting and reuse projects in New South Wales, Victoria, Queensland, and South Australia that are comparable to the INRN, there is limited publicly available information on the prices associated with these networks.

A key issue is that prices must be set to raise sufficient revenue to cover the costs of operation; however, annual revenue can differ from year to year depending on weather conditions, both in terms of supply and demand. It is also important to ensure that the prices charged for stormwater do not exceed that of potable water, as reflected in the fourth pricing principle for recycled water and stormwater use,¹⁶ to ensure that the scheme is economically efficient in the medium to long term.

¹⁶ NRMCC 2010, Page 16. The fourth pricing principle states that "Regard to the price of substitutes (potable water and raw water) may be necessary when setting the upper bound of a price band."

Given these complexities, approaches to regulating stormwater prices differ significantly across jurisdictions. As an example, South Australian utilities are bound to apply pricing principles, consistent with the NWI, and provide pricing statements for stormwater to the independent regulator, whereas New South Wales chose not to establish pricing principles for stormwater. Further information on stormwater harvesting projects and pricing approaches in other Australian jurisdictions can be found in Appendix D.

3 Submissions to the Discussion Paper

Nine submissions to the Discussion Paper were received from a range of stakeholders, as detailed in Table 3.1 below. A summary of each submission can be found at Appendix B.

Table 3.1 – Submissions

Organisation type	No. of submissions	Stakeholders
Golf clubs/associations	3	• GolfNSW and the ACT Monaro District Golf Association • Magpies Belconnen Golf Club (Magpies) • Yowani Country Club
Other groups/associations	3	• ACT Equestrian Association • Australian Sports Turf Managers Association • Phillip Oval Management Group (POMG)
Water service providers	1	• Icon Water
Individuals	2	• Mr Ray Trewin • Mr John McMaster

Overall, the submissions highlight a range of different circumstances faced by high-intensity club users in the ACT which mostly stem from differences in access to non-potable water sources, usage requirements and associated water usage charges.

Some common themes shared across submissions include:

- water related expenses account for only a small proportion of the overall operating costs of most high-intensity club users, roughly 2.5 to 7 per cent;
- the desire for lower non-potable water charges in the ACT, with several submissions highlighting the significantly higher charges ACT organisations face in comparison to their NSW counterparts;
- support for the continuation of Government assistance schemes to provide high-intensity club users subsidised non-potable water in recognition of the community benefits they provide; and
- the desire for additional Government assistance to expand the scope of recycled water and stormwater systems to allow more users to access them, recognising that the option to access cheaper sources of water for irrigation provides a significant economic advantage to many organisations.

Further, the Magpies Belconnen Golf Club (Magpies) highlighted the club's unique circumstances relative to other golf clubs in the ACT, in that its water costs are much higher. Magpies does not have as much access to surface and ground water as other golf clubs and relies on recycled water. Magpies indicated that the cost of recycled water is significantly higher per kilolitre than other forms of non-potable water, which is the case for ground and surface water.

The submission from GolfNSW & AMDGA indicates that ACT golf clubs provide significant benefits to the ACT community that they estimate to be around \$160 million per annum taking into account health, economic, environmental and charitable benefits.

Information and data from the submissions received is referred to throughout the Report in relevant chapters.

4 Review's Approach

Treasury adopted the following framework in assessing whether the current arrangements are appropriate for non-potable water in the ACT. The principles below are in line with the NWI pricing principles that were used by the ICRC in their advice on recycled water, and also cover the additional elements set out in the TOR.

- **Cost recovery / cost allocation** – prices charged for each type of non-potable water should be cost reflective and in line with the NWI assessment principles.
- **Water usage charge** – the inclusion of a water usage charge to promote efficient water use (for example, prices reflecting a scarcity value and environmental costs).
- **Substitutes / differential pricing** – prices charged should have regard to the costs associated with substitutes (for example, other types of non-potable water and potable water) and reflect the differentiation in reliability and quality of the water supply.
- **Assistance and price transparency** – degree of transparency of:
 - assistance provided by the Government (for example, CSO payment for concessions/subsidies); and
 - prices applicable to all consumers, which should reflect the relevant costs to avoid cross subsidisation between users.
- **Financial viability** – the impact of non-potable water costs on high-intensity club users' ongoing financial viability (for example, the proportion of non-potable water costs compared to overall operational costs).
- **Demand and supply volatility** – the impact of non-potable water demand and supply on high-intensity club users and providers of non-potable water.

The NWI is an intergovernmental agreement signed by the Council of Australian Governments (COAG) in 2004 to achieve a more cohesive national approach to the management, planning, and pricing of water.¹⁷

Four sets of pricing principles were developed to assist states and territories in meeting their commitment to the NWI,¹⁸ covering the:

- recovery of capital expenditure;
- setting urban water tariffs;
- recovery of the costs of water planning and management activities; and
- pricing of recycled water and stormwater use.

The principles for 'pricing of recycled water and stormwater use', which includes nine pricing principles set out in Table C1 in Appendix C, are most relevant to the Review. The principles are flexible in recognition of the diverse and evolving nature of recycled water and stormwater reuse products, and the very different circumstances under which these schemes are implemented.¹⁹

¹⁷ The objective of the NWI is to create a nationally compatible market for managing water resources for both rural and urban use that optimises economic, social, and environmental outcomes.

¹⁸ NRMCC 2010, Pages 2-3.

¹⁹ NRMCC 2010, Page 16.

The following approach was adopted to assess these principles :

1. estimate the annual usage of non-potable water by type over time, based past usage volumes and user types;
2. review the relevant capital and operating costs incurred by high-intensity clubs to access, store and purchase non-potable water;
3. review the costs incurred by non-potable water providers and the impact that volatility of demand has on ability to recoup these costs on an annual basis;
4. assess the appropriateness of government assistance measures to date;
5. consider relevant arrangements in other jurisdictions and whether they could be applied in the ACT to achieve the goals set out in the PAGA, including any suggestions made through submissions; and
6. based on the results of the above steps, assess whether any adjustments should be made to the current pricing framework, including government assistance, for all non-potable water users where appropriate.

To obtain information from the interested stakeholders, the Government released a Discussion Paper on the [Yoursay.act.gov.au](https://yoursay.act.gov.au) platform and in addition sought submissions and made data requests to relevant directorates on the following key questions:

- costs to maintain non-potable water infrastructure;
- costs of purchasing non-potable water;
- assistance measures in place or other measures that could be considered;
- key factors impacting on the viability of clubs, including the cost of non-potable water in the short or long term;
- experiences from other jurisdictions; and
- any other matters relating to the costs of supplying non-potable water for high-intensity club users.

Further details on the assessments on each type of non-potable water is set out in the following sections.

4.1 Surface and ground water

To assist the Review's approach and to consider whether any adjustments should be made to surface and ground water related charges, the Report reviewed:

- the user types and consumption levels;
- the revenue, costs and assistances associated with surface and ground water; and
- any relevant cross-jurisdictional experiences that could be adopted in the ACT.

4.2 Recycled water

To assist with the Review's approach and to consider whether any adjustments should be made to recycled water charges in the ACT, the Government commissioned the ICRC to review Icon Water's costs to supply recycled water from the LMWQCC, and to compare these costs to the charges in place.

The ICRC's advice on appropriateness was based on most of the NWI pricing principles and closely aligns with cost-reflective approaches used within a regulatory setting.

4.3 The Inner North Reticulation Network

To assist the Review's approach and to consider whether any adjustments can be made in relation to the INRN charges, the INRN is considered from a financial and economic perspective, taking into account:

- users and their respective consumption levels;
- revenue, costs and associated concessions; and
- any relevant cross-jurisdictional arrangements that could be considered in the ACT.

While a holistic evaluation of the INRN would require consideration of other aspects such as its environmental and social impacts, it is beyond the scope of this Review and will be considered in TCCSD's triple bottom line assessment which is set to occur in 2022.

5 Surface and ground water

Box 1 – Summary of key findings for surface and ground water

- Non-potable water usage and costs for high-intensity club users are closely linked to weather conditions and vary significantly from year to year. The revenue received by the Government and Icon Water from charges for non-potable water is equally volatile.
- Users with access to surface and ground water sources for irrigation purposes, and to a lesser extent recycled water and stormwater, have lower water usage costs than those who only have access to potable water sources for irrigation purposes.
- While water usage costs vary from year to year, they are generally less than 10 per cent of a club's overall costs and do not have a significant impact on the ongoing financial viability of most high-intensity club users. Other factors such as member base, prices charged, and other capital and operating costs can have a greater impact on a club's financial situation.
- Various assistance measures provided by the Government have resulted in golf clubs and rural irrigators paying significantly less for surface and ground water, compared to other users.
- Users of surface and ground water incur the costs associated with infrastructure to store and pump the water for irrigation purposes. The extent of these costs depends on a club's circumstances and are relatively stable over time.
- The charges for ground and surface water (including non-potable WAC) are sufficient to recover direct costs incurred by the Government.
- Charges vary significantly for different groups of surface and ground water users. Most high-intensity club users, including golf clubs, and rural irrigators have not had to pay the non-potable WAC for surface and ground water due to a range of assistance measures, resulting in significant forgone revenue. However, some of the assistance measures for golf clubs have recently ended.
- These concessional arrangements are complex to administer, not as transparent as other concessional arrangements, and result in high administration costs.
- No other jurisdiction charges for surface water collected and stored in infrastructure located on users' premises (e.g. ponds). However, they do have licence arrangements.

5.1 Surface and ground water users and consumption

There are four broad categories of users of surface and ground water in the ACT as shown in Table 5.1 below. The 2019-20 data shows that there are about 13 high-intensity clubs²⁰ and 14 active rural irrigators²¹ that account for over 60 per cent of total surface and ground water usage in 2019-20.

²⁰ High-intensity club users are defined to be clubs licenced by the EPA to take over 3,000 kilolitres of surface and ground water each year.

²¹ This category comprises of rural irrigators receiving the CEP, and include farms, nurseries, and vineyards.

There is significant diversity in 'other' users, with five large users and the remaining being small.²² The large users require a significant amount of water to maintain and carry out their operations and accounted for 23 per cent of total use in 2019-20.

The remaining small 'other' users and ACT Government users together account for the remaining usage of surface and ground water, about 17 per cent of the total surface and groundwater charge in 2019-20.

Table 5.1 – Surface and ground water users²³

Category	No. of users in 2019-20	Total surface and ground water used in 2019-20 (kL)	Average usage in 2019-20 (kL)	Approximate usage range in 2019-20 (kL)
High-intensity Club Users	13	1,152,000 (42%)	89,000	2,000 to 340,000
Rural irrigators receiving the CEP	14 ²⁴	499,000 (18%)	36,000	1,500 to 320,000
ACT Government²⁵	21 ²⁶	179,000 (7%)	89,000	400 to 74,000
Other users	126 ²⁷	909,000 (33%)	10,000	1 to 220,000

Source: EPA WAC data as of May 2021.

Table 5.1 shows the combined surface and ground water usage across all users from 2015-16 to 2019-20. The figure shows that usage varies considerably from year to year for all groups.

Peak usage of about 3.7 million kilolitres occurred in 2017-18 and a trough of 2.7 million kilolitres in 2019-20. While there are a number of factors that drive volatility, the key one is the level of rainfall throughout the year, which impacts on both supply and demand.

Lower levels of rainfall lead to higher levels of demand for surface and ground water, and vice versa.

- Extremely dry weather from January 2017 to December 2019 resulted in higher-than-normal use of non-potable water.
- La Nina weather conditions, with higher rainfall, in January to April 2020 led to lower-than-normal use of non-potable water.²⁸
- Above average rainfall during 2020 and 2021 resulted in little to no commercial supply of non-potable water to golf clubs by the ACT Government or Icon Water.

²² This category is made up of users who do not fall under the other three categories.

²³ Usage figures are rounded to the nearest 1,000 kilolitres.

²⁴ Total number of users are 17, but 3 have no consumption in 2019-20.

²⁵ This category consists of licences held under various ACT Government Directorates, of which a majority belong to the Transport Canberra and City Services Directorate.

²⁶ Total number of users are 21, but 8 have no consumption in 2019-20.

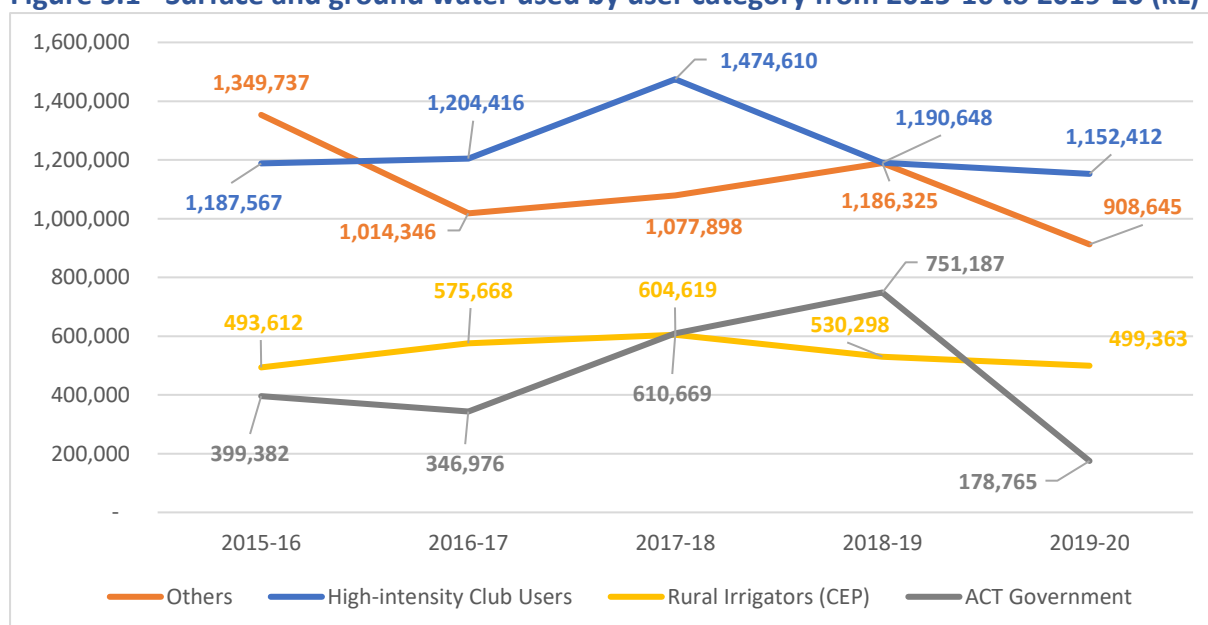
²⁷ Total number of users are 126, but 38 have no consumption in 2019-20.

²⁸ Australian Government Bureau of Meteorology 2020.

Figure 5.1 also shows the proportions of surface and ground water used across the four broad user categories.

- High-intensity club users on average used the most surface and ground water across all categories, accounting for 37 per cent of the total volume of surface water and groundwater used in the ACT over the five-year period.
- Rural irrigators receiving the CEP on average account for 16 per cent of the total usage volume each year.
- On average, high-intensity clubs and rural irrigators consume 54 per cent of the total volume of surface and ground water each year, with the 'other' users and the ACT Government accounting for 33 per cent and 13 per cent, respectively.
- The use of surface and ground water by high-intensity club users and rural irrigators is less volatile than by ACT Government and other users

Figure 5.1 - Surface and ground water used by user category from 2015-16 to 2019-20 (kl)



Source: EPA WAC data as of May 2021

As the cheapest source of non-potable water, ground and surface water use will be maximised before alternatives are used. It should also be noted that most users in the ACT do not have access to alternative sources of non-potable water.

5.2 Non-potable WAC, revenue and costs

Revenue and regulatory costs

Revenue collected for surface and ground water taken under EPA licences from each user category over the past five years was compared with the associated regulatory costs to government.

Due to a significant amount of assistance provided, most of the revenue collected is from 'other' users despite their small proportion of total usage.

The data shows that the ACT Government and ‘other’ users paid on average 90 per cent of all revenue collected over the past five years. On the other hand, high-intensity club users and rural irrigators only paid about 10 per cent of total revenue collected, with a significant portion coming from administration fees.

Revenue associated with surface and ground water comes primarily from the non-potable WAC collected, with the fixed annual administration fee only being a small component. From 2015-16 to 2019-20, average annual non-potable WAC revenue was around \$460,000 and average annual administration fee revenue was around \$80,000. However, this revenue is heavily influenced by weather conditions. From 2015-16 to 2019-20 total charges collected ranged from about \$440,000 to \$620,000.

In terms of the costs to Government in administering the non-potable WAC, the main portion comes from EPA staffing costs, which average about \$130,000 per year. These costs amount to roughly a quarter of the total revenue collected each year, which is not fully covered by the administration costs alone.

There are additional costs of regulating the surface and ground water licences along with their associated subsidy schemes, such as costs incurred by Shared Services and other units within Access Canberra that provide support to the EPA.²⁹ The costs incurred by the Government are primarily fixed.

Feedback on the Discussion Paper

The Review received a number of submissions on how much non-potable water costs contribute to operating costs and the appropriateness of the non-potable WAC for surface and ground water collected and stored in infrastructure located on users’ premises (e.g. ponds).

Feedback from Golf NSW & AMDGA indicated that the annual costs of purchasing non-potable water vary significantly from club to club, ranging “from around \$40,000 to over \$240,000... [which accounts for] 2.5 per cent of total operating costs up to 7 per cent at most clubs.”³⁰ However, for Belconnen Magpies Sports Clubs (Magpies) this percentage is significantly higher at 15 per cent in 2018-19 and about 20 per cent in 2019-20 due to the use of recycled water from the LMWQCC.³¹ Further discussion on the cost of recycled water for Magpies is discussed in Chapter 6.

In their submission, Magpies indicated that surface and ground water accounted for only small proportion of overall costs, as the majority of non-potable water used on the premises is recycled water from the LMWQCC.³²

²⁹ Some of the additional costs relates to Shared Services invoicing costs, Access Canberra finance costs, compliance work associated with debt recovery and breach of licence and audit costs.

³⁰ Golf NSW Submission 2021, Page 9 and 10.

³¹ Golf NSW Submission 2021, Page 10 and Magpies Submission 2021, Page 7.

³² Magpies Submission 2021.

A majority of the submissions indicated that the non-potable WAC is significantly higher than the charges faced by their NSW counterparts.³³ The two main reasons for this are that:

- charges for accessing river and ground water in NSW are much lower than the non-potable WAC; and
- surface water collected and stored on site in NSW does not attract any usage fees.

Table 5.2 was provided by Golf NSW & AMDGA, which shows the significantly higher costs faced by surface and ground water users in the ACT compared to NSW users, depending on the type of user.³⁴ In addition to these figures, INRN equivalent charge per ML is \$3,995 for 2020-21.

Table 5.2 – Comparison of usage charges in NSW and ACT

Usage Based Charges (per ML)		
Jurisdiction/User	Pricing Scheme	Charge per ML
WaterNSW – Bulk Water (Murrumbidgee)	General Security Entitlement Charge + Combined Usage Charge (2016-17 prices)	\$5.33
	Groundwater Water Management charges (2020-21 prices)	\$4.64
ACT Rural Irrigators	Competition Equalisation Payment (ACT) (net cost after assistance to rural irrigators)	\$2-\$8
ACT Golf Clubs	Non-potable WAC (ACT) (under MES – 50 per cent reduction on \$0.305 per kL – 2020-21)	\$152.50
	Treated Effluent network (ACT) (Icon Water at \$2.40 per kL or about 75 percent of tier two potable water price ³⁵ – 2020-21)	\$2,400
	INRN stormwater (ACT) (TCCSD at \$3.995 per kL – 2020-21)	\$3,995

Source: GolfNSW & AMDGA Submission 2021, page 14 and INRN prices for 2020-21.

Further to the table above, IPART has since determined the minimum access charge for 2021-22 is \$221.50. The variable prices relating to non-potable water taken from the Murrumbidgee is \$2.58 per ML for regulated rivers, \$9.47 per ML for unregulated rivers and \$5.04 per ML for ground water.³⁶

A number of submissions provided suggestions on the current framework for surface and ground water:

- Dr Ray Trewin’s submission suggested that the non-potable WAC should adopt NSW’s arrangement of not charging for surface water stored on users’ own land.³⁷
- GolfNSW & AMDGA’s submission suggested adjusting the non-potable WAC rate to more closely reflect the usage-based charges found in NSW, in particular

³³ Golf NSW Submission 2021, Page 14, Magpies Submission 2021, Pages 9 and 16, Ray Trewin’s Submission 2021, Page 2, and John McMaster’s Submission 2021, Page 1.

³⁴ GolfNSW Submission 2021, Page 14.

³⁵ Icon Water 2020, excluding the WAC and UNFT.

³⁶ IPART 2021a, IPART 2021b and IPART 2021c.

³⁷ Dr Ray Trewin Submission 2021.

WaterNSW's bulk water charges for unregulated river water and ground water taken from the Murrumbidgee.³⁸

- Magpies Belconnen Golf Club's submission, which highlighted the greater level of support provided by the NSW Government to golf courses in the NSW, stated that:³⁹
 - Queanbeyan Golf Course access water from the Queanbeyan River, just prior to entering the ACT water system, in what is understood to be a small license fee of \$300 per 10 years, 0.9 cents per kilolitre to an agreed volume per license, equating to a total cost of less than \$1,000 per year; and
 - Yass Golf Course operates with free access to the Yass River and pumps directly for use on the Golf Course.

5.3 Government assistance programs

As outlined in Chapter 2, the Government provides a range of assistance programs to a number of surface and ground water users. Viewed overall, these assistance measures result in golf clubs and rural irrigators paying significantly less for surface and ground water, compared to other users.

MES, Infrastructure Offset Scheme and CEP

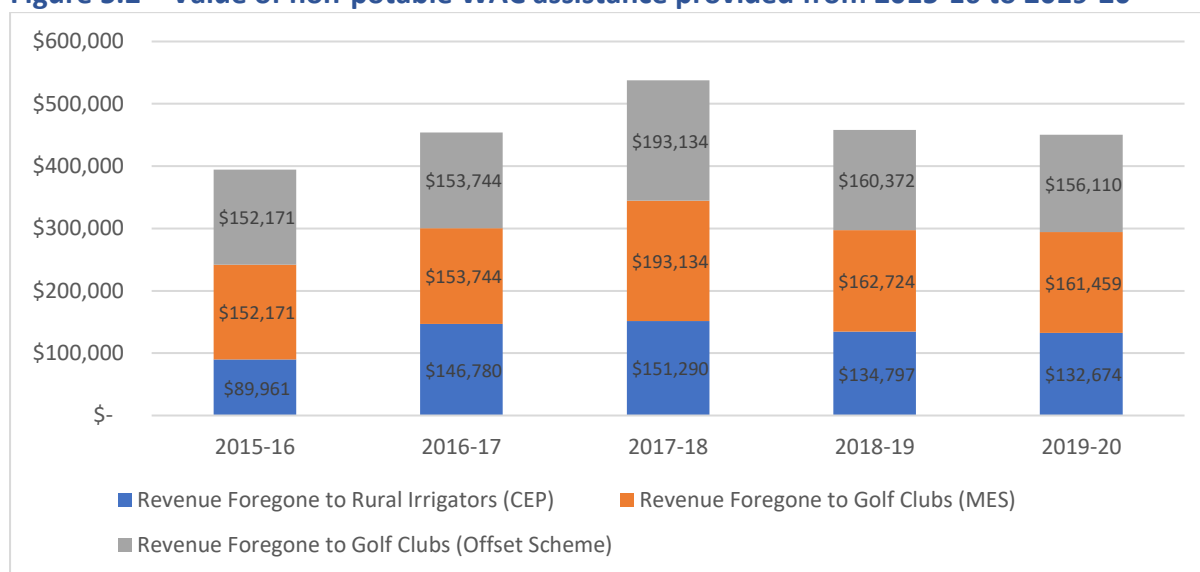
Figure 5.2 compares the total amount of assistance provided under the MES, Infrastructure Offset Scheme and CEP to users from 2015-16 to 2019-20 and the actual non-potable WAC collected, which shows:

- About 50 per cent of the total non-potable WAC charges from 2015-16 to 2019-20 are not collected by the ACT Government as a result of assistance provided through the CEP, MES and Infrastructure Offset Scheme.
- As a result of the CEP, MES and the Infrastructure Offset Scheme, 90 per cent of all the non-potable WAC collected each year comes from ACT Government users and other users.
- Golf clubs receive a majority, about 75 per cent, of the total subsidies provided each year through the MES and the Infrastructure Offset Scheme.
- Rural irrigators receiving the CEP account for roughly 25 per cent of the total assistance provided by the ACT Government each year.

³⁸ GolfNSW and AMDGA Submission 2021, Page 14.

³⁹ Magpies Submission 2021, Page 13.

Figure 5.2 – Value of non-potable WAC assistance provided from 2015-16 to 2019-20



Source: EPA WAC data as of May 2021

The CEP and Infrastructure Offset Scheme are complex to administer relative to the MES and the amount of assistance provided. For example:

- For the CEP – each year, rural irrigators are required to submit an application to the EPA to determine their eligibility for the CEP. The process includes checking how the water was used, to ensure it aligns with those specified in the scheme.
- For the Infrastructure Offset Scheme – the EPA had to manually keep track and deduct the non-potable WAC charged from the available offset amount for each golf club before invoices could be finalised each year. Also, the EPA undertook the initial assessment process to determine which infrastructure projects would be eligible. Projects from 2002 were considered and then the offsets were monitored and backdated appropriately.
- For the MES – the EPA automatically applies the 50 per cent discount on non-potable water applicable to golf clubs' invoices in the year prior to applying any offsets available to the club.

The CEP has been in place for over twenty years, providing significant discounts to rural irrigators for agricultural production. The higher level of assistance under the CEP is for agricultural producers who are in direct competition with similar NSW businesses. However, the administration of the CEP is relatively complex as it requires applications and declaration by users each year.

While the Infrastructure Offset Scheme has compensated golf clubs for investments in water saving infrastructure, its effectiveness in promoting greater water security and less reliance on potable water is unclear as the scheme applied to infrastructure investments that were made prior to its introduction.

As of 1 July 2020, \$2.9 million in offsets had not been claimed under the Infrastructure Offset Scheme. Although this suggests that golf clubs have invested a significant amount of resources to reduce their reliance on potable water or more expensive non-potable sources,

further analysis shows that most of this amount applies to half of the eligible golf clubs. The other half have already exhausted or are close to exhausting their available offset amounts.

This highlights an equity issue with the Infrastructure Offset Scheme, where larger clubs have had greater opportunities and more funding available to invest in infrastructure.

The MES was introduced on the basis of providing water price parity with NSW golf clubs. However, the extent to which Canberra golf clubs eligible for the MES are in direct competition with those in NSW is subject to some debate given that membership and choices of where to play golf are influenced by a range of factors other than the price.

Further, the MES has provided significant discounts to a selected cohort of high-intensity club users, and allowed offsets to be claimed for an extended time period.

Both the CEP and MES provide assistance to a selected cohort of users regardless of their circumstances, and could be modified to ensure assistance is targeted towards those most in need.

Feedback on the Discussion Paper

GolfNSW & AMDGA have acknowledged that ACT golf clubs have benefited from both the MES and the Infrastructure Offset Scheme, stating that:

“The general consensus amongst golf clubs is that the discount provided through the current Market Equity Scheme [MES] reduces costs for clubs, and the Infrastructure Offset Scheme incentivises clubs to invest in and develop water infrastructure.

...

Golf clubs in the ACT recognise the benefits of being able to offset infrastructure investment costs against the charges for accessing non-potable water. Such an arrangement incentivises clubs to make prudent investments in water management strategies. Off-set arrangements are seen as important and easily managed. Consideration should be given to the retention of proven off-set schemes (where appropriate) as well as consideration of new off-set arrangements.”⁴⁰

However, as noted earlier, they suggested similar prices currently available to rural irrigators under the CEP be made available to ACT golf clubs to reflect prices faced by NSW counterparts.

5.4 Ongoing operating and maintenance costs of infrastructure

The Discussion Paper sought feedback from high-intensity club users on the costs incurred in accessing surface and ground water, in addition to the non-potable WAC and administration fee paid. There are a range of ongoing operating and maintenance costs relating to pumps, storage tanks, dams and ponds.

⁴⁰ GolfNSW & AMDGA Submission 2021, Page 12.

Feedback on the Discussion Paper

The Review received a range of submissions with information about the non-potable water infrastructure costs for high-intensity club users.

The GolfNSW & AMDGA indicated that:⁴¹

“The annual costs of operating and maintaining non-potable water infrastructure vary, ranging from as low as \$2,000 to over \$75,000 for each club per annum.

In total, the clubs involved in this submission spend, on average, approximately \$24,000 per annum, per club...

...

While the data provided demonstrates there are not significant changes year-on-year, there are a number of factors which influence operating and maintenance expenditure.

These include:

- Weather and rainfall.
- Machinery/equipment failure.
- Capital investment into new water management initiatives.”

In addition, Magpies’ response indicated that its annual costs to maintain infrastructure for non-potable water was \$35,000 in 2018-20 and \$39,000 in 2019-20, which covered electricity costs, irrigation repairs, pump maintenance, desilting of the dam to increase storage.⁴²

For a smaller high-intensity club user like ACT Equestrian Association (ACTEA), there are one-off infrastructure costs associated with purchasing a new pump, battery and irrigator which total about \$6,300. Ongoing costs for the ACTEA are attributed to the cost of diesel used to operate the pump, which typically amounts to \$400 to \$700 each year.

5.5 Capacity to expand non-potable water infrastructure

The Review also sought feedback about clubs’ capacity to expand surface and ground water infrastructure.

The extent to which clubs can expand capacity depends on a range of factors as outlined in the next chapter.

Feedback on the Discussion Paper

There were a range of responses but generally the capacity to expand varies considerably depending on factors including:

- the topography of the site;
- availability of land to accommodate the infrastructure upgrade; and
- access to capital for investment in infrastructure.

⁴¹ GolfNSW & AMDGA Submission 2021, Page 8, figures exclude depreciation costs and relate to cash outlays only.

⁴² Magpies Submission 2021, Page 5.

For example, Magpies has indicated there is land available to increase capacity to expand dams and water storages, but:

“The excessive water pricing and the resulting uncertainty on our financial future has meant we have been unable to consider longer term investment in water infrastructure.”

Mr John McMaster, the Captain of the Magpies, also indicated that Magpies has:⁴³

“...limited financial capacity to undertake such works and the course owner has no interest in such matters. Without such financial injects, we have no capacity to upgrade our water storage capabilities and must rely on...the LMWQCC.”

Similarly, Phillip Oval Management Group (POMG) indicated that:

“...[it is] unable to access non-potable water...POMG would support the extension of non-potable network to the Phillip Oval precinct as this would enable POMG to utilise non-potable water, rather than potable water as this finite resource is wasted on turf irrigation.”

ACTEA also stated with regards to the costs of infrastructure that:

“Most of these costs are beyond the capacity of a non-for-profit volunteer organisation.”

ASTMA was also supportive of additional investment into non-potable water sources, and suggested prioritising the accessibility of recycled water and associated storage dams to create meaningful capacity for irrigation purposes:

“...all of which are considered opportunities to help secure the long-term effective management of water resources and maintaining economic viability of Golf Clubs and Sportfields in the ACT.”

Further, Dr Ray Trewin stated that while there is capacity to increase non-potable water infrastructure at the Royal Canberra Golf Club through the use of less water-demanding grasses, this should not be undertaken without some form of assistance under the current economic circumstances.⁴⁴

Feedback provided by GolfNSW & AMDGA on behalf of its members indicated the following for upgrading infrastructure on premises:

“The cost of implementing these measures is significant for any clubs, ranging from \$150,000...to \$3 million for full resowing of drought tolerant grasses across courses.

In some instances, clubs must cover the significant capital expenditure required through a levy on each round of golf. Generally, this is only viable for projects of up to \$100,000, after which the cost to play becomes a barrier to participation. This makes the sport less accessible to the local community and impacts the ongoing financial viability of clubs.”

⁴³ Mr John McMaster Submission, Page 2.

⁴⁴ Dr Ray Trewin Submission, Page 2.

On the other hand, Yowani and Royal Canberra Golf Club have made significant investments of \$1.5 million and \$2.3 million in the past, respectively.⁴⁵ Yowani also indicated future commitments of around \$1 million to construct two extra storage dams to increase its water storage and usage capabilities, to ultimately eliminate its reliance on town water supplies.⁴⁶

5.6 Cross-jurisdictional Analysis

Chapter 2.4 of the Report provides background information on arrangements in other jurisdictions for charging surface and ground water, which shows that most jurisdictions do not include a volumetric charge, and if they do, it is not for water collected and stored by the user.

Chapter 5.2 shows examples provided in submissions that understandably are focused on arrangements in areas close to Canberra and NSW more broadly. These examples show that the ACT charges are significantly higher, noting that there have been assistance programs in place that in most cases effectively mean the variable charge does not apply to rural irrigators or golf clubs.

The submissions generally supported an adjustment in the prices to be reflective of NSW to provide parity across the border and to acknowledge the additional benefits such as social, health and environment.

5.7 Appropriateness of the current framework for surface and ground water

To date the arrangements for surface and ground water do not seem to have adversely impacted any high-intensity club users since the introduction of the non-potable WAC in 2006, largely as a result of the targeted assistance measures.

The analysis shows that current arrangements are complex and expensive to administer and provide high levels of discounts to selected users. Assistance measures are not transparent and have undermined the policy intent of the non-potable WAC that seeks to reflect the environmental costs and scarcity value of surface and ground water.

Submissions to the Discussion Paper highlight the costs incurred by surface and ground water users in accessing this water source. These costs include maintaining, expanding and operating their infrastructure and equipment. The submissions conclude that these costs, along with the surface and ground water charges will place an unreasonable cost burden on golf clubs.

The submissions argue that the Government should continue financial assistance measures to offset the surface and ground water charges in recognition of the range of benefits that community clubs provide.

The submissions also make comparisons with other jurisdictions noting fixed annual fees are set on a user-pays principle, but only to recover costs around water licence monitoring and compliance activities.

⁴⁵ GolfNSW Submission 2021, Page 11.

⁴⁶ Yowani Submission 2021, Page 2.

Implementing such changes in the ACT would be a significant departure from the non-potable water framework currently operating that provides price signals to reflect the environmental impact and scarcity value of surface and ground water use.

It is possible to make improvements to equity within the existing non-potable water policy framework by increasing the licensing fee to ensure that all users contribute equally to cover the fixed costs. This could be accompanied by a lower non-potable WAC to cover the environmental and scarcity costs.⁴⁷

Increasing the transparency of the current assistance measures and ensuring that they are targeted to those users most in need of support would also improve the current arrangements. Noting the impact of weather conditions on the supply and demand for non-potable water, the need for assistance could be considered on a case-by-case basis in drier seasons. This would take into account individual circumstances of each user, such as their capacity to access ground and surface water, overall demand for potable water or more expensive non-potable water sources and the level of community benefits they provide. This could be implemented in the same way as other assistance measures, by establishing clear eligibility criteria for the assessment process and with the amount of assistance provided by the Government reported annually.

⁴⁷ It is important to note that any adjustments made to the non-potable WAC would stand to directly impact the overall prices for stormwater supplied by the INRN, given that the non-potable WAC that applies to TCCS is currently treated as a direct pass-through cost.

6 Recycled Water Supplied by Icon Water

Box 2 – Summary of key findings for recycled water supplied by Icon Water

- Recycled water supply costs are relatively fixed each year. This includes costs associated with the pumps and pipes required to transport the recycled water to the end user.
- Icon Water takes into account the NWI and ICRC pricing principles when setting non-potable water prices, and these are broadly cost reflective. However, prices reflect the cost of infrastructure that was built for a greater capacity than current usage. As a result, the water usage costs for recycled water are higher than those for surface and ground water.
- Some jurisdictions have either explicitly adopted NWI pricing principles for recycled water pricing or use them as guiding pricing principles.

6.1 Summary of ICRC's final report

The ICRC's analysis was based on commercially sensitive data from Icon Water, and the report was provided in confidence to Treasury. The information is based on the only facility in the ACT that actively recycles water and supplies recycled water to users on a commercial basis. Further, the network only has one current user – Belconnen Magpies Golf Club.⁴⁸

The key findings from the ICRC's advice are:⁴⁹

- recycled water from LMWQCC is a by-product of treating wastewater and there are no additional costs to produce recycled water;
- costs to supply recycled water relate to common or dedicated infrastructure and are largely fixed, such as pumps, storage tanks and pipes;
- in addition to the supply related infrastructure costs, there are also small variable costs that depend on usage and corporate overheads for billing, contract negotiation and annual price updates;
- Icon Water's prices are reflective of the total relevant costs of supplying recycled water from the LMWQCC to its user(s);
- prices are transparent and clearly listed in the contract between Icon Water and the Magpies;
- the prices are based on a network with a larger capacity than what is required at present for the current user;
- there were multiple users in the past and costs were shared between them, but since 2010 only one user has continued to use recycled water from the LMWQCC; and
- most jurisdictions in Australia, including the ACT, have adopted the NWI pricing principles, with the exception of NSW and Victoria.

In addition, the ICRC advised that based on NWI principles, recycled water prices could be adjusted to recognise the size of the network needed for the current user, which would result in a lower price than what is currently being charged.

⁴⁸ Magpies Submission 2021, page 10 and Icon Water Submission 2021, page 1.

⁴⁹ ICRC 2021.

This approach is in line with what would apply in a regulated market where only the prudent and efficient costs of production are able to be recovered. However, as Icon Water are operating in a commercial environment the costs charged are reasonable and lower than those in the INRN.

Alternatively, the Government could consider paying a subsidy to ensure that price paid by users reflects the smaller size of the network that would be required to deliver this service. Further discussion on these options is made later in Chapter 8.

6.2 Cost-reflective prices versus usage

As noted, weather conditions are a significant contributor to how much water is used each year, and whether the source is potable or non-potable water. The ICRC also advised that water usage is seasonal and most water is used in the summer months of December, January, February and December.⁵⁰

Coupled with the relatively high fixed costs of supplying recycled water, this means that cost-reflective prices in any given year based on actual usage would vary significantly more than other sources. For example, 2019 was a very dry year and 2020 significantly wetter year.⁵¹ During this period, Magpies used about 76,000 kilolitres of recycled water in 2019-20 but estimated in its submission that usage could be less than 25,000 kilolitres in 2020-21.⁵²

This shows that while costs are largely fixed, usage is the only other major factor that would influence what a cost-reflective price would be in any given year and that it is quite volatile year on year. For illustrative purposes, if 2020-21 usage was 25,000 kilolitres then Icon Water's recycled water price would need to more than double to recover the relevant costs in that period.⁵³

Alternatively, if usage was to increase to pre-2010 levels where there were other users of the network and average annual usage was over triple current usage, prices could fall to a third of current prices.⁵⁴

As these examples show, it would be difficult to set a cost-reflective price that was appropriate from year to year. Therefore, a balance needs to be struck when setting prices to provide certainty on what prices are on a long-term basis and the recovery of costs through these prices.

Overall, the ICRC's advice shows that Icon Water has been charging prices reflective of relevant supply costs, notwithstanding the difficulties in setting prices that are

⁵⁰ ICRC 2021, Page 20.

⁵¹ Icon Water website accessed 24 June 2021: [Water Storage Levels | Icon Water](#)

⁵² Magpies Submission 2021, Page 7.

⁵³ Magpies Submission, Page 7. Recycled water usage for 2019-20 was 76,871 kilolitres, and for 2020-21, it is estimated at less than 25,000. The magnitude of change in prices assumes the current price are largely fixed and changes in volumes reflects a commensurable change in price.

⁵⁴ The magnitude of change in prices assumes the current price are largely fixed and changes in volumes reflects a commensurable change in price.

cost-reflective given that revenue is contingent on usage levels linked to a low customer base.

Feedback on the Discussion Paper

Magpies' submission indicates significant increases in recycled water prices for Magpies from \$0.09 per kilolitre in 2006 to \$2.40 per kilolitre in 2020-21, and that other ACT golf clubs' net water costs are at least 90 per cent lower.⁵⁵

Magpies' submission outlined significant increases in total non-potable water costs since 2006, from 2.5 per cent of total operating costs in 2006 to 20 per cent in 2019-20. For 2019-20, Magpies' annual water usage costs from the LMWQCC and non-potable water charges amounted to \$151,111, which is a \$56,000 increase from 2018-19 when total usage fell between the years.⁵⁶

GolfNSW & AMDGA stated that:⁵⁷

"Investigation should occur ascertain if clubs that have a current reliance on recycled water might be able to access other forms of non-potable water directly through the recycled infrastructure, i.e. in the case of Magpies Belconnen Golf Club, if they could receive river water through the pipe currently carrying recycled water."

While river water (surface water) attracts a lower non-potable WAC per kilolitre, the price charged by Icon Water reflects the costs associated with supplying the water from the treatment plant to Magpies and does not include any costs associated with treating sewerage water to a higher standard for release. Therefore, if the same pipe and pumps were used to supply an alternative source like river water, similar costs would be incurred by the Magpies.

The Magpies also indicated:⁵⁸

"most ACT golf clubs net water costs are at least 90% lower than the costs paid by Magpies. Unless LMWQCC pricing is brought in line with WAC, or the MES is amended to allow for the LMWQCC pricing, then the assistance measures will continue to fail in their objectives to provide an even playing field across ACT and local NSW clubs."

The submissions received and analysis of the data show that Magpies are in a unique location and the club has limited access to lower cost non-potable water sources like surface and ground water for irrigation purposes. The situation facing Magpies does not appear to affect any other ACT golf clubs, but would affect other organisations like POMG that use potable water for irrigation purposes.

Since the time of Magpies' April 2021 submission, Icon has reverted the price for recycled water for Magpies from a lower customised price of \$2.40 per kilolitre back to the standard recycled water price of \$3.14 per kilolitre. However, the higher standard price for recycled water remains below the \$4.056 per kilolitre paid by INRN users.

⁵⁵ Magpies Submission 2021, Page 7.

⁵⁶ Magpies Submission 2021.

⁵⁷ GolfNSW and AMDGA Submission 2021.

⁵⁸ Magpies Submission 2021.

6.3 Cross-jurisdictional Analysis

The ICRC provided a summary of the approaches used in other jurisdictions in Australia, which largely reflected NWI pricing principles being adopted. Chapter 2 provides further background on other jurisdictions in Australia and the extent at which NWI principles have been adopted.

Other jurisdictions provide some regulatory framework around how recycled water prices are set. Approaches range from a light touch approach to ensure pricing principles are adhered to (Essential Services Commission in Victoria), to a heavier regulatory approach of requiring proposals to be submitted each regulatory period (Essential Service Commission of South Australia).

Icon Water outlined in its submission that:⁵⁹

“In setting its non-potable water prices, Icon Water takes in to account the National Water Initiatives (NWI) *Pricing Principles for recycled water and stormwater use (2010)* and the pricing principles outlined by the ICRC in their *Final report: Regulated water and sewerage services price 2018-23*.

...

We recommend any future pricing framework for determining recycled water prices continue to align with the NWI and ICRC pricing principles. This could be achieved by maintaining the current approach of Icon Water setting recycled water prices or alternatively, given the complexity of separating assets on the regulatory asset base, it may be considered appropriate for CMTEDD to recommend that non-potable water prices be regulated through the ICRC.”

While Icon Water notes that non-potable water such as recycled water could be regulated by the ICRC, there is not a strong case for regulation because prices are broadly reflective of the costs and have regard to the NWI and the ICRC pricing principles.

If this service was regulated it could result in higher prices, noting the very small customer based and volatility of demand. Price regulation would also impose additional regulatory costs on the community.

6.4 Appropriateness of current prices for recycled water from the LMWQCC

The setting of prices for recycled water from LMWQCC is not within the Government’s remit as it is not a regulated market. Therefore, the current framework for recycled water is a commercial arrangement between Icon Water and its user. However, the Review has received a number of submissions about the significant costs incurred by the Magpies and the impact on their ongoing viability.

This is particularly the case in extreme weather conditions where for example very dry weather results in the less supply of ground and surface water and the need to use significantly more water. It also potentially widens the gap between the Magpies and other

⁵⁹ Icon Water Submission 2021.

users that are able to access greater amounts of surface and ground water, which cost significantly less even if the full non-potable WAC is charged.

While the cost of recycled water is significantly more than surface and ground water, the cost per kilolitre is lower than stormwater under the INRN used by other irrigators or those required to use potable water as they do not have access to recycled water sources.

As set out in ICRC's advice, the current recycled water prices means that while Icon Water does recover its full costs associated with providing the service and reflect an oversized network for the current user as Icon Water has lost users over the years.

In response to ICRC's advice, the Government could choose to:

1. do nothing as Icon Water's price were reflective of the full costs;
2. regulate recycled water prices to be consistent with ICRC's advice going forward;
3. provide a transparent concession through community service obligation payments to enable Icon Water to recover the full costs, but also ensure users are charged the prices reflecting the size of the network for the current user(s); or
4. in considering the significant volatility in water demand, provide some form of assistance in periods of extreme weather conditions to those users with limited access to lower cost surface or ground water that provide significant social benefits to the community.

The extreme volatility in weather conditions and resulting demand for recycled water suggests there is a case to adjust the current arrangements to address the issues raised in this Review. The 'do nothing option' does not appear to be viable.

The NWI pricing principles assist consideration of approaches to water regulation. Those principles note that light handed and flexible regulation is preferred, than formal price regulation, as it is generally more cost-efficient.⁶⁰

Regulation of recycled water prices would also require a significant resourcing in a market with only a few users. The demand of recycled water is extremely volatile depending on weather conditions and in some years this can be zero.

Viewed overall, there is limited merit in regulating recycled water prices and it would likely not be cost-efficient due to significant costs that are incurred.

There could be some merit for the Government to further consider the third and fourth options above to be consistent with the NWI pricing principles of having light handed and flexible regulation, while also targeting assistance when most appropriate.

Providing assistance in times of need would acknowledge the impact of extreme weather that results in some years being particularly dry with some clubs incurring significant costs in purchasing recycled water compared to other clubs depending on the club's topography and

⁶⁰ NRMCMC 2010.

ability to access non-potable water. The clubs that incur more significant costs generally have limited access to ground and surface water compared to other clubs.

Therefore, in recognising the economic, community and social benefits to the ACT economy, there could be merit for the Government to consider providing assistance to those that provide social benefits to the community as a whole with limited access to lower cost surface or ground water, and/or also limiting assistance to periods of extreme weather conditions.

While potable water club users have not been captured in this Review specifically, any assistance provided to clubs for recycled water may also warrant being extended to potable water club users for equity reasons. Moreover, any assistance to non-potable water user clubs should also be consistent with the general principles underlying government support and not seek to offset the normal variability in operational costs and revenues.

The merits of the options mentioned above would require further consideration by the Government as there are unique circumstances facing Magpies and other clubs using potable water for irrigation purposes.

7 The Inner North Reticulation Network

Box 3 – Summary of key findings for stormwater supplied by the INRN

- Stormwater usage and costs for high-intensity club users are closely linked to weather conditions and vary significantly from year to year. The revenue received by the Government from charges for non-potable water is equally volatile.
- Users with access to surface and ground water sources for irrigation purposes, and to a lesser extent recycled water and stormwater, have lower water usage costs than those who only have access to potable water sources for irrigation purposes.
- Prices for INRN stormwater were initially set having regard to the tier two price of potable water and subsequently indexed by the WPI each year.
- Given volatility in stormwater usage, prices for INRN stormwater are broadly cost reflective, but have not fully recovered the associated costs since inception.
- Some jurisdictions have either explicitly adopted NWI pricing principles for stormwater pricing or use them as guiding pricing principles.

7.1 INRN users and consumption

The INRN supplies stormwater to its users who have water storage tanks to receive and store the stormwater before it is pumped into their irrigation systems. The three broad user categories include the ACT Government, high intensity club users and ‘others’.

As shown in Table 7.1, there has not been a significant increase in the INRN’s customer base since it commenced operations in 2015-16. This base consists of 10 ACT Government entities belonging to either the Education Directorate or Economic Development (Sports and Recreation) within CMTEDD, two high-intensity club users (Yowani Golf Club and the Canberra Racing Club) and four other private entities.

Only two additional users have been added to the INRN since its inception, both being private entities grouped under the ‘others’ category.

Table 7.1 Users of the INRN in 2015-16 and 2019-20

Category	No. of users in 2015-16	Proportion of water use in 2015-16 (%)	No. of users in 2019-20	Proportion of water use in 2019-20 (%)
High-intensity Club Users	2	24	2	22
ACT Government	10	63	10	77
Others	4	13	6	1

Source: ACT Government data on INRN.

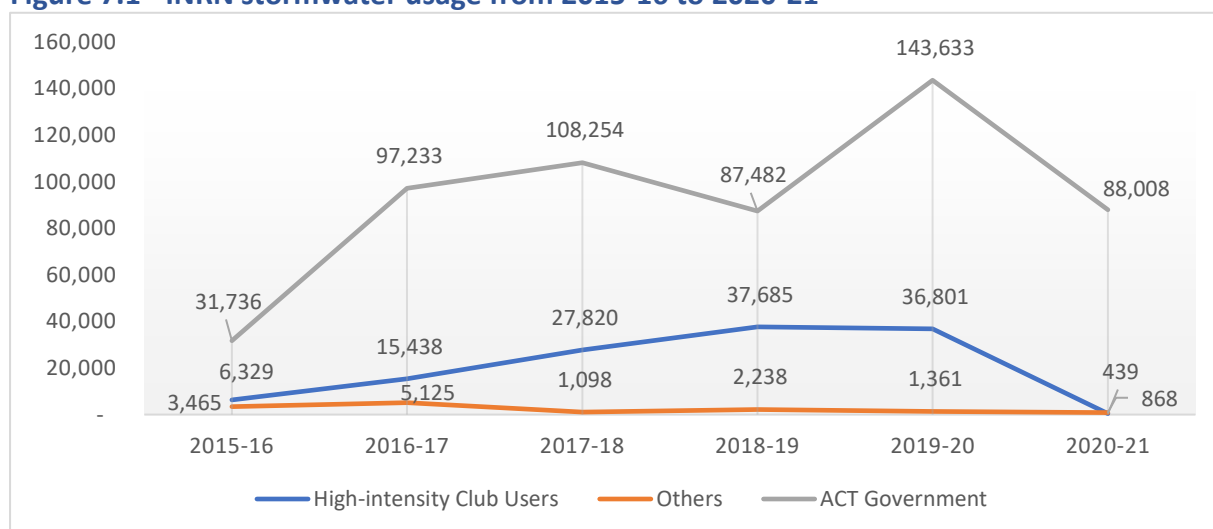
Figure 7.1 shows stormwater usage across all users from 2015-16 through to 2020-21⁶¹. The INRN saw little usage in 2015-16 as the network was not fully operational, but since then, usage has risen steadily until 2019-20, suggesting that users have opted to use water from the INRN on a more frequent basis. The increase in usage is also likely due to the dry period

⁶¹ Usage figures in 2020-21 have been estimated based on usage data recorded in the first three quarters of the financial year.

leading up to 2020,⁶² which provided high-intensity club users with an alternative supply of non-potable water for irrigation once their own source of surface and ground water ran dry.

The ACT Government has been the primary user of the INRN, using on average about 80 per cent of the total amount of water supplied by the INRN across all years. The other two categories, high-intensity club users and 'others' have on average accounted for about 18 per cent and 2 per cent of total usage respectively.

Figure 7.1 - INRN stormwater usage from 2015-16 to 2020-21



Source: TCCSD data as of May 2021.

The large fall in usage across all user categories in 2020-21 is the result of weather conditions and rainfall on usage, as 2020-21 was an extremely wet period, with total rainfall recorded in August 2020 being the highest the ACT has experienced in the past 20 years.⁶³

Where INRN users have access to multiple sources of non-potable water, such as the two high-intensity club users that have access to their own surface water and ground water, they would opt to exhaust the lower priced source first. This is shown through the extreme fall in water used by high-intensity club users, from 36,801 kilolitres in 2019-20 to 439 kilolitres in 2020-21.

7.2 Revenue and Costs

Revenue and Government assistance programs

As outlined in Chapter 2.6, users of the INRN pay a usage charge and the non-potable WAC. The INRN's usage charge is by far the larger of the two revenue streams, accounting for over 90 per cent of the total revenue collected each year.

The ACT Government currently provides schools with a 50 per cent concession on their INRN usage charge. Since 2015-16, the INRN has provided water to three schools. Of the three schools, only one used over 100 kilolitres in any single year, with the other two using

⁶² Australian Government Bureau of Meteorology 2020.

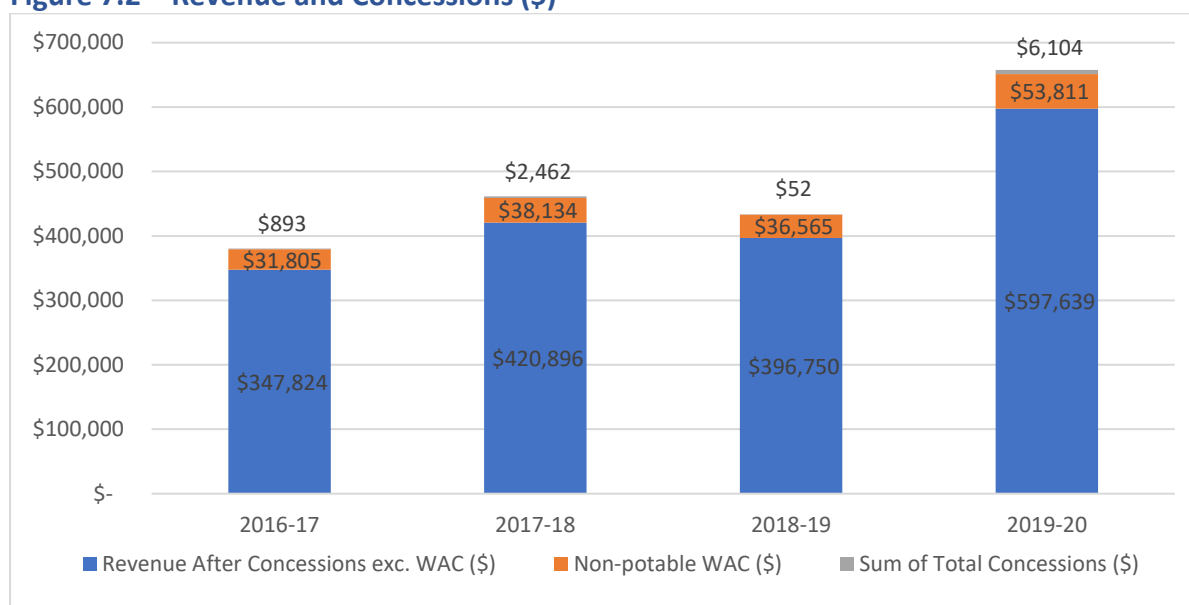
⁶³ Australian Government Bureau of Meteorology 2021.

negligible amounts. Given the low overall usage, the total amount of concessions provided has been relatively small.

Figure 7.2 shows the total revenue collected through both the INRN usage charge and the non-potable WAC, from 2016-17 to 2019-20.⁶⁴ It also shows the assistance provided to schools as part of the 50 per cent discount on their INRN usage charges.

- on average, the annual concession amount provided by the ACT Government to schools was \$2,378 accounting for less than one per cent of total INRN usage charges;
- the average revenue collected through INRN charges each year was approximately \$440,000; and
- the non-potable WAC revenue collected averaged around \$40,000 per year.

Figure 7.2 – Revenue and Concessions (\$)



Source: TCCSD data as of May 2021

Total revenue collected by the INRN is highly dependent on weather conditions, with high levels of rainfall experienced in 2020-21 leading to lower revenue than the previous four financial years which were relatively drier. The data also highlights that given the INRN's small customer base, decisions by individual users to access alternative water sources⁶⁵ could have a significant impact on the total revenue collected.

Overall, in terms of revenue, the INRN faces similar issues as recycled water, whereby volatility in usage, a small customer base and weather conditions significantly affect revenue.

⁶⁴ The total revenue for 2020-21 has been estimated based on usage figures recorded for the first three quarters.

⁶⁵ Yowani Submission 2021.

INRN costs

The INRN's costs comprise primarily of operating and maintenance costs, depreciation costs and staffing costs.⁶⁶ A number of key observations include:

- The largest contributor to the INRN's total cost in most years has been its operation and maintenance costs, which account for approximately 43 per cent of total costs. This cost has varied significantly each year due as it depends on usage levels and the need for maintenance to the network.
- Depreciation costs make up the second largest component of total costs, and account for around 39 per cent. These costs are calculated based on a number of infrastructure assets which directly relate to the INRN's water supply elements, such as the pumps and pipes used to supply water to users.
- Staffing costs for the INRN have averaged \$75,000 each year and account for 12 per cent of the total costs each year.
- Other minor components include the non-potable WAC costs, overhead costs that account for less than 1 per cent of total costs and regulatory costs incurred by the Utilities Technical Regulator.

Total revenue and cost comparison

Figure 7.3 compares the total revenue and costs associated with the INRN from 2016-17 to 2019-20, with total revenue being consistently lower than total costs⁶⁷ and an average deficit of \$157,925 each year. One of the primary reasons for this is that the total costs associated with the INRN are attributed to variable costs associated with operational and maintenance costs, which are positively correlated with usage. This differs from other sources of non-potable water whose costs comprise mostly of fixed costs (staffing costs for surface and groundwater, and capital infrastructure costs for recycled water).

As a result, it is unlikely that an increase in usage will guarantee a net positive outcome, and a better understanding of the relationship between operation and maintenance costs and total usage would be necessary in setting a cost-reflective price.

⁶⁶ INRN costs reported are broadly indicative and will be further investigated as part of the triple bottom line assessment in 2022.

⁶⁷ The revenue and costs for 2015-16 have been omitted due to the INRN not being fully functional till 2016-17. Similarly, 2020-21 has been excluded due to the lack of complete data for the whole financial year.

Figure 7.3 – Revenue and cost comparison



Source: TCCSD data as of May 2021

Comparison of the per kilolitre costs and revenue of supplying non-potable water

Given that the original intention for the INRN was to allow any income generated from water sales to fund its operation and maintenance costs, while also recovering capital costs over the life of its infrastructure, charges should be set to be cost-reflective.⁶⁸

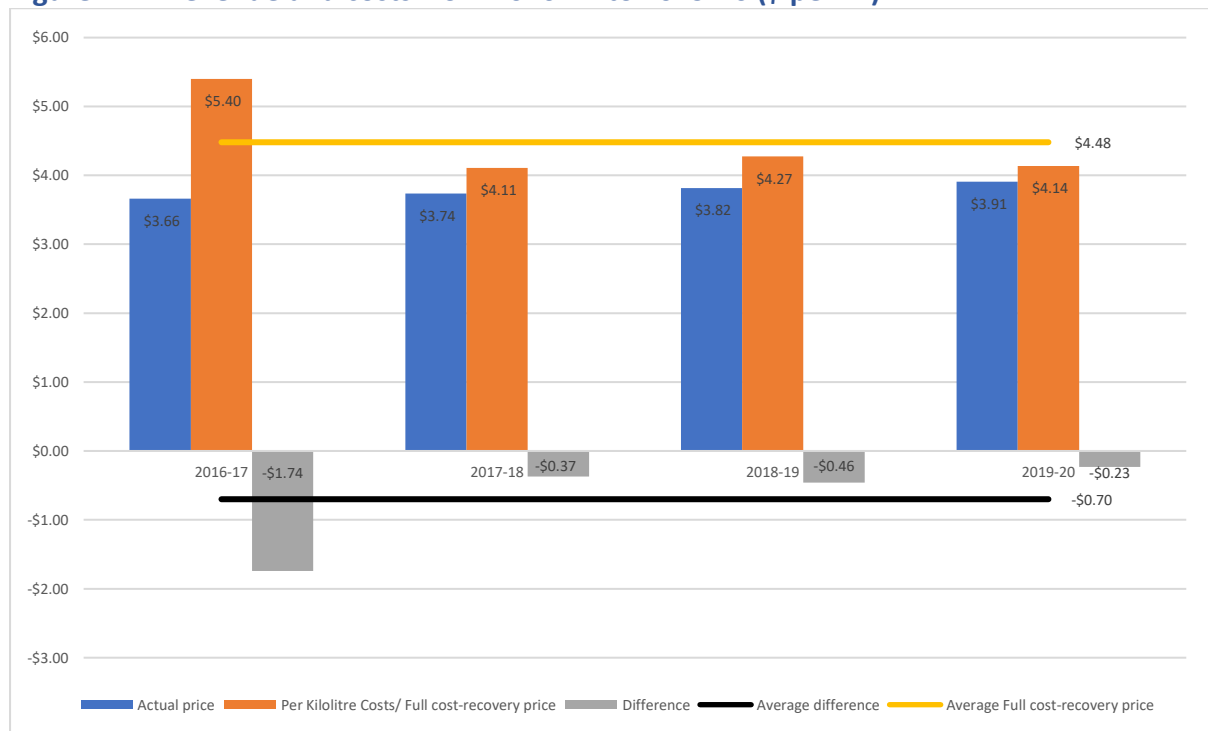
Figure 7.4 compares the actual price to purchase stormwater from the INRN each year to the full-cost recovery price necessary for the INRN to recuperate its total costs. It shows that:

- While actual prices have been consistently lower than the full-cost recovery price in all four years since the INRN was made operational, the difference in prices has narrowed significantly.
 - On average there has been a \$0.70 per kilolitre deficit each year.
- The average full-cost recovery price across the four years is estimated to be \$4.48 per kilolitre, which includes the non-potable WAC costs.
 - However, recognising that financial data and expected consumption volumes for the INRN are currently limited, this average price is not sufficient to determine a long-term price, although it indicates that current prices are not cost-reflective.

An INRN triple bottom line assessment is required in 2022. This will consider NWI pricing principles for stormwater and the costs of the network and charges that should apply.

⁶⁸ ACT Government 2014, Page 21.

Figure 7.4 - Revenue and costs from 2016-17 to 2019-20 (\$ per kL)



Source: TCCSD data as of May 2021

7.3 Cross-jurisdictional Analysis

As shown in Chapter 2 and Appendix D, there are several examples of stormwater harvesting arrangements in other jurisdictions in Australia, with a range of approaches adopted by each jurisdiction. The Review has not received any submissions about the pricing of stormwater from INRN, noting that the customer base is primarily ACT Government users.

Approaches taken by other jurisdictions show there are a number of practical difficulties associated with pricing stormwater. This stems from the wide variety of stormwater harvesting and reuse schemes that differ substantially depending on particular circumstances within each jurisdiction.

As such, while some jurisdictions have opted to reference or implement the NWI pricing principles for stormwater, the majority have adopted different approaches to tackle this complex issue. Given these complexities, the pricing of stormwater in the ACT should aim to eventually align with the NWI pricing principles, with an emphasis placed on allowing prices to be flexible, cost reflective, and where possible set in a manner which fully recovers costs.

7.4 Appropriateness of the current pricing framework for the INRN

The current pricing framework for stormwater from the INRN, set to cover its first five years of operation, has been found to not have adversely impacted any high-intensity club users since the network became fully operational in 2016-17. However, volatility of usage and the small customer base impacts significantly on whether the network is recouping all the associated costs.

While the analysis has not identified any major issues with the pricing framework for INRN, the network warrants close monitoring as it is still maturing in terms of usage levels and customer bases. Therefore, it will be important to review the revenue and cost base associated with the INRN periodically to ensure costs incurred are appropriate and stormwater prices are set appropriately.

Further, the stormwater prices for INRN were set based on ICRC advice from 2009 and while it may have been appropriate at that time, it would be timely to review whether there is a case for an alternative fee structure to align more closely with NWI pricing principles.

Given that the INRN is to be reviewed in 2022, it would be an appropriate time to revisit the prices set, costs and overall revenue as well as the overall cost and benefits associated with the network from a wellbeing perspective.

8 Recommendations

The Report outlines a range of key findings from the Review and four broad recommendations for the Government to consider.

In summary, the findings and analysis indicate it may be appropriate to adjust the current arrangements in place for surface and ground water, for INRN stormwater prices to be more cost-reflective, for recycled water arrangements to allow for targeted assistance when needed due to extreme weather conditions and more broadly, for support to be provided in exceptional circumstances rather than as the default of ongoing levels of subsidies.

The four recommendations for the Government to consider are:

1. Adjusting ground and surface water charges to better align with the fixed and variable costs. This could be achieved through increasing licensing fees to ensure that all users contribute equally to cover the fixed costs and reducing the variable non-potable WAC.
2. Reforming assistance measures to make them simpler and more transparent and equitable.
3. Continuing to provide targeted short-term support to some sporting clubs in exceptional circumstances such as extreme or prolonged dry weather to reflect the social benefits of community clubs. Assistance should be targeted towards clubs that have no other option than to use significant quantities of recycled or potable water for irrigation purposes.
4. Reviewing the application of NWI pricing principles, that suggest full cost recovery for stormwater costs, in the forthcoming review of INRN stormwater prices.

The first and second recommendations recognise the complexity of the current arrangements for surface and ground water and the high level of discounts currently being provided to specific user groups.

High-intensity club users operate businesses that should be able to remain financially viable, without requiring subsidisation of their water costs by Government under business as usual settings. However, it may be appropriate to assist high-intensity users of water in extreme weather events in the same way as support for business may be considered in response to other extreme events.

The third recommendation recognises the unique circumstances some users face due to their limited access to surface and ground water which results in their reliance on more expensive sources such as stormwater, recycled or potable water.

Assistance measures could be designed for these users to apply in drier years when demand is significantly higher than average, and the additional water is required to retain the quality of the grounds for the benefit of the broader community. It is also recommended that eligibility criteria be established to ensure assistance is transparent and targeted to those who have limited financial capacity.

For example, assistance measures could have the following key characteristics:

- support should be provided to users that have experienced a significant increase in water usage for irrigation purposes due to exceptional circumstances such as extreme dry weather (e.g. assistance could be applied when a drought has been announced or significant reduction of rainfall over a period of time);
- support should take into account the water usage costs and its share of user operating costs (e.g. assistance could be applied to those that have water usage costs exceeding 15 per cent of overall operating costs);
- support could be provided on application for targeted assistance rather than automatically, to ensure that individual user's circumstances are taken into consideration (e.g. targeted assistance during extreme weather conditions could be provided on application with Government assessment); and
- support should be targeted to users whose services and grounds provide broader community benefits (e.g. assistance could be targeted to users that are high-intensity water users that irrigate grounds available to the public for sporting or community services).

The value of any assistance provided should be limited to ensure there is still a sufficient price signal to ensure the efficient use of water and/or to encourage users to make infrastructure investments to be more viable and less reliant on more expensive water sources used for irrigation.

Alternatively, the Government could consider whether adjustments could be made to the recycled water arrangements by way of a transparent concession funded through CSO payments to enable Icon Water to recover the full cost. This would recognise the wider social benefits of clubs being charged the price reflective of the size of the network applicable to the user.

The fourth recommendation recognises that while the INRN stormwater prices have been broadly cost-reflective, it is also timely to review this as part of the upcoming review in 2022 for the INRN.

In conclusion, there is merit in the Government considering adjustments to non-potable water pricing arrangements to ensure they are simple, transparent, and that appropriate concessional arrangements are in place for those most in need.

Appendix A: Terms of Reference

As part of the ACT Labor and ACT Greens Parliamentary and Governing Agreement (PAGA) for the 10th Australian Capital Territory Legislative Assembly, the Government has committed to undertaking a review into water costs for high-intensity club users of non-potable water in 2021 (the Review), with the aim of allowing clubs to maintain operations while not requiring cross-subsidisation from other ACT water users.

The Review will be led by ACT Treasury and will incorporate specialist advice from the Independent Competition and Regulatory Commission (ICRC) on recycled water pricing. It will examine costs related to the usage of non-potable water by clubs, such as that incurred in the form of usage charges, infrastructure costs, operation costs and maintenance costs for various sources of non-potable water.

Within this context, the Review will investigate and provide recommendations on:

- The appropriateness of the current pricing framework for non-potable water, informed through an analysis of the associated costs in its supply;
- Whether any adjustments can be made to the current framework which would enable clubs to continue operating, without entailing cross-subsidisation from other users;
- Whether there are other relevant arrangements which could achieve the goals set out in the PAGA, such as those adopted by other jurisdictions; and
- Any other issues identified through the Review.

Consultation: The Review will invite submissions from high-intensity club users of non-potable water and other Government business units involved in water supply management and regulation.

Appendix B: Summary of Discussion Paper Submissions

Stakeholder	Key issues raised/information provided
ACTEA	The submission provides background information on how the ACTEA operates and how it uses non-potable water. The submission responded to a number of questions raised in the Discussion Paper: • The ACTEA estimates its non-potable water infrastructure related costs include \$6,225 for one-off capital costs and \$873 - \$1173 in annual costs, depending on the level of rainfall each year. • These costs do not vary significantly. • There are a number of possible avenues to expand the ACTEA's use of non-potable water. However, most options are too costly to pursue. • The ACTEA's non-potable water usage costs were \$618.64 in 2019-20 and approximately \$300 in 2020-21. • The non-potable water usage costs make up roughly 3 per cent of the ACTEA's total operational costs.
ASTMA	The submission from the Australian Sports Turf Managers Association relates to the relevance of non-potable water to the management of turf playing surfaces at facilities used for sport and recreation. The submission supports the continuation of Government assistance programs which aid golf courses and sports fields to maintain their turf playing surfaces, coupled with further Government investment into expanding recycled water schemes to accommodate a greater amount of high-intensity water users. The submission raises the following points: • The continual maintenance of safe, healthy and environmentally sustainable playing surfaces is important to facilitate community engagement in sports. • Drought conditions in Australia have prompted turf managers to look for alternative water sources given the prohibitive costs of potable water. • The non-potable WAC is too high, thereby siphoning away funds which could have been spent on additional water saving infrastructure. • The Government should consider the removal of charges associated with accessing surface and ground water from user's own facilities, especially if they have incurred additional infrastructure costs.
GolfNSW & ACTMDGA	This submission was made on the behalf of golf clubs in the ACT that are impacted by the non-potable water review. The submission responded to a number of questions raised in the Discussion Paper: • The average annual cost of operating and maintaining non-potable water infrastructure across golf clubs in the ACT was estimated to be \$23,878 in 2018-19 and \$24,585 in 2019-20. • These costs vary depending on a number of factors: ○ weather and rainfall; ○ machinery/equipment failure; and ○ capital investment into new water management initiatives. • The capacity to expand non-potable water infrastructure varies for each club, dependent on usage requirements, available land and each club's access to capital. • The annual non-potable water usage costs amongst golf clubs varies widely from \$40,000 to \$240,000, depending on each clubs' access to various types of non-potable water.

Stakeholder	Key issues raised/information provided
	• The annual cost of non-potable water makes up roughly 2.5% to 7% of an ACT golf club's overall annual operational costs, with an exception being Magpies which reported 15.2% in 2018-19 and 19.8% in 2019-20. • One additional cost that should be considered is Royal Canberra GC's lease agreement with the ACT Government to maintain and protect the Westbourne Woods Arboretum. • One possible assistance measure suggested was to set the price of non-potable water at a level similar to NSW through administering water allocations based on each club's indicative usage. • The impact of non-potable water pricing on each club's viability in the short-term and long-term varies. • In response to key factors that impact viability, the submission stated that golf clubs are generally not-for-profit entities which run a very marginal business, where a minor shift in any expense line is likely to affect membership fees which will then have detrimental flow-on effects on membership numbers. • For alternative arrangements from other jurisdictions that may be considered in the ACT, the submission provides examples of pricing schemes found in NSW and VIC. • The submission requests the situation surrounding Magpies to be thoroughly examined to provide a fair and equitable outcome to the club. • In addition, the submission quantifies the benefits that golf clubs provide to the ACT community.
Icon Water	The submission provides background information on the role and responsibilities of Icon Water, and how it operates with respect to the supply of recycled water. The submission notes that Icon Water has revised its approach towards recycled water pricing and has provided the revision to the Independent Competition and Regulatory Commission (ICRC). The submission recommends that any future pricing frameworks set for recycled water should align with the National Water Initiatives and the ICRC's pricing principles.
Magpies	The submission responded to a number of questions raised in the Discussion Paper: • The club's non-potable water infrastructure costs amounted to \$35,500 in 2019-20 and \$39,000 in 2020-21. • Infrastructure costs do not vary significantly from year to year. • While there is a potential to expand the club's non-potable water infrastructure, the excessive pricing of recycled water has resulted in the club being unable to consider longer term investment into water saving infrastructure. • The club's non-potable water costs have contributed significantly to its overall operation costs, amounting to 20% in 2019-20. • The submission notes that the Review should examine the cost of recycled water provided by Icon Water through the Lower Molonglo Water Quality Control Centre (LMWQCC). • The submission argues that the Market Equity Scheme (MES), while providing a fairly equitable support mechanism for most ACT golf clubs, does not assist the Magpies. In contrast, the MES is widening the cost paid by Magpies and other ACT golf clubs. • The submission suggests that assistance measures should work to create an equitable playing field, either through Government subsidies or changes to underlying pricing frameworks. • The submission recommends that the MES should revolve around golf clubs' having a set allocation of non-potable water based on their usage requirements determined by each club's previous usage. Furthermore, should any club exceed their allocated amount, they should be charged an increased penalty rate.

Stakeholder	Key issues raised/information provided
	• The submission emphasises that Magpies cannot operate under the existing recycled water prices set by Icon Water. • For alternative arrangements from other jurisdictions that may be considered in the ACT, the submission provides examples of non-potable water prices for golf clubs found in NSW. ○ The submission argues that Icon Water's pricing of recycled water from the LMWQCC is based on a failed strategy to increase the sale of recycled water in the ACT.
Phillip Oval Management Group	The submission notes that the Phillip Oval precinct does not have access to non-potable water to support its turf irrigation requirements and encourages the ACT Government to develop assistance measures to reduce water prices for not-for-profit organisations who are unable to access non-potable water. The submission also supports the extension of the non-potable water network to the Phillip Oval precinct.
Yowani Country Club	The submission notes that circumstances surrounding water access, usage arrangements and water costs vary substantially between each golf club in the ACT. The submission provides information on Yowani Country Club's situation in relation to non-potable water infrastructure. The submission recommends the continuation of the Infrastructure Offset Scheme, and that the non-potable Water Abstraction Charge (WAC) be revised to resemble the bulk water pricing rates available in other jurisdictions.
John McMaster	The submission notes that Magpies are the only user of recycled water provided by Icon Water through the LMWQCC, and that the club is facing unreasonably high prices. The submission requests that the Review allow for recycled water to be priced in a fair, reasonable and equitable way.
Dr Ray Trewin	The submission notes that various non-club water users are being cross-subsidised or provided rebates. The submission argues that non-potable water prices are currently not transparently set. The submission responded to a number of questions raised in the Discussion Paper: • Non-potable infrastructure costs vary significantly, especially when comparing between drought and non-drought years. • The cost associated with the loss or depreciation of infrastructure such as grass where non-potable water is too expensive or unavailable should be considered. • A number of assistance measures were suggested, such as assistance measures in recognition of the non-market benefits provided by ACT clubs, assistance to expand non-potable infrastructure and adopting NSW's regulation to not charge for water stored on land owned by the club.

Appendix C: Other non-potable water arrangements

Table C1 - NWI pricing principles for stormwater use⁶⁹

Pricing Principle	Description
Principle 1: Flexible regulation	Light handed and flexible regulation (including use of pricing principles) is preferable, as it is generally more cost-efficient than formal regulation. However, formal regulation (e.g. establishing maximum prices and revenue caps to address problems arising from market power) should be employed where it will improve economic efficiency.
Principle 2: Cost allocation	When allocating costs, a beneficiary pays approach — typically including direct user pay contributions — should be the starting point, with specific cost share across beneficiaries based on the scheme's drivers (and other characteristics of the recycled water/stormwater reuse scheme).
Principle 3: Water usage charge	Prices to contain a water usage (i.e. volumetric) charge.
Principle 4: Substitutes	Regard to the price of substitutes (potable water and raw water) may be necessary when setting the upper bound of a price band.
Principle 5: Differential pricing	Pricing structures should be able to reflect differentiation in the quality or reliability of water supply.
Principle 6: Integrated water resource planning	Where appropriate, pricing should reflect the role of recycled water as part of an integrated water resource planning (IWRP) system.
Principle 7: Cost recovery	Prices should recover efficient, full direct costs — with system-wide incremental costs (adjusted for avoided costs and externalities) as the lower limit, and the lesser of standalone costs and willingness to pay (WTP) as the upper limit. Any full cost recovery gap should be recovered with reference to all beneficiaries of the avoided costs and externalities. Subsidies and Community Service Obligation (CSO) payments should be reviewed periodically and, where appropriate, reduced over time.
Principle 8: Transparency	Prices should be transparent, understandable to users and published to assist efficient choices.
Principle 9: Gradual Approach	Prices should be appropriate for adopting a strategy of 'gradualism' to allow consumer education and time for the community to adapt.

⁶⁹ NRMCC 2010.

Table C2 - Surface water and groundwater arrangements in other Australian jurisdictions

Jurisdiction	Relevant arrangements	Associated Fees and Charges
New South Wales (NSW)	The <i>Water Management Act 2000</i> (NSW) governs the issue of water access licences (WALs) and approvals for water sources (rivers, lakes, estuaries and groundwater) in New South Wales where water sharing plans have commenced. A WAL from WaterNSW is generally required to extract water from rivers or aquifers to use for irrigation, industrial or commercial purposes.⁷⁰	<u>Fixed charges</u> • An annual metering service charge is imposed per meter owned, with the charge dependent on the size of the meter used. <u>Variable charge</u> • WaterNSW imposes a usage charge for regulated river water, unregulated river water and ground water. • These charges are reviewed by the Independent Pricing and Regulatory Tribunal (IPART).
Victoria (VIC)	Victoria's water resources are managed under a water entitlement framework set out in the <i>Water Act 1989</i> (VIC) which balances demands for water for both consumptive and environmental purposes.⁷¹ There are several water entitlements under this framework, with each being required in different scenarios depending on where and how water is taken, and for what purpose. Several of these entitlements are relevant to the Review, being: • Water shares; • Water-use licences; and • Delivery shares. Water shares allocate water in dams to individuals and are not bound to the shareholder's property or land. There is an entitlement storage fee associated with owning a water share, which is used to cover the costs of operating and maintaining the dams in the water system. A water-use licence is an entitlement to irrigate a parcel (or parcels) of land using water from regulated river systems. Ownership of this licence is linked to the land described in the licence. In terms of fees, there is no annual fee associated with water-use licences unless they fall within a designated salinity impact zone, in which case a small fee applies. Delivery shares are entitlements to have water delivered to land in an irrigation area. Ownership of delivery shares is tied to the	<u>Fixed charges</u> • Water share – An entitlement storage fee is charged each year, based on the volume of each entitlement holder's water share. The purpose of this fee is to cover the costs of operating and maintaining the catchment dams. • Water-use licences – Typically there are no annual fees associated with this licence. However, should the licence fall within a designated salinity impact zone, a small annual fee applies. • Delivery shares – Fees depend on the water corporation managing the delivery share. <u>Variable charge</u> • None.

⁷⁰ WaterNSW 2021.

⁷¹ Victorian Water Register 2021.

Jurisdiction	Relevant arrangements	Associated Fees and Charges
	land and stays with the property regardless of a change in ownership. Fees for delivery shares vary depending on the water corporation managing the delivery share.	
Queensland (QLD)	Under the <i>Water Regulation 2016 (QLD)</i>, the Queensland Government undertakes a number of water planning and management activities to manage the state's water resources.⁷² To cover some of the costs of these activities, water users in Queensland are subject to a number of fees and charges.	<u>Fixed charges</u> - Water-related application and administrative fees. - Annual water licence fees. - Meter service charges. <u>Variable charge</u> - Water usage/harvesting charges apply in water management areas where the water resource is more actively managed and regulated.
South Australia (SA)	Water resources in SA are managed under the <i>Landscape South Australia Act 2019</i> (Landscape SA Act). While there are no volumetric usage fees, SA does impose hefty penalty rates for taking water above or without an available allocation. These rates are reviewed on a quarterly basis taking into account the market value of water and the level of risk that water theft poses to the resource. Penalty rates are also progressive, with three tiers of rates that increase based on the degree of excess use.⁷³	<u>Fixed charges</u> - Water-related application and administrative fees - A Landscape Water Levy is payable by holders of water licences and water access entitlements based on their total water allocation held on 1 July each year. <u>Variable charge</u> - None. <u>Penalty charge</u> - To provide an adequate disincentive to the excess taking of water, penalty rates in SA are set at a value substantially greater than the cost of purchasing water on the market.
Western Australia (WA)	Water resources in WA are managed by the Government of Western Australia under the <i>Rights in Water and Irrigation Act 1914</i> (WA). In WA, a water licence is required to take groundwater and/or surface water. A licence fee is charged on a user-pays principle, recognising that water licensees derive benefit from the regulatory services surrounding the use of surface and ground water. These services revolve around licencing, monitoring and compliance activities to ensure total water entitlements fall within their allocation limits. This in turn provides greater security to licensees, many of whom are reliant on these sources of water to run their businesses.⁷⁴	<u>Fixed charges</u> - Water-related application and administrative fees. - Annual water licence fees. <u>Variable charge</u> - None.

⁷² Queensland Government 2021.

⁷³ Government of South Australia 2021.

⁷⁴ Government of Western Australia 2021.

Jurisdiction	Relevant arrangements	Associated Fees and Charges
	The purpose of the licence fee is to recover the costs related to assessing water license and permit applications, not a volumetric charge for water entitlement.	

Sources: Government of South Australia 2021, Government of Western Australia 2021, Victorian Water Register 2021, WaterNSW 2021

- New South Wales – Any river, lake or estuary or any place where water occurs naturally on or below the surface of the ground. Includes overland flows collected in a dam only where the volume exceeds 10 per cent (or greater if so prescribed) of average runoff.
- Victoria – Water in a waterway (coastal, enclosed or inland waters including rivers, creeks, canals, lakes and reservoirs)⁷⁵ or bore. Unlicensed collection of overland flows is limited to stock and domestic purposes. Uses over and above this must be licensed.
- Queensland – Water in a watercourse (river, creek or other stream) lake or spring, and underground water. Groundwater sources may only be included within the rights system where a Water Resource Plan has identified a need to regulate the extraction of water. Overland flows are only licensed where a Water Resource Plan identifies this as a need. Otherwise, the collection of overland flows is only limited by dam height specifications.
- South Australia – Water in a watercourse (river, creek or other natural watercourse), lake or well and water overflowing land collected in a dam or reservoir in prescribed areas. Use of water in non-prescribed areas is subject to common law rights.
- ACT – Water in a waterway (defined as a river, creek stream or other channel, a lake, pond, lagoon or marsh), groundwater and overland flows.

Table C3 – Stormwater reuse schemes in other Australian jurisdictions

Jurisdiction	Relevant Project and details	Associated Costs and Pricing Structures
New South Wales (NSW)	Located in the regional city of Orange, the project is managed by the Orange City Council, and involves the harvesting and treatment of urban stormwater to a level suitable for potable uses. • The project encompasses two stormwater harvesting schemes at Blackmans Swamp Creek and Ploughmans Creek. • The project was designed and made operational in 18 months, with the Blackmans Swamp Creek stormwater harvesting scheme becoming operational in August 2008. • The schemes were primarily developed to augment the city's water supply in response to the millennium drought.	• The total costs associated with the Blackmans Swamp Creek scheme were \$5m, while the Ploughmans Creek scheme cost \$4.1 million. • In terms of pricing for the project in Orange, residents are charged the same for the use of potable water and stormwater.
Victoria (VIC)	Located south-east from Melbourne's CBD, the Clayton South Stormwater Harvesting scheme	• In a case study by Clearwater, the total budget (excluding ongoing

⁷⁵ Maritime Safety Victoria 2021.

Jurisdiction	Relevant Project and details	Associated Costs and Pricing Structures
	incorporates a wetland system to treat stormwater and enable its use for Kingston City Council to water surrounding parks and gardens. The scheme is an example of the benefits of integrated water cycle management, and how collaboration between the land-use planning and local government sectors can greatly benefit the community. • The project's design work was undertaken in September 2008, with construction commencing in January 2011 and finishing in April 2012. • Components of the scheme include a wetland, flood protection infrastructure and a stormwater harvesting system which supplies treated stormwater through pipes to nearby sporting grounds. • The scheme is able to provide up to 92 megalitres of harvestable stormwater each year.	maintenance costs) was \$7.36 million. • Stormwater harvesting charges comprise of a licence service fee and a volumetric charge.
Queensland (QLD)	Brisbane City Council has constructed seven stormwater harvesting schemes located across various locations in Brisbane, with the objective of providing a sustainable source of water for the irrigation of parks and sports fields. • The seven schemes have different means of storing water, with three utilising open water storage, two using above-ground tanks and the last two utilising an in-channel storage system. • The schemes are estimated to save up to 185 megalitres per year, while also providing other benefits such as increased amenity of open spaces, improved waterway health and fostering habitat creation.	• The projects were jointly funded by the Australian Government's National Urban Water and Desalination Plan, and the Council's Clean Green and WaterSmart Initiative. • It was reported that the total cost of the project was \$10.782m, with the Australian Government contribution of \$5.391 million in funding.
South Australia (SA)	The Salisbury Alternative Water Scheme provides non-potable water termed Salisbury Water to the City of Salisbury and is a mix of treated stormwater and groundwater used to irrigate parks, reserves and schools. It is also used in industry and new residential developments. • The scheme consists of over 50 wetlands, managed aquifer recharge and over 150km of pipes making up the distribution network across the city. • The main benefits of the scheme were reported to be: ○ The creation of new urban ecosystems;	• Total capital investment for the project was estimated at \$52 million as of 2009, with the Council, Commonwealth and State Government contributing \$17.2 million, \$20.3 million and \$13 million respectively. • Sales of the harvested stormwater were primarily to the Council's own parks and gardens service, industrial users, schools and new residential subdivisions. • Salisbury Water is priced in accordance with State essential services regulations and guidelines,

Jurisdiction	Relevant Project and details	Associated Costs and Pricing Structures
	○ Improvement in stormwater quality; ○ reduction in mains water demand; ○ improvement to public open space amenities through a resilient water supply; and ○ the improved community awareness of non-potable water through education material developed around Salisbury Water.	with a standard usage charge of \$2.78/kL in 2020-21 and a residential supply charge of \$10 per quarter.

Sources: City of Salisbury 2021, Clearwater 2013, Cooperative Research Centre for Water Sensitive Cities (2018a, 2018b)

Table C4 - Approaches to pricing stormwater in other Australian jurisdictions

Jurisdiction	Pricing Principles
New South Wales (NSW)	The Independent Pricing and Regulatory Tribunal (IPART) has adopted a less intrusive approach in relation to regulating prices for stormwater harvesting services, and instead encourages stakeholders to enter into unregulated pricing agreements. • IPART has decided to defer determining prices for each stormwater harvesting scheme until it receives a request for a scheme-specific review.
Victoria (VIC)	The Essential Services Commission's principles for recycled water and stormwater harvesting services state that prices should be set so as to: • have regard to the price of any substitutes and customers' willingness to pay; • cover the full cost of providing the service (except for services required under specified obligations or to balance supply and demand); and • include a variable component. Where the water retailer does not propose to fully recover the costs associated with recycled water, it must demonstrate to the ESC that: • it has assessed the costs and benefits of pursuing the recycled water project; • it has clearly identified the basis on which any revenue shortfall is to be recovered; and • if the revenue shortfall is to be recovered from non-recycled water customers, either the project is required under government policies that apply to the retailer or there has been consultation with the affected customers about their willingness to pay for the benefits of greater water recycling.
Queensland (QLD)	The Queensland Competition Authority's (QCA) preferred approach is to subject stormwater reuse pricing to the same pricing principles as recycled water. This approach was selected as stormwater reuse schemes were deemed to be similar in concept to recycled water scheme.
South Australia (SA)	The Essential Services Commission of South Australia (ESCOSA) has imposed price controls for recycled water retail services set by SA Water. In setting prices, SA Water must comply with the NWI pricing principles for stormwater reuse. • SA Water is required to justify its recycled water retail services through the preparation of a pricing statement setting out a pricing schedule and pricing policy statement in respect of each regulatory year. ○ Recycled water retail services refer to the supply of treated sewage, greywater or stormwater.

Sources: ESC 2021, ESCOSA 2016, IPART 2019, Queensland Competition Authority 2014

Appendix D: Stormwater projects and pricing approaches in other Australian jurisdictions.

Stormwater harvesting projects

There are a number of stormwater harvesting and reuse projects found in other Australian jurisdictions which are comparable to the INRN. To assist with the consideration of these other schemes, the key findings of each scheme are set out in Table C3 of Appendix C, and outlined as follows:

- New South Wales – The stormwater harvesting project in Orange involves the treatment of urban stormwater collected from two creeks. However, unlike the INRN, the scheme at Orange treats stormwater extensively, to a level suitable for potable water uses. Given its ability to substitute for potable water, the stormwater supplied in Orange is charged at the same rate as potable water.⁷⁶
- Victoria – The Clayton South Stormwater Harvesting scheme incorporates a wetland system to treat stormwater for use by the Kingston City Council to water surrounding parks, gardens and sporting grounds. An additional benefit of this scheme was its ability to reduce stormwater flows and reduce flooding experienced by nearby properties.⁷⁷
- Queensland – Brisbane City Council has developed several stormwater harvesting and reuse projects with the objective of providing parks and sports fields with a sustainable source of water for irrigation.⁷⁸
- South Australia – The Salisbury Alternative Water scheme comprises of wetlands, a managed aquifer recharge along with a pipeline for distribution across the city. The scheme prices stormwater in accordance with the State essential service regulations and guidelines, which as of 2016-17 was \$2.61/kilolitre.⁷⁹

In comparing the INRN to other stormwater harvesting and re-use schemes, it is apparent that all schemes were developed in response to the water shortage crisis brought about by the millennium drought, which highlighted the importance of developing sustainable alternative water supply options to all jurisdictions.

While each scheme may have similar intentions, they are often tailored to suit the specific needs of each community, which has resulted in schemes varying widely in scope and features. An example of this would be the stormwater harvesting scheme in Orange which treats stormwater to a level suitable for potable use, and the Clayton South Stormwater Harvesting scheme which also fulfilled a secondary purpose being to reduce flooding in the area.

⁷⁶ Cooperative Research Centre for Water Sensitive Cities 2018a, Page 25.

⁷⁷ Clearwater 2013.

⁷⁸ Brisbane City Council 2019.

⁷⁹ Cooperative Research Centre for Water Sensitive Cities 2018b, Page 4.

Therefore, while schemes in other jurisdictions provide an excellent opportunity to learn about the benefits and limitations of stormwater harvesting and reuse schemes, it would be impractical to compare their corresponding charges due. Rather, it would be more appropriate to examine approaches to stormwater pricing that are adopted by independent pricing regulators in other jurisdictions.

Pricing approaches in other Australian jurisdictions

Other jurisdictions have encountered a number of practical difficulties associated in considering approaches to regulate of stormwater prices, which stem from the wide variety of stormwater harvesting and reuse schemes that differ tremendously depending on particular circumstances within each jurisdiction. As such, while some jurisdictions have opted to reference or implement the NWI pricing principles for stormwater, it should be acknowledged that a majority have adopted different approaches to tackle this complex issue.

A summary of the pricing principles for stormwater reuse products from each jurisdiction can be found in Table C4 of Appendix C, with further details provided below.

New South Wales

In its 2019 review of pricing arrangements for recycled water and related services, the NSW Independent Pricing and Regulatory Tribunal (IPART) reviewed pricing arrangements for stormwater harvesting services provided by four public water utilities.

Through this review, IPART made the decision to not establish pricing principles for stormwater harvesting services due to the unique nature of individual schemes which make developing meaningful pricing principles difficult. Instead, IPART encourages unregulated pricing agreements between customers and stormwater service providers. Customers are protected from monopoly pricing through IPART's regulatory framework which involves undertaking scheme-specific reviews only upon receiving requests from customers.⁸⁰

Victoria

In its 2021 Melbourne Water Determination, the Essential Services Commission (ESC) set out various pricing principles for recycled water which included stormwater harvesting services provided by the water retailer. The principles state that prices should be set so as to:⁸¹

- have regard to the price of any substitutes and customers' willingness to pay;
- cover the full cost of providing the service (except for services required under specified obligations or to balance supply and demand); and
- include a variable component.

Where the water retailer does not propose to fully recover the costs associated with recycled water, it must demonstrate to the ESC that:

- it has assessed the costs and benefits of pursuing the recycled water project;
 - it has clearly identified the basis on which any revenue shortfall is to be recovered;
- and

⁸⁰ IPART 2019, Pages 71 and 72.

⁸¹ ESC 2021, Page 30.

- if the revenue shortfall is to be recovered from non-recycled water customers, either the project is required under government policies that apply to the retailer or there has been consultation with the affected customers about their willingness to pay for the benefits of greater water recycling.

Queensland

In 2014, the Queensland Competition Authority (QCA) developed a long-term regulatory framework for recycled water and stormwater reuse services provided by South East Queensland (SEQ) retailers.

In considering stormwater reuse schemes, the QCA recommended that the same pricing principles that apply to recycled water schemes should be applied to stormwater schemes, given the similarities in their concepts.⁸² The QCA's overarching recommendations for the pricing of recycled water services state that prices should consider:

- The revenue requirement for recycled water services should be based on the total additional cost of water recycling less avoided costs and less developer contributions;
- Where there are costs that cannot be recovered from recycled water customers, the gap should be allocated to other parties on a beneficiary pays basis;
- Recycled water volumetric prices should be based on long-run marginal costs for the established recycled water scheme where possible, less marginal avoided costs. If necessary, recycled water volumetric charges should be set lower than the long-run marginal cost to ensure demand clears supply (where the recycled water volumetric charge is higher than the potable water volumetric charge);
- Where volumetric charges do not ensure revenue adequacy, fixed charges in a two-part tariff should be set to recover remaining revenues, subject to willingness to pay;
- If the revenue requirement is still not achievable (that is, where fixed and volumetric charges exceed willingness to pay), unrecovered amounts should be allocated to potable and sewerage charges in proportion to avoided cost allocations; and
- The approach and charges should be reviewed periodically, as customer acceptance and use of recycled water increases.

However, the QCA also identified key areas of differences between the schemes, in that:

- stormwater systems may require larger volumes of storage due to the episodic nature of rainfall, resulting in fixed costs being potentially higher;
- water treatment costs for stormwater would typically be lower as the source water could be expected to be of higher quality; and
- depending on the scale, avoided costs of environmental impacts could be significant, in terms of reduced peak stormwater flows and reduced sedimentation. There may therefore be larger benefits to the broader community justifying CSOs.

⁸² Queensland Competition Authority 2014, Page 122.

South Australia

In its 2016-20 price determination for SA Water's water and sewerage retail services, the Essential Services Commission of South Australia (ESCOSA) has required SA Water to comply with the NWI pricing principles (Appendix C) when setting prices for recycled water retail services.⁸³

In doing so, SA Water must prepare a pricing statement to ESCOSA each regulatory year which includes:⁸⁴

- a schedule of the prices SA Water will charge customers for the supply of recycled water retail services for that regulatory year; and
- a pricing policy statement that demonstrates how the prices meet the requirements of the NWI pricing principles.

⁸³ Recycled water retail services are defined as the "sale and supply of water which has been generated from sewage, greywater or stormwater and treated to a standard that is appropriate for its intended use.", and as such also apply to stormwater reuse services.

⁸⁴ ESCOSA 2016, Pages 14 and 15.

Appendix E: Reference Documents

ACT Government 2014, Canberra Integrated Urban Waterways Project – Final Report – February 2014, available at:

https://www.environment.act.gov.au/_data/assets/pdf_file/0011/585965/FINAL-Report-CIUWP-Feb-2014.pdf

ACT Government 2015, Improving our waterways – Sullivans Creek and Inner North Reticulation Network – April 2015, available at:

https://www.environment.act.gov.au/_data/assets/pdf_file/0008/714599/Sullivans-Creek-Inner-North-Reticulation-Network.pdf

Australian Government Bureau of Meteorology 2020, Special Climate Statement 70 update – drought conditions in Australia and impact on water resources in the Murray-Darling Basin – August 2020, available at:

<http://www.bom.gov.au/climate/current/statements/scs70.pdf>

Australian Government Bureau of Meteorology 2021, Climate summaries archive, available at:

http://www.bom.gov.au/climate/current/statement_archives.shtml?region=act&period=month

Brisbane City Council 2019, Stormwater harvesting and reuse projects, available at:

<https://www.brisbane.qld.gov.au/clean-and-green/natural-environment-and-water/creeks-and-waterways/protect-our-waterways/stormwater-harvesting-and-reuse-sports-fields>

City of Salisbury 2021, Salisbury Stormwater Harvesting, available at:

https://www.salisbury.sa.gov.au/Live/Environment_and_Sustainability/Wetlands_and_Water/Current_and_future_projects/Salisbury_Stormwater_Harvesting

Clearwater 2013, Clayton South Wetlands, available at:

<https://www.clearwatervic.com.au/resource-library/case-studies/clayton-south-wetlands.php>

Cooperative Research Centre for Water Sensitive Cities 2018a, Orange Stormwater to Potable: Building urban water supply diversity, available at:

https://watersensitivecities.org.au/wp-content/uploads/2018/05/Orange-stormwater-to-potable-Case-Study-180503-V8_WEB.pdf

Cooperative Research Centre for Water Sensitive Cities 2018b, Salisbury Alternative Water Scheme, available at:

https://watersensitivecities.org.au/wp-content/uploads/2018/10/26-Salisbury-Water-Alternative-Water-Scheme_FINAL.pdf

Essential Services Commission 2021 (ESC 2021), Melbourne Water Determination 2021-2026, available at:
<https://www.esc.vic.gov.au/sites/default/files/documents/Melbourne-Water-price-review-2021-Price-determination-20210625.pdf>

Essential Services Commission of South Australia 2016 (ESCOSA 2016), SA Water's retail and sewerage services: 2016-2020, available at:
<https://www.escosa.sa.gov.au/ArticleDocuments/334/20160606-Water-SAWaterRegulatoryDetermination2016FinalReport-RevenueDetermination.pdf.aspx?Embed=Y>

Government of South Australia 2021, Water licences and permits, available at:
<https://www.environment.sa.gov.au/topics/water/water-markets-and-trade/fees-and-charges>

Government of Western Australia 2021, Water licensing in Western Australia, available at:
<https://www.water.wa.gov.au/licensing/water-licensing/types-of-licenses>

Icon Water 2020, 2020-21 water and sewerage prices fact sheet, available at:
https://www.iconwater.com.au/~/_media/files/icon-water/2020-21-pricing/2020-2021-water-sewerage-prices-fact-sheet.pdf?la=en&hash=482A5AC1AF33CB0EE536D03E795BC51ABB99C48D

Icon Water 2021, Lower Molonglo Water Quality Control Centre, available at:
<https://www.iconwater.com.au/Water-education/Water-and-sewerage-system/Sewage-Treatment/Lower-Molonglo-Water-Quality-Control-Centre.aspx>

The Independent Pricing and Regulatory Tribunal (IPART) 2017 (IPART 2017), WaterNSW Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021, available at:
<https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-legislative-requirements-water-bulk-water-review-of-prices-for-waternsws-rural-bulk-water-services-from-1-july-2017-formerly-state-water-corporation/final-report-waternsw-review-of-prices-for-rural-bulk-water-services-from-1-july-2017-june-2017.pdf>

IPART 2019, Review of pricing arrangements for recycled water and related services, available at:
<https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-water-services-metro-water-review-of-recycled-water-prices-for-public-water-utilities/legislative-requirements-review-of-recycled-water-prices-for-public-water-utilities/final-report-pricing-arrangements-for-recycled-water-and-related-services-1-july-2019.pdf>

IPART 2021a– WAMC prices for Murrumbidgee unregulated rivers – 9 September 2021, available at:
https://www.ipart.nsw.gov.au/sites/default/files/cm9_documents/Fact-Sheet-WAMC-prices-for-Murrumbidgee-unregulated-rivers-9-September-2021.PDF

IPART 2021b– WAMC prices for Murrumbidgee regulated rivers – 9 September 2021, available at:
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YOUR SAY



GOVERNMENT RESPONSE TO THE NON-POTABLE WATER REVIEW

REPORT ON WHAT WE HEARD

The ACT Government committed to ensuring clubs continue to support the community, while reducing harm from gaming. This included undertaking a review into water costs for high-intensity club users of non-potable water, with the aim of allowing clubs to maintain operations while not requiring cross-subsidisation from other ACT water users.

In response to the review, the ACT Government Office of Water was tasked with preparing a Government Response. A range of policy options were considered in relation to the recommendations listed in the Review. The following principles were in place to consider policy options:

- Policy options are applied equitably across non-potable water licensees.
- Pricing for water supply is based on the principle of 'user-pays' (consumption based) and represents full cost recovery, including recovery for environmental costs.
- Water pricing promotes economically efficient and sustainable use of water resources.
- Options to assist water users will not result in the cross-subsidisation of water costs by other licensed water users.
- Administration of cost recovery (fees) and any Government assistance (subsidies) will be transparent and efficient in process.
- Government assistance in cost recovery is applied only as necessary and in the public interest (no annual ongoing measures).

THE CONVERSATION

It was recognised that golf stakeholders were most likely to be affected by the potential direction of the Government response. As a preliminary measure, individual meetings were held between these stakeholders and senior government officials from the Environment Planning and Sustainable Development Directorate. These meetings included discussions on unique circumstances, current pricing policy of non-potable water and information about the process to prepare a government response to the Review.

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YOUR SAY



The consultation period began 7 June 2023 and ended 7 July 2023. A one-week extension was granted for two stakeholders.



WHO WE ENGAGED

The following peak bodies, community groups and authors of previous submissions to the Review were contacted and invited to respond to the consultation process.

- All 180 holders of an ACT Licence to Take Water under the *Water Resources Act 2007*
- Clubs ACT
- Canberra Community Clubs
- Coalition of Major Professional & Participation Sports (ACT)
- ACT Rural Landholders Association of Farmers
- ACT Equestrian Association
- Australian Sports Turf Managers Association
- Golf NSW & ACT Monaro District Golf Association
- Icon Water
- Phillip Oval Management Group
- Previous submissions to the Review made by individuals.

Key insights from non-potable water users, peak bodies, community groups and individuals

Market Equity Scheme

1. There is strong opposition from some stakeholders on removing the Market Equity Scheme.
2. Concerns were associated with increased operational costs, reduced opportunity to invest in water security and the proposal not reflecting positive wellbeing outcomes that golf stakeholders provide to the community.

Review of Water Abstraction Charge

3. There was mixed support and opposition for reviewing the Water Abstraction Charge, with more clarity required with the terms of reference of a review.

Financial relief in exceptional circumstances

4. There is opposition from some stakeholders on providing short term financial relief in exceptional circumstances.
5. Concerns were associated with eligibility criteria items and ability to satisfy criteria.
 - There was opposition to precluding clubs with gaming machine revenue.
 - Clarity is required to improve description of some criterion.
 - The amount of proposed financial relief was criticised as inadequate.

Freezing fees

6. There was support for freezing non-potable water fees for a set period (3 to 5 years) to provide certainty for forward operating budgets.

Other issues

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YOUR SAY



The following points were also emphasised:

7. The community wellbeing outcomes associated with golf, such as benefits of greenspace buffers, amenity and community participation should influence the Government Response to the Review
8. Water fees can account for more than 10% of operational costs. Some clubs have much higher proportions of operating costs when supplementing with high cost water in dry years because of on-site water scarcity.
9. Pricing outcomes should recognise investment by golf clubs to improve water security and the not-for-profit contributions of clubs to the Canberra community.
10. Concern that a one size fits all approach may not reach optimal pricing outcomes for the golf community.

WHAT'S NEXT?

The insights from the consultation are being considered to finalise the Government Response to the Non-potable Water Review.

A draft Government response to the Non-potable Water Review will be presented to Cabinet for consideration in 2024 and then made publicly available.



YOUR SAY



Key Timings

Finalise the draft Government response to the Review: 2024
We are here

Government response publication and implementation: 2024-2025

THANK YOU FOR YOUR FEEDBACK

210

We approached 210 entities, including all non-potable licensees, peak bodies, and authors of previous submissions

8

We held 8 in-person meetings with key stakeholders

17

We received 17 items of written feedback

9

The golf community provided 9 written submissions, from 5 golf clubs and 4 peak bodies representing golf club interests