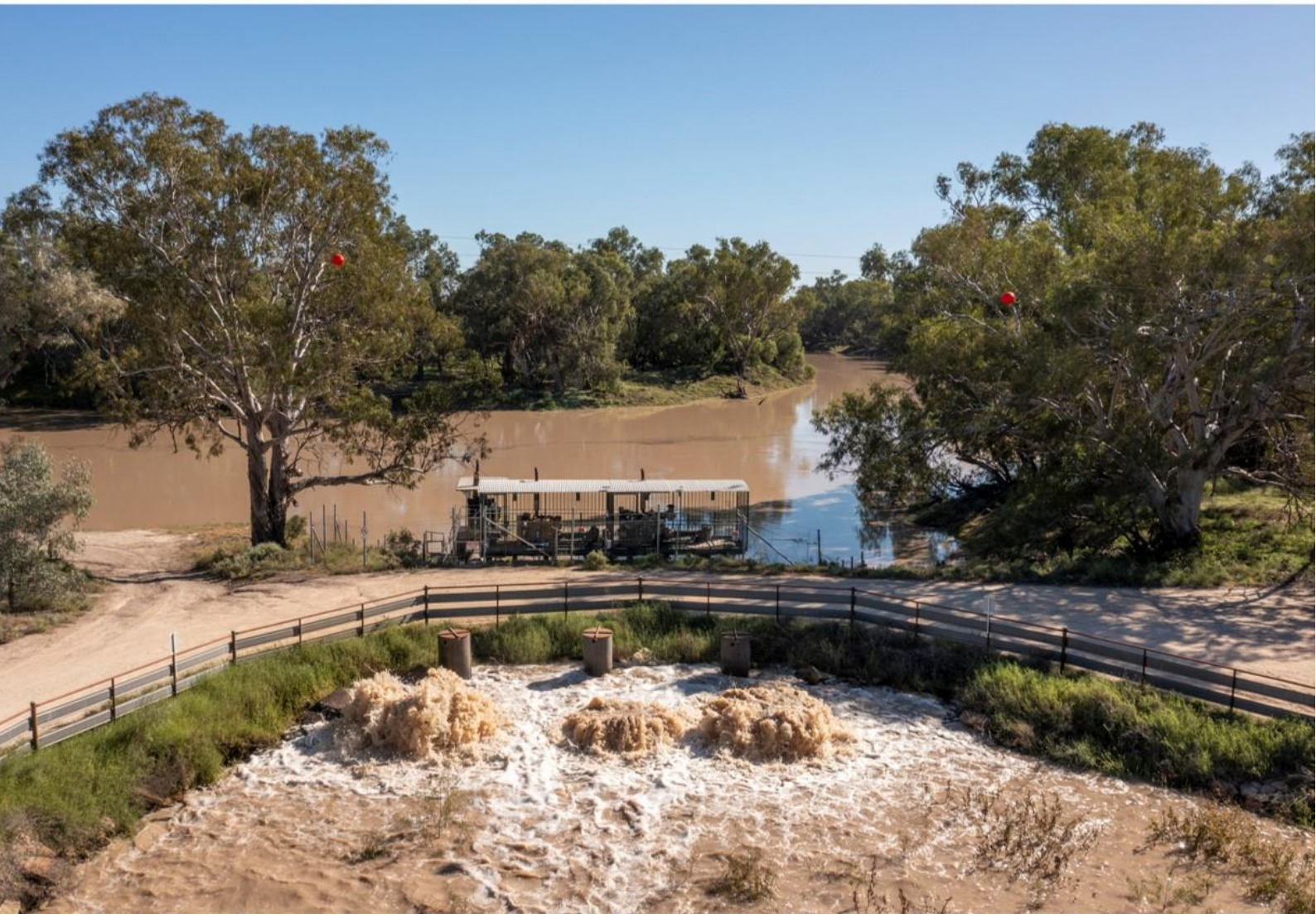
IPART
Independent Pricing and Regulatory Tribunal
New South Wales

REVIEW OF WATER NSW'S

NON-URBAN METERING REFORM CHARGES

FROM 1 OCTOBER 2021 TO 30 JUNE 2025



Supplementary Draft Report

June 2021

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Invitation for submissions

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

Submissions are due by 23 July 2021

We would prefer to receive them electronically via our online submission form.

You can also send comments by mail to:

Review of Water NSW non-urban metering reform charges
Independent Pricing and Regulatory Tribunal
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1 Executive summary

The Independent Pricing and Regulatory Tribunal (IPART) is reviewing the prices Water NSW and the Water Administration Ministerial Corporation (WAMC) can charge water users for a range of activities relating to the delivery, resource management and metering of bulk water in NSW.

In response to the Matthews Report on improving water resource management, Water NSW is implementing a range of non-urban metering reforms. In December 2020, it proposed additional costs and charges to implement the reforms over the 2021 determination period. The proposal applies to both the Water NSW and WAMC rural bulk water reviews.

In March 2021, we released draft reports for both our Water NSW and WAMC reviews. In these reports, we did not make draft decisions on Water NSW's additional costs or charges for non-urban metering reforms. Our preliminary view was that we did not have sufficient information to include Water NSW's proposed metering costs in regulated prices over the 2021 determination period. Instead we sought feedback on Water NSW's proposal including the efficiency of its costs, the impacts of proposed bill increases, the proposed price structure and who should pay for the policy.

In response to our draft reports, Water NSW submitted a revised proposal on non-urban metering responding to the issues we raised. After considering Water NSW's revised proposal, analysis by our metering expenditure consultant and feedback from other stakeholders, we decided that further analysis and draft decisions on Water NSW's non-urban metering reform charges were needed before making final decisions. We therefore decided to delay the commencement of the 2021 determination period for Water NSW and WAMC to 1 October 2021. This decision means that current prices will continue to apply from 1 July 2021 until 30 September 2021.

Improving the standard and coverage of non-urban water meters across NSW is important for building community confidence that the state's water resources are managed fairly. Our draft decisions would ensure that customers' metering charges reflect only those activities that are necessary and customers pay only for the efficient costs of implementing the non-urban metering reforms.

This report outlines our draft decisions on Water NSW's non-urban metering reform charges, explains how and why we reached them, and seeks stakeholder feedback.

1.1 Overview of draft decisions

We have made a draft decision to introduce five new charges for Water NSW to recover the efficient costs of implementing the NSW Government's non-urban metering reforms.

- A 'scheme management charge' would apply as an annual fee per licence ($/licence). This fee would apply to all licensed customers.
- A 'telemetry charge' would apply as an annual fee per metering installation for customers that use telemetry ($/meter). This fee would apply to customers with privately owned and government owned meters.
- A 'non-telemetry charge' would apply as an annual fee per metering installation for customers that do not use telemetry capacity ($/meter). This fee would apply to customers with privately owned and government owned meters.
- Two additional charges would apply to customers with government owned meters - 'meter service charge – operating costs' and 'meter service charge – capital costs'. These charges would be applied as an annual fee per metering installation ($/meter).[1]

Our draft decisions on the levels of non-urban metering charges, how they compare to Water NSW's proposals, and which charges are paid by customers with privately owned and government owned meters are set out in Table 1.1.

Table 1.1 Draft decisions on non-urban metering charges compared to Water NSW's proposals ($/year, $2021-22)

	Water NSW December 2020 proposal	Water NSW 2021 revised proposal[a]	IPART Draft decision from 1 October 2021	Privately owned meter	Government owned meter
Scheme management charge[b]	78	79	**74**	✓	✓
Telemetry charge[b]	349	257	**226**	✓	✓
Non-telemetry charge[b]	349	257	**226**	✓	✓
Meter service charge – operating costs[c, d]	934	934	**831**	✗	✓
Meter service charge – capital costs	608	608	**0**	✗	✓

a Water NSW provided its revised proposal in its submission to IPART's Draft Reports on the Review of Water NSW's rural bulk water and WAMC's water management prices.

b The scheme management charge, telemetry charge and non-telemetry charge will vary if more customers use telemetry. See Table 1.2 for further information.

c Cost for telemetry/non-telemetry is not included in the 'meter service charge – operating costs' for government owned meters.

d Customers with privately owned meters will not pay these charges because they will need to purchase and maintain a new or replacement meter themselves at their own expense.

Source: Water NSW, *Supplementary pricing proposal to IPART*, December 2020, pp 27, 29, 37 and Water NSW, Response to the IPART Draft Determination on Rural Bulk Water and WAMC Pricing – Metering Reform, April 2021, pp 21, 28, 29.

1 Customers with privately owned meters will not pay these charges because they will need to purchase and maintain a new or replacement meter themselves at their own expense.

Our draft decisions take account of the NSW and Australian Governments' suite of programs to support the uptake of metering and telemetry equipment.

The NSW Government will contribute funding to Water NSW to cover the capital costs of upgrading government owned meters. The aim of the funding is to ensure that the costs of bringing these meters into compliance with the non-urban metering rules is not borne by users. We have therefore made a draft decision to set a meter service charge – capital costs of $0 a year for the 2021 determination period.

In addition, the NSW Government and Australian Government will each provide $9 million in funding to deliver a telemetry rebate program across NSW. The rebate will automatically be applied as a one-off $975 credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information.

As part of our review, we found that the efficient costs to be recovered from the scheme management charge and telemetry charge decrease as more customers use telemetry. However, at this stage, it is unclear how many customers will use telemetry under the new program.

We have therefore made a draft decision that the level of these charges vary as the proportion of users that voluntarily opt-in to telemetry increases, as set out in Table 1.2. For example, the scheme management charge would be $74 a year if there is 0% voluntary opt-in. However, this charge would reduce to $52 a year if there is 75% or more voluntary opt-in.

Table 1.2 Draft decision on scheme management, telemetry and non-telemetry charges for different telemetry opt-in proportions ($2021-22)

Telemetry opt-in	Up to 25%	25-49%	50-74%	75% or more
Scheme management charge	74	67	60	52
Telemetry charge	226	204	189	180
Non-telemetry charge	226	221	221	221

Source: IPART using information provided by Water NSW and Cardno

The cost reflective non-telemetry charge is $221 for all telemetry opt-in proportions since the underlying costs are all variable (i.e. staff time for site inspections and downloading local intelligence devices (LIDs)). However, we have made a draft decision to set the same charge for telemetry/non-telemetry when opt-in to telemetry is up to 25% so as not to provide a disincentive for customers to opt in.

In making our draft decision on charges we:

- decided that the efficient costs of implementing the non-urban metering reforms are 12.3% less than the base case in Water NSW's revised proposal and decrease further as the proportion of users that opt in to telemetry increases
- set the user share of the efficient costs at 100% after taking account of the NSW Government funding for the capital costs of upgrading government owned meters

- considered which costs should be recovered from different charges, whether the charges should apply to all licences or water users with compliant meters and how charges should vary based on the proportion of users that opt in to telemetry
- set to zero the capital costs of upgrading government owned meters based on the NSW Government's decision to provide additional funding to cover Water NSW's capital costs
- adjusted several of Water NSW's modelling assumptions including the weighted average cost of capital (WACC)
- considered how to transition from existing metering charges to the new charges to provide incentives for compliance as the reforms are rolled out between now and December 2023
- decided not to introduce an unders and overs mechanism (UOM) noting that Water NSW may need to charge exit fees in future determinations
- considered the impacts on metering charges and bills.

1.1.1 Efficient costs are 12.3% less than Water NSW's base case and decrease as more customers opt in to telemetry

Under our draft decisions, the efficient level of expenditure to implement the non-urban metering reforms under Water NSW's base case is $47.9 million over the 2021 determination period. This is 12.3% or $6.7 million less than Water NSW's revised proposal.

Table 1.3 Draft decision on efficient costs of implementing non-urban metering reforms ($ million, $2020-21)

	2021-22	2022-23	2023-24	2024-25	Total
Water NSW revised proposal	13.3	15.1	14.0	12.1	54.6
Draft decision	12.1	13.6	12.2	10.1	47.9
Difference	-1.2	-1.5	-1.9	-2.1	-6.7
% Difference	-9.2%	-9.9%	-13.4%	-17.2%	-12.3%

Note: Totals may not sum due to rounding.

We consider that we have sufficient information from Water NSW to make draft decisions on the efficient costs of implementing the non-urban metering reforms. Since its December 2020 proposal, Water NSW has made considerable progress in developing its cost estimates and has undertaken additional program assurance activities to address many of our previous concerns. This included undertaking sensitivity analysis of key assumptions, engaging further with customers, and developing a risk register to identify and minimise the key risks associated with meeting the reforms' objectives.

However, we consider that further adjustments to Water NSW's proposed costs are needed to ensure that water users are not paying for inefficient costs. Our reductions in expenditure are made up of:

- $2.3 million in scope adjustments
- $3.6 million in catch-up efficiency adjustments as Water NSW moves from its current position to that of a utility on the efficient frontier, and

- $0.8 million in continuing efficiency adjustments to reflect the continuing efficiencies that can be gained across all major sectors through innovation and new technologies.

We also found that the efficient costs are sensitive to changes in the number of customers that voluntarily opt in to telemetry.[2] Under the new metering rules, water users will need telemetry for all approved surface water works, except for those with surface pumps less than 200 mm or those directed to install telemetry by an order of the Minister. However, even if users are not required to have telemetry, they may voluntarily install telemetry equipment.[i]

Water NSW's revised proposal was based on its preferred base case where 0% of customers voluntarily opt in to telemetry.[3] Its revised proposal also included information on costs and charges for four additional telemetry scenarios. Water NSW's analysis indicated that if 25% telemetry opt-in is achieved, Water NSW's operating and capital costs would reduce by 6% and 14% respectively, compared to its preferred base case. Similarly, if a 50% opt-in is achieved, Water NSW's operating and capital costs would reduce by 13% and 30% respectively.[ii]

Given the NSW Government's decision to provide a one-off telemetry rebate, we expect the number of customers using telemetry to increase over the 2021 determination period. We have therefore made draft decisions on the efficient costs of implementing the reforms for different levels of telemetry using five scenarios modelled by Water NSW and not just Water NSW's preferred base case (see Table 1.4). The bottom end of our range ($39.9 million) is based on the scenario where 100% of customers opt-in to telemetry while the top end of the range ($47.9 million) is based on Water NSW's base case scenario where 0% of customers opt-in to telemetry.

Table 1.4 Draft decision on efficient costs of implementing non-urban metering reforms for different telemetry opt-in scenarios ($million, $2020-21)

Telemetry opt-in	2021-22	2022-23	2023-24	2024-25	Total
0%	12.1	13.6	12.2	10.1	47.9
25%	11.5	13.1	11.6	9.6	45.8
50%	10.9	12.6	11.0	9.2	43.6
75%	10.3	12.1	10.4	8.7	41.5
100%	9.7	11.5	9.8	8.3	39.3

Note: Totals may not sum due to rounding

2 There are two types of meters under the new framework: telemetry meters and non-telemetry meters. Telemetry meters record data and remotely transmit it to Water NSW's centralised data systems. Non-telemetry meters record and store data on site and require periodic manual meter reading (known as data logger download). For further information see Chapter 4.

3 Water NSW revised proposal was submitted prior to information being available on the one-off rebate to customers that upgrade their meters to use telemetry.

1.1.2 Customer share of 100% is appropriate

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs between water customers and the NSW Government based on whichever party created the need for an activity (and its associated costs) to be incurred.

Several stakeholders considered that the NSW Government has created the need for these activities and should fund the costs of the non-urban metering reforms.[iii] However, we consider that a 100% customer share is appropriate. Customers who use meters are driving the need for upgrades to make them compliant with the new framework and should be required to contribute 100% of the efficient costs. The nature of these activities is broadly similar to existing water take, regulation and compliance management activities which all have a 100% customer share.

1.1.3 Water NSW's proposed price structure is reasonable

Water NSW proposed a price structure made up of the three elements:

- A 'scheme management charge' would apply to all licensed customers.
- A 'telemetry charge' or 'non-telemetry charge' would apply to all compliant meters (privately owned and government owned) based on the technology applied to the metering installation. Although separate charges for telemetry and non-telemetry would be established, Water NSW proposed that the annual fees would be the same for the 2021 determination period.
- Additional 'annual meter service charges' would apply to water users with government owned meters. These would be made up of:
  - Operating costs of maintaining the meters and support systems.
  - Capital costs of upgrading the meter and metering equipment.

We have made a draft decision to broadly adopt the price structure proposed by Water NSW. This structure apportions the costs of the reform appropriately across licence holders and water users with compliant meters.

We have also made a draft decision to set charges that vary based on the proportion of customers that voluntarily opt in to telemetry, as set out in above in Table 1.2. This is because the efficient costs vary based on the number of customers that voluntarily opt in to telemetry.

As the proportion of customers that opt in increases, both the scheme management charge and telemetry charge decrease. When the proportion of customers that opt-in is low (up to 25%), the telemetry costs per meter are higher than the non-telemetry costs per meter. To ensure that these charges do not provide a disincentive for customers to opt in to telemetry, we have decided to set the same charge of $226 for up to 25% telemetry opt-in.

1.1.4 Setting charges to account for government funding for upgrading government owned meters and other modelling adjustments

We have largely adopted Water NSW's proposed approach to modelling the level of charges. However, we made an adjustment to the capital costs for government owned meters to reflect the NSW Government's decision to provide funding to Water NSW for the costs of upgrading these meters. This decision was made after Water NSW submitted its revised proposal in April 2021. This adjustment reduces the meter service charge – capital costs to $0 for the 2021 determination period.

In addition, several further adjustments were necessary to ensure that the revenue from charges recovers only the efficient costs of providing non-urban metering services. We have made draft decisions to make the following adjustments to Water NSW's proposed approach:

- Applying a WACC of 1.8% real post-tax calculated with regard to the ACCC's pricing principles as required under the Commonwealth Government's *Water Charge Rules 2010* (WCR).
- Adjusted prices from 1 October 2021 so that Water NSW does not forego revenue it would have otherwise received if charges had been set from 1 July 2021.

1.1.5 Transitioning to new charges to provide incentives for compliance

We consider that the transition to new charges should take place transparently and in a manner that aligns revenue from charges to the costs incurred by Water NSW. In addition, the transition should ensure that there are appropriate incentives in place for water users and Water NSW to achieve compliance with the required roll out dates. We have made a draft decision to use different approaches for each of the charges and for water users with privately owned and government owned meters to achieve these objectives:

- The scheme management charge would apply from 1 October 2021, as Water NSW will incur several wider costs associated with introducing the reform from the start of the determination period.
- For customers with privately owned meters, the telemetry or non-telemetry charge would be prorated from the compliance dates specified under the *Water Management (General) Regulation 2018*. This approach will provide an incentive for customers to ensure their meters are compliant and allow Water NSW to start recovering the costs of providing the services.
- For customers with government owned meters, the telemetry or non-telemetry charges and the meter service charge – operating costs would be prorated from the later of the compliance dates set out in the *Water Management (General) Regulation 2018* or the date the meter is made compliant. This will ensure Water NSW has appropriate incentives to meet the relevant compliance dates and that water users are not paying for services that they do not receive if meters have not been made compliant.

1.1.6 An unders and overs mechanism is not appropriate but exit fees may be needed in the future

We do not consider that it is appropriate for Water NSW to have an unders and overs (UOM) mechanism to mitigate the financial risks arising from cost uncertainty or other factors that are within its control. Factors within Water NSW's control include higher or lower unit costs or a delay in the rollout for government owned meters (which it is responsible for delivering).

However, we consider that an exit fee may be needed to mitigate the financial risks Water NSW faces associated with customers leaving the government owned meters program after investment has occurred. Our modelling currently indicates that the NSW Government's funding for government owned meters will cover Water NSW's capital costs for upgrading these meters. As a result, we have set the exit charge for the 2021 determination period at $0.

However, in future determination periods, if Water NSW incurs prudent and efficient capital expenditure that is greater than the level of government funding, it may be appropriate for Water NSW to charge customers an exit fee. In this case, we consider that customers should be charged an exit fee based on the based on the residual value of the RAB for each meter on the day a customer opts out.

1.1.7 Our draft decisions will mean an increase in metering fees for water users

Several stakeholders were very concerned about the affordability of the increases proposed by Water NSW. The NSW Government has acknowledged these concerns and advised that it is providing funding of $14.6 million to Water NSW to cover the capital costs of upgrading government owned meters. In addition, the government will be providing a one-off rebate to customers that upgrade their meters to use telemetry. These schemes will mitigate the impact of the non-urban metering reforms on water users.

The change in meter charges and customers' bills depend on the water source, entitlement, current meter size and whether the meter is privately owned or government owned. In addition, if more customers opt in to telemetry, then metering charges and customer bills will decrease.

For example, if up to 25% of customers opt in to telemetry, general security licence holders on regulated rivers with a 100mm meter:

- that is government owned and uses telemetry would face additional metering charges of $653 or an increase of 23-57% in their bills caused by metering.
- that is privately owned and uses telemetry would face additional metering charges of $300 or an increase of 3-45% in their bills caused by metering.

However, if 75-99% of customers opt in to telemetry, general security licence holders on regulated rivers with a 100mm meter:

- that is government owned and uses telemetry would face additional metering charges of $586 or an increase of 20-51% in their bills caused by metering.
- That is privately owned and uses telemetry would face additional metering charges of $233 or an increase of 2-35% in their bills caused by metering.

1.2 Our process for this review

Our review process to date has involved the collection of information as well as detailed analysis and public consultation:

- In December 2020, we received Water NSW's original proposal on the additional costs, prices and bill impacts associated with its plan to implement the NSW Government's non-urban metering reforms.
- We comprehensively reviewed the efficiency of Water NSW's proposed metering costs in both its December 2020 proposal and April 2021 revised proposal. This included engaging Cardno to review and recommend efficient operating and capital expenditure for Water NSW to implement the non-urban metering reforms. Cardno provided a Draft Report, which we released alongside our draft reports in March 2021. Cardno's Final Report, based on information provided by Water NSW in its revised proposal, is now available on our website.
- In March 2021 we released draft reports on Water NSW and WAMC bulk water and water resource management prices. In these reports we sought feedback on Water NSW's December 2020 proposal and identified several key issues.
- In April 2021 we held public hearings for our draft reports on Water NSW and WAMC bulk water and water resource management charges. At these hearings, stakeholders discussed our preliminary views on non-urban metering reform charges.
- We have now published this Supplementary Draft Report on non-urban metering reform costs and charges and are seeking stakeholder views on our draft decisions.

Table 1.5 sets out our timetable for the remaining key milestones in this review.

Table 1.5 Review timetable

Key milestone	Updated timing
Release Supplementary Draft Report	22 June 2021
Submissions to Supplementary Draft Report due	23 July 2021
Release Final Reports and Determinations for Water NSW and WAMC	September 2021

1.3 How you can have your say

We are seeking written submissions on this Supplementary Draft Report and encourage all interested parties to comment on the draft findings and decisions it discusses, or any other issue relevant to non-urban metering reform costs and charges. Page ii of this report provides more information on how to make a submission. Submissions are due by Friday 23 July 2021.

Submissions to our review of Water NSW's rural bulk water prices and WAMC's water management prices are now closed and have been published on our website. We will consider all feedback provided in the submissions to these reviews when making our final decisions to be published in September 2021.

1.4 Structure of this report

The rest of this Supplementary Draft Report provides more information on this review of non-urban metering charges, our approach and our draft decisions. The report is structured consistent with the draft decisions described in section 1.1 above:

- Chapter 2 discusses our draft decisions on the efficient costs of implementing the NSW Government's non-urban metering reforms.
- Chapters 3 explains our draft decisions on the appropriate sharing of efficient costs between government and customers.
- Chapter 4 focuses on our draft decisions on the appropriate charge structure including which costs should be recovered from all licensed customers, water users with privately owned meters and government owned meters and whether to set different charges for telemetry and non-telemetry services.
- Chapter 5 discusses how we calculated the level of charges and the adjustments we made to Water NSW proposed approach.
- Chapter 6 explains our draft decisions on how to transition from existing charges to new charges
- Chapter 7 discusses our draft decisions on a UOM and exit fees for customers with government owned meters
- Chapter 8 discusses how these decisions impact customers.

1.5 List of draft decisions for stakeholder feedback

We are seeking feedback from stakeholders on our draft decisions. These are set out below.

2 Efficient costs of non-urban metering reforms

Summary of draft decisions on efficient costs

Water NSW has provided sufficient information for us to make draft decisions on efficient costs

Since its December 2020 proposal, Water NSW has made considerable progress developing its cost estimates and addressing many of our previous concerns on the efficiency of its costs. This included undertaking sensitivity analysis of key assumptions, engaging further with customers, and developing a risk register to identify and minimise the key risks associated with meeting the reform's objectives.

Efficient costs are 12.3% less than Water NSW's revised base case

We consider that further adjustments to Water NSW's proposed costs are needed to ensure that water users are not paying for inefficient costs. Our reductions in expenditure under Water NSW's base case are made up of:

- $2.3 million in scope adjustments
- $3.6 million in catch-up efficiency adjustments as Water NSW moves from its current position to that of a utility on the efficient frontier, and
- $0.8 million in continuing efficiency adjustments to reflect the continuing efficiencies that can be gained across all major sectors through innovation and new technologies.

Efficient costs decrease as the number of customers that opt in to telemetry increases

We found that the efficient costs are sensitive to changes in the number of customers that voluntarily opt in to telemetry. At the time of submitting its revised proposal, Water NSW considered that there was no evidence to suggest that there will be any voluntary uptake of telemetry. However, the NSW Government has now decided to provide a one-off rebate for customers who use telemetry.

We consider that our draft decision should reflect the potential range of telemetry opt-in based on 5 scenarios modelled by Water NSW: 0%, 25%, 50%, 75% and 100% telemetry opt-in. The efficient costs are highest when 0% of customers voluntarily opt in to telemetry ($47.9 million) and lowest when 100% of customers voluntarily opt in to telemetry ($39.3 million).

This chapter sets out our draft decisions on the efficient costs of implementing the NSW Government's non-urban metering reform. We begin by providing an assessment of Water NSW's progress on developing its cost estimates. We then set out our draft decisions and further details on scheme management costs and government owned meter costs for Water NSW's proposed base case. Finally, we discuss how the efficient costs vary based on the number of customers that voluntarily opt in to telemetry.

2.1 Water NSW has provided sufficient information to set efficient costs

In December 2020, Water NSW provided IPART with a supplementary submission on the additional costs of implementing the NSW Government's non-urban metering reform. This included a bottom-up build of costs to derive preliminary cost estimates. We engaged Cardno to review Water NSW's proposed costs and charges and released Cardno's initial assessment alongside our Draft Report.

In the Water NSW and WAMC Draft Reports, our preliminary view was that Water NSW had not provided sufficient information for us to include its proposed metering costs in regulated prices over the upcoming determination period. This was because:

- The proposed costs had not been developed with sufficient rigour to be considered efficient costs.
- More work was needed to ensure Water NSW's implementation of these reforms is both effective and efficient.
- Water NSW did not have a risk register or any mitigation measures to manage its implementation program. Due to the uncertainty over Water NSW's proposed cost assumptions there is a high level of risk that the proposed implementation program will not effectively meet the policy objectives.

Several stakeholders also raised concerns about Water NSW's proposed costs. For example, NSW Irrigators Council considered that the issues raised by us were significant and users should only be paying for costs which can be demonstrated to be efficient.[iv] In addition, Coleambally Irrigation considered that many assumptions made by Water NSW about how water users will respond to the non-urban metering framework cause uncertainty about the costs Water NSW will incur.[v]

In response to our Draft Report, Water NSW provided a revised proposal (April revised proposal). Cardno has completed its review of Water NSW's April revised proposal and provided its final report to IPART. Our draft decisions have been informed by Cardno's findings as well as stakeholder submissions.

Cardno has assessed Water NSW's April revised proposal and the progress it made developing its cost estimates. It found that Water NSW had undertaken additional program assurance activities to address our concerns (see Box 2.1). As a result, Cardno was able to make recommendations on the efficient level of costs required to deliver the non-urban metering reforms. We consider that there is now sufficient information to forecast efficient costs. We have accepted Cardno's recommendations on where Water NSW can make efficiency savings which will ensure that customers are not paying for costs that have not been demonstrated to be efficient.

2.2 Efficient expenditure is 12.3% less than Water NSW's April revised base case

Our draft decision is:

1 That the efficient costs of implementing the NSW Government's non-urban metering reforms under Water NSW's proposed base case is $47.9 million over the 2021 determination period (see Table 2.1).

Water NSW's April revised proposal included $54.6 million in operating and capital expenditure over the 2021 determination period to implement the NSW Government's non-urban metering reforms. This was $7.1 million less than the preliminary cost estimates it included in its NSW's December 2020 proposal.

Water NSW's proposal was based on modelling that assumed no customers voluntarily opt in to telemetry. It considered that this is the most likely outcome because users will choose to meet their regulatory requirements and nothing more.[vi] However, it also provided modelling of 4 additional scenarios with 25%, 50%, 75% and 100% of customers choosing to opt in to telemetry.

Cardno considered that Water NSW's base case reflects a credible position and presented its recommendations using this scenario. All figures presented in Cardno's final report and in this section relate to Water NSW's base case. However, we consider that our draft decisions should also reflect the potential range of telemetry opt-in based on all scenarios modelling by Water NSW. This is discussed further in section 2.3.

Cardno recommended reducing Water NSW's proposed expenditure by $6.7 million. Cardno's recommendations are based on its assessment of the latest cost estimates, expected metering compliance dates and supporting information provided by Water NSW. We have accepted Cardno's recommendations and made a draft decision that Water NSW's efficient level of expenditure for the 4-year determination period is $47.9 million.

Box 2.1 Water NSW's additional program assurance activities

Sensitivity analysis

Water NSW has undertaken extensive sensitivity analysis to assess alternative assumptions relative to the base case and how these might impact on costs. Water NSW also considered that the most material driver of expenditure (particularly for the initial site inspection and downloading local intelligence devices (LIDs) expenditure categories) is the number of telemetry meter devices. Based on this, it has modelled a number of different scenarios over the 4-year determination period based on the additional uptake of meters with telemetry through customers opting in, even though only customers with meters 200 mm and above are required to have telemetry.

Cardno considered that Water NSW's base case, with no additional take-up of telemetry, reflected a credible position. It found that Water NSW had improved its assumptions and the balance of risk sharing between the business and customers.

Risk management

Water NSW developed a comprehensive risk register that assesses the risks and opportunities associated with the implementation program and aligns these risks to its work program and financial assumptions. The development of this risk register has been completed in accordance with Water NSW's Risk Management Framework and is aligned to AS/NZS ISO 31000:2009 Risk Management.

Cardno found that Water NSW had done significant work on its Metering Risk Register. This allowed it to identify and minimise key risks relating to meeting the objectives of its operating licence and delivering the reform's objectives by making meters compliant with standards and other regulatory requirements. Cardno also confirmed that Water NSW's risk management activities and outputs from the risk register fed directly into the sensitivity analysis and scenario modelling used to develop its expenditure forecasts.

Customer engagement

Water NSW has undertaken further engagement on its metering submission proposals. This has included:

- Meetings with its Customer Advisory Groups in December 2020 specifically on the metering reforms and the activities (and resulting costs) expected of Water NSW in meeting the new reforms.
- Holding valley-by-valley meetings around the state, on subjects requested specifically for each valley, including further metering engagement. These meetings have included providing updates on the NSW Government's metering reforms including next steps, Duly Qualified Persons (DQPs), telemetry, recording and reporting, rollout dates, conditions that apply now, rules and standards, path to compliance and government owned meters.

Cardno considered Water NSW's stakeholder engagement carried out since December 2020 has informed customers of the potential pricing impacts resulting from Water NSW's proposals to implement the NSW Government's metering policy.

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2021, pp 8-10.

2.2.1 Overview of draft decisions on Water NSW's base case

Our draft decisions mean that the level of expenditure used to set non-urban metering charges will provide for Water NSW to implement the NSW Government's non-urban metering reforms. In addition, customers will not be paying for inefficient costs. Based on Cardno's recommendations from applying a three-step approach to assessing efficiency (as set out in Box 2.2), our reductions in Water NSW's proposed expenditure are comprised of:

- $2.3 million in scope adjustments
- $3.6 million in catch-up efficiency adjustments, based on a catch-up efficiency factor of 3.2% per annum for operating expenditure and 1.3% per annum for capital expenditure
- $0.8 million in continuing efficiency adjustments, based on a continuing efficiency factor of 0.7% per annum.

Table 2.1 Draft decision on efficient costs of implementing non-urban metering reforms under Water NSW's proposed base case ($million, $2020-21)

	2021-22	2022-23	2023-24	2024-25	Total
Water NSW April revised proposal	13.3	15.1	14.0	12.1	54.6
Draft decision	12.1	13.6	12.2	10.1	47.9
Difference	-1.2	-1.5	-1.9	-2.1	-6.7
% Difference	-9.2%	-9.9%	-13.4%	-17.2%	-12.3%

Note: Totals may not sum due to rounding.

Water NSW proposed costs for

- scheme management (which it proposes are recovered from all customers via scheme management and telemetry/non-telemetry charges), and
- government owned meter (which it proposes are recovered only from customers with government owned meters).

Further analysis on each of these costs is set out in the following sections.

Box 2.2 Methodology for determining efficient expenditure

We have used a 3-step process to establish the efficient metering expenditure. This is consistent with the approach adopted by our consultant Cardno and other recent water pricing reviews. The approach uses the concept of an efficient 'frontier' company competing in an open market to deliver services to customers. In summary, there are three steps in the methodology:

- Scope adjustments: Review of activities and costs to identify any imprudent or inefficient activities and associated costs. Where imprudent or inefficient activities or costs are identified, an adjustment is made.
- Catch-up efficiency: Productivity gains that may be realised when an agency moves from its current position to that of the frontier utility. Cardno's assessment of catch-up efficiency is based on a qualitative assessment of the processes used and proposed by Water NSW to undertake metering activities.
- Continuing efficiency: The scope for top performing or frontier companies to continue to improve their efficiency. It reflects the continuing efficiencies being gained across all major sectors through innovation and new technologies.

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2021, p 29.

2.2.2 Scheme management costs

Scheme management costs include the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education. They also include metering scheme management costs such as compliance activities, water take assessments, meter reading and meter data services. Water NSW proposed:

- $29.7 million in operating expenditure to meet its requirements for the NSW metering scheme management program across the 4-year 2021 determination period. This is an overall reduction of $6.1 million from its original December 2020 proposal.
- A total of $2.8 million in capital expenditure across the 4-year 2021 determination period. This is an overall reduction of $0.1 million from the December 2020 proposal.[vii]

Our draft decision is to reduce scheme management operating costs by $4.3 million or 14.4%

Our adjustments to Water NSW's proposed scheme management operating costs are summarised in Table 2.2.

Table 2.2 Draft decision on efficient scheme management operating expenditure for the 2021 Determination ($millions, $2020-21)

	2021-22	2022-23	2023-24	2024-25	Total
Water NSW's proposal	**5.5**	**7.2**	**8.7**	**8.2**	**29.7**
Scope adjustments	-0.3	-0.4	-0.4	-0.4	-1.5
Catch-up efficiency	-0.2	-0.4	-0.8	-1.0	-2.3
Continuing efficiency	0.0	-0.1	-0.2	-0.2	-0.5
Total efficient operating expenditure	**5.0**	**6.3**	**7.4**	**6.7**	**25.4**
Difference	-0.5	-0.9	-1.3	-1.5	-4.3
Difference (%)	-9.4%	-12.3%	-15.3%	-18.7%	-14.4%

Note: Totals may not sum due to rounding.

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, pp 31-32 and IPART analysis.

The following sections set out further detail on our scope adjustments, catch-up and continuing efficiencies for scheme management operating expenditure.

Water NSW can make operating efficiency savings of $1.5 million from scope adjustments

We consider that Water NSW can make operating efficiency savings of $1.5 million from scope adjustments. This is consistent with Cardno's recommendations which identified any inefficient activities and associated costs in Water NSW's revised proposal. Cardno recommended the following adjustments:

- An annual adjustment based on the revision of the working weeks included in Water NSW's cost model from 40.66 to 41.41. This recognises that non-field staff are not subject to the same training, down-time and leave requirements of field staff and as such have slightly higher average working weeks per year.
- An annual adjustment based on an observation in Water NSW's cost model that the 'Other' salary costs for Team Leaders had not been revised to from $25,000 to $15,000 as set out in the changes that Water NSW had made to its expenditure forecasts in its April 2021 submission.
- An annual adjustment of $0.19 million to remove the double counting of 1 FTE salary costs for Customer Systems activities. These costs have been correctly included in the operating and maintaining the Data Acquisition Service (DAS) and DQP portal costs but were double counted in the overall Customer Serve and Systems total.
- An annual adjustment to remove the GST component for several items included in the cost build-up for operating and maintaining the DAS and DQP Portal. Items that Water NSW had included in its cost model as GST inclusive were the DAS licensing fee, telemetry fixed infrastructure costs, telemetry data charges and SIM purchase and postage. The adjustment for these items totals $0.27 million over the 4-year period.[viii]

Water NSW can make catch-up efficiency savings of $2.3 million

Catch-up efficiency reflects the efficiency needed to be achieved over time to catch-up with a frontier company. Any scope adjustments are made before applying catch up efficiencies. Our draft decision is to accept Cardno's recommended catch-up efficiency adjustments of 3.2% per year, totalling $2.3 million in efficiency savings over the 2021 determination period.

Table 2.3 sets out the levels of catch-up efficiency adjustments applied to Water NSW's operating expenditure.

Table 2.3 Catch-up efficiency for scheme management operating expenditure ($millions, $2020-21)

Level of catch-up efficiency	2021-22	2022-23	2023-24	2024-25
Catch-up efficiency (cumulative (%))	-3.2%	-6.3%	-9.3%	-12.2%
Total catch-up efficiency ($ million)	-0.2	-0.4	-0.8	-1.0

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 31 and IPART analysis.

Cardno recommended catch-up efficiency adjustments of 3.2% per year for the 2021 determination period. We consider this is a realisable efficiency gain given the relative maturity of Water NSW's process for non-urban metering activities.

Cardno considered that while Water NSW's April revised submission on metering reform costs was substantially more robust than its initial submission, the program and metering processes are still relatively immature and further savings can be made to move to the efficient frontier. This is evidenced for example by several assumptions which are yet to be validated, e.g. the one-hour travel time between sites. In Cardno's view, there may also be potential for Water NSW to optimise resourcing for these activities by finding synergies with its existing staff and other resources.

Cardno considered that a useful measure of the level of catch-up efficiency that Water NSW will be able to achieve in the future period is the level of efficiency that has actually been achieved by Water NSW in the current period for surface water and groundwater monitoring. This level of efficiency is 3.9% per annum (calculated as the movement between the average level of operating expenditure in the current period and the average level of operating expenditure in the future period over a 5-year period). As this efficiency will also have been contributed to by continuing efficiency, this needs to be subtracted from the total efficiency to arrive at the level of catch-up efficiency achieved.

Based on these observations and having regard to the level of catch-up efficiency achieved in surface water and groundwater monitoring activities in the current period, Cardno considered that a catch-up efficiency of 3.2% per year will be able to be achieved by Water NSW in the future period.

Water NSW can make continuing efficiency savings of $0.5 million

Our draft decision is to apply continuing efficiency adjustments of 0.7% per year, totalling $0.5 million in efficiency savings over the 2021 determination period (Table 2.4).[4]

The continuing efficiency adjustment is important because it ensures charges capture the impact of innovation and new technologies that enable firms to do more with less input. The continuing efficiency applied is also consistent with that applied to Water NSW's expenditure for WAMC and Rural Valley activities.

Table 2.4 Continuing efficiency for scheme management operating expenditure

Level of efficiency	2021-22	2022-23	2023-24	2024-25	Total
Continuing efficiency (cumulative %)	−0.7%	−1.4%	−2.1%	−2.8%	n/a
Continuing efficiency ($million, $2020-21)	0.0	-0.1	-0.2	-0.2	-0.5

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 32 and IPART analysis.

Our draft decision is to reduce scheme management capital costs by $0.4 million or 15.0%

Our adjustments to Water NSW's proposed scheme management capital costs are summarised in Table 2.5.

Table 2.5 Draft decision on efficient scheme management capital expenditure for the 2021 Determination ($millions, $2020-21)

	2021-22	2022-23	2023-24	2024-25	Total
Water NSW's proposal	1.6	0.5	0.5	0.2	2.8
Scope adjustments	-0.3	0.0	0.0	0.0	-0.3
Catch-up efficiency	0.0	0.0	0.0	0.0	-0.1
Continuing efficiency	0.0	0.0	0.0	0.0	0.0
Total efficient capital expenditure	1.2	0.5	0.4	0.2	2.3
Difference	-0.4	0.0	0.0	0.0	-0.4
Difference (%)	-22.7%	-3.7%	-5.6%	-7.1%	-15.0%

Note: Totals may not sum due to rounding

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 32 and IPART analysis

The following sections set out further detail on our scope adjustments, catch-up and continuing efficiencies for scheme management capital expenditure.

4 The value of the continuing efficiency adjustment is derived from the compound long-run average of the Australian Bureau Statistics (ABS) multi-factor productivity (MFP) series for the Australian economy.

Water NSW can make capital efficiency savings $0.3 million from scope adjustments

We decided to adopt Cardno's recommendations which identified any inefficient activities and associated costs in Water NSW's revised proposal. Cardno recommended the following adjustment:

- Removal of the $0.3 million that Water NSW has included in 2021-22 as a capital allowance to automate upload time for initial site inspection. Cardno considered that that this expenditure duplicates the WAVE[5] program expenditure.[ix]

Water NSW can make catch-up efficiency savings of $0.1 million

Catch-up reflects the efficiency needed to be achieved over time to catch up with a frontier company. Our draft decision is to accept Cardno's recommended catch-up efficiency adjustments for capital expenditure of 1.25% in 2021-21 increasing to 4.5% in 2024-25 per year, totalling $0.1 million in efficiency savings over the 2021 determination period.

Table 2.6 sets out the levels of catch-up efficiency adjustments applied to Water NSW's capital expenditure.

Table 2.6 Catch-up efficiency for scheme management capital expenditure

Level of catch-up efficiency	2021-22	2022-23	2023-24	2024-25	Total
Catch-up efficiency (cumulative (%))	-1.3%	-2.5%	-3.8%	-4.5%	n/a
Total catch-up efficiency ($million, $2020-21)	0.0	0.0	0.0	0.0	-0.1

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, p 30 and IPART analysis.

The recent review of Water NSW's expenditure for its Rural Valley business assessed the level of catch-up efficiency that the business may achieve in the future period and this estimate was adopted for capital expenditure for Water NSW's WAMC activities. Water NSW was assessed to be able to achieve catch-up efficiencies for capital expenditure in the following areas:

- improvements to capital program development, optimisation and prioritisation
- improvements to value engineering
- improvements in cost estimating and the management of contingencies
- the impact of new procurement processes and the likely savings from more effective program management.

Cardno considered that the capital expenditure for the metering reform is different in nature to that for the wider rural valleys in WAMC's capital expenditure activities. This is because the overall program is relatively small in magnitude and only covers a limited range of activities for motor vehicles, information systems and works to bring government-owned meters into compliance with the required standard. Given this, Cardno considered that there is less scope for Water NSW to achieve catch-up efficiency for metering capital expenditure compared with that anticipated for Water NSW's wider programs.

5 The WAVE program is a program Water NSW is implementing to streamline, improve and consolidate its ICT work streams including its customer interface and online licensing and transactions system.

Cardno recommended catch-up efficiency to apply to metering capital expenditure on the following basis:

- No catch-up for capital program development given the relatively small and disparate scope items.
- Reduced scope for cost estimating catch-up efficiencies due to costs for some scope items, such as vehicles, being currently well known.
- Reduced scope for procurement catch-up efficiencies due to the lower volume of work associated with these activities.[x]

Water NSW can make continuing efficiency savings of less than $0.1 million

Our draft decision is to apply the same continuing efficiency adjustments of 0.7% per year to capital expenditure as for operating expenditure, totalling less than $0.1 million in efficiency savings over the 2021 determination period (Table 2.7).[6]

Table 2.7 Continuing efficiency for scheme management capital expenditure

Level of efficiency	2021-22	2022-23	2023-24	2024-25	Total
Continuing efficiency (cumulative %)	−0.7%	−1.4%	−2.1%	−2.8%	n/a
Continuing efficiency ($million, $2020-21)	0.0	0.0	0.0	0.0	<0.1

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, p 32 and IPART analysis.

2.2.3 Government owned meter costs

Government owned meter costs include the costs that Water NSW will incur in upgrading and maintaining existing government owned meters to ensure they are compliant with the new regulatory framework. It does not include the replacement or installation of new government owned meters. Water NSW proposed:

- A total of $14.6 million in capital expenditure across the 4-year 2021 determination period to achieve compliance for the 2,822 government owned meters (unchanged from Water NSW's December 2020 cost proposal submission).[7]
- $11.6 million in operating expenditure to maintain the government owned meters in a condition and to a standard that complies with the new requirements for the 4-year determination period commencing in 2021-22. This is an overall reduction of $0.9 million over the 4-year period.[xi]

Our draft decision is to reduce government owned meter operating costs by $1.2 million or 10.6%

Our adjustments to Water NSW's government owned meter operating costs are summarised in Table 2.8.

6 The value of the continuing efficiency adjustment is derived from the compound long-run average of the Australian Bureau Statistics (ABS) multi-factor productivity (MFP) series for the Australian economy.

7 This includes $4.0 million in the previous regulatory period and $10.6 million from 2021-22 to 2024-45.

Table 2.8 Draft decision on efficient government owned meter operating expenditure for the 2021 Determination ($millions, $2020-21)

	2021-22	2022-23	2023-24	2024-25	Total
Water NSW's proposal	2.2	2.9	3.2	3.2	11.6
Scope adjustments	0.0	0.0	0.0	0.0	-0.1
Catch-up efficiency	-0.1	-0.2	-0.3	-0.4	-0.9
Continuing efficiency	0.0	0.0	-0.1	-0.1	-0.2
Total efficient operating expenditure	2.1	2.7	2.8	2.7	10.3
Difference	-0.1	-0.2	-0.4	-0.5	-1.2
Difference (%)	-4.6%	-8.4%	-12.0%	-15.4%	-10.6%

Note: Totals may not sum due to rounding

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 33 and IPART analysis

The following sections set out further detail on our scope adjustments, catch-up and continuing efficiencies for government owned meter operating expenditure.

Water NSW can make operating efficiency savings of $0.1 million from scope adjustments

We have adopted Cardno's recommendations which identified any inefficient activities and associated costs in Water NSW's revised proposal. Cardno recommended the following adjustment:

- An annual adjustment for the reduction of the consumables for each site visit from $75 per visit to $65 per visit based on Cardno's assessment of the cost build-up for this item.[xii]

Water NSW can make catch-up efficiency savings of $2.3 million

Our draft decision is to accept Cardno's recommended catch-up efficiency adjustments of 3.2% per year, totalling $0.9 million in efficiency savings over the 2021 determination period. Cardno recommended the same catch-up efficiency factor for operating expenditure across scheme management costs and government owned meter costs.

Table 2.9 sets out the levels of catch-up efficiency adjustments we have applied to Water NSW's operating expenditure.

Table 2.9 Catch-up efficiency for government owned meter operating expenditure

Level of catch-up efficiency	2021-22	2022-23	2023-24	2024-25	Total
Catch-up efficiency (cumulative (%)	-3.20%	-6.30%	-9.30%	-12.20%	n/a
Total catch-up efficiency ($million, $2020-21)	-0.1	-0.2	-0.3	-0.4	-0.9

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 33 and IPART analysis.

Water NSW questioned the applicability of this catch-up efficiency given that it includes a meter service charge component to which Cardno had not previously applied a catch-up efficiency. Cardno did not consider that this is a relevant consideration because that review was based on existing activities and an existing contract. It expects that Water NSW will be able to achieve catch-up efficiencies in delivering the wider and changed activities in meter reform.[xiii]

Water NSW can make continuing efficiency savings of $0.2 million

Our draft decision is to apply continuing efficiency adjustments of 0.7% per year, totalling $0.2 million in efficiency savings over the 2021 determination period (see Table 2.10).[8] This is based on Cardno's recommendations that applied the same continuing efficiency saving to both scheme management and government owned meter operating costs.

Table 2.10 Continuing efficiency for government owned meter operating expenditure

Level of efficiency	2021-22	2022-23	2023-24	2024-25	Total
Continuing efficiency (cumulative %)	−0.7%	−1.4%	−2.1%	−2.8%	n/a
Continuing efficiency ($million, $2020-21)	0.0	0.0	-0.1	-0.1	-0.2

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 33 and IPART analysis.

Our draft decision is to reduce government owned meter capital costs by $0.8 million or 7.3%

Our adjustments to Water NSW's proposed government owned meter capital costs are summarised in Table 2.11.

8 The value of the continuing efficiency adjustment is derived from the compound long-run average of the Australian Bureau Statistics (ABS) multi-factor productivity (MFP) series for the Australian economy.

Table 2.11 Draft decision on efficient government owned meter capital expenditure for the 2021 Determination (millions, $2020-21)

	2021-22	2022-23	2023-24	2024-25	Total
Water NSW's proposal	4.0	4.4	1.7	0.5	10.6
Scope adjustments	-0.2	-0.2	0.0	0.0	-0.4
Catch-up efficiency	0.0	-0.1	-0.1	0.0	-0.2
Continuing efficiency	0.0	-0.1	0.0	0.0	-0.1
Total efficient capital expenditure	3.8	4.1	1.5	0.5	9.8
Difference	-0.3	-0.3	-0.1	0.0	-0.8
Difference (%)	-6.4%	-7.8%	-8.1%	-7.1%	-7.3%

Note: Totals may not sum due to rounding. We also note that Water NSW incurred $3.985 million in the current regulatory period (i.e. before 2021-22) which Cardno accepted was prudent and efficient.

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, p 34 and IPART analysis

The following sections set out further detail on our scope adjustments, catch-up and continuing efficiencies for scheme management capital expenditure.

Water NSW can make capital efficiency savings $0.4 million from scope adjustments

We have adopted Cardno's recommendations which identified any inefficient activities and associated costs in Water NSW's revised proposal. Cardno recommended the following adjustments:

- An annual adjustment in 2021-22 and 2022-23 to remove the 10% contingency that Water NSW has added on to its annual scheme administration costs
- An annual adjustment based on a change from the $9,000 accuracy testing cost assumed by Water NSW in its proposal to $7,750. This reduction in the unit rate is based on Cardno's assessment that the adoption of laboratory testing for all accuracy testing is not an efficient approach and a more efficient cost approach at this time would be to conduct 50% of the accuracy testing through laboratory testing and the remaining 50% through the cheaper in situ testing. $7,750 is the average of the costs for laboratory and in situ testing.[xiv]

Water NSW can make catch-up efficiency savings of $0.2 million

Our draft decision is to accept Cardno's recommended catch-up efficiency adjustments for capital expenditure of 1.25% in 2021-21 increasing to 4.5% in 2024-25 per year, totalling $0.1 million in efficiency savings over the 2021 determination period. Cardno recommended the same catch-up efficiency for scheme management and government owned meter capital expenditure.

Table 2.12 sets out the levels of catch-up efficiency adjustments applied to Water NSW's capital expenditure.

Table 2.12 Catch-up efficiency for government owned meter capital expenditure

Level of catch-up efficiency	2021-22	2022-23	2023-24	2024-25	Total
Catch-up efficiency (cumulative (%)	-1.3%	-2.5%	-3.8%	-4.5%	n/a
Total catch-up efficiency ($million, $2020-21)	0.0	-0.1	-0.1	0.0	-0.2

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 30 and IPART analysis.

Water NSW can make continuing efficiency savings of $0.1 million

Our draft decision is to apply the same continuing efficiency adjustments of 0.7% per year to capital expenditure as for operating expenditure, totalling $0.1 million in efficiency savings over the 2021 determination period (see Table 2.13).[9]

Table 2.13 Continuing efficiency for government owned meter capital expenditure

Level of efficiency	2021-22	2022-23	2023-24	2024-25	Total
Continuing efficiency (cumulative %)	−0.7%	−1.4%	−2.1%	−2.8%	n/a
Continuing efficiency ($million, $2020-21)	0.0	-0.1	0.0	0.0	-0.1

Source: Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020, p 33 and IPART analysis.

2.3 Efficient costs decrease as more customers voluntarily opt in to telemetry

Our draft decision is:

2 That the efficient costs of implementing the NSW Government's non-urban metering reforms vary based on the proportion of customers that voluntarily opt in to telemetry as set out in Table 2.14.

Under the new metering rules, water users will need telemetry for all approved surface water works, except for those with surface pumps less than 200 mm or those directed to install telemetry by an order of the Minister. However, even if users are not required to have telemetry, they may voluntarily install telemetry equipment.[xv]

In its revised proposal, Water NSW modelled 5 different rollout and telemetry opt-in scenarios:

- Model 1 – 0% of meters move to telemetry (this is Water NSW's preferred base case)
- Model 2 – 25% of meters move to telemetry
- Model 3 – 50% of meters move to telemetry
- Model 4 – 75% of meters move to telemetry
- Model 5 – 100% of meters move to telemetry.[xvi]

9 The value of the continuing efficiency adjustment is derived from the compound long-run average of the Australian Bureau Statistics (ABS) multi-factor productivity (MFP) series for the Australian economy.

The number of meters that move to telemetry in Models 2-5 is in addition to the number of meters under Model 1. For example, under Model 4, 75% of the meters assumed to be non-telemetry meters under Model 1 are classified as telemetry in Model 4. Water NSW considered that Model 5, which assumes 100% of meters move to telemetry, is not a viable scenario in the absence of government policy or a supporting subsidy to encourage users to opt in to telemetry.

Water NSW's analysis indicated that if a 25% telemetry opt-in is achieved, its operating and capital costs would reduce by 6% and 14% respectively, compared to its preferred base case. Similarly, if a 50% opt-in is achieved, Water NSW's operating and capital costs would reduce by 13% and 30% respectively.[xvii]

Cardno considered that there remains potential for Water NSW's forecast costs for downloading LIDs not connected to telemetry to be overstated.[xviii] This would occur where any additional customers voluntarily opt in to telemetry and Water NSW no longer incurs the additional costs of downloading data from LIDs for customers not connected to telemetry. While Cardno noted that Water NSW's base case was credible, it noted that there is potential for Water NSW's proposed operating and capital expenditure forecasts to be significantly reduced if any government supporting subsidy is introduced to encourage an increase in the number of meters moving to telemetry.

In June 2021, the NSW Government and Australian Government decided that they will each provide $9 million in funding to deliver an $18 million telemetry rebate program across NSW over the rollout of the non-urban metering rules. The rebate will automatically be applied as a $975 one-off credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information and is likely to result in an increase in the number of customers that voluntarily opt in to telemetry than in Water NSW's base case.

We consider that the efficient costs should decrease as more customers opt in to telemetry. This also means that the cost per meter of providing telemetry services decreases as more customers opt in and utilise IT systems with largely fixed costs.

We have made draft decisions on the efficient costs of implementing the reforms for the 5 telemetry scenarios modelled by Water NSW (see Table 2.14). To do this, we applied the efficiency savings identified by Cardno in its analysis of Water NSW's base case (or Model 1) to the other four telemetry scenarios. The bottom end of our range ($39.3 million) is based on the scenario where 100% of customers opt in to telemetry while the top end of the range ($47.9 million) is based on Water NSW's base case scenario where 0% of customers opt in to telemetry.

Table 2.14 Draft decision on efficient costs of implementing non-urban metering reforms for different telemetry opt-in scenarios ($million, $2020-21)

Telemetry opt-in	2021-22	2022-23	2023-24	2024-25	Total
0%	12.1	13.6	12.2	10.1	47.9
25%	11.5	13.1	11.6	9.6	45.8
50%	10.9	12.6	11.0	9.2	43.6
75%	10.3	12.1	10.4	8.7	41.5
100%	9.7	11.5	9.8	8.3	39.3

Note: Totals may not sum due to rounding.

Source: IPART analysis using data from Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, April 2020.

3 Cost shares

Summary of draft decisions on cost shares

User share of 100% is appropriate

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs on the basis of whichever party created the need for an activity (and its associated costs) to be incurred.

Customers who use meters are driving the need for upgrades to make them compliant with the new framework and should be required to contribute 100% of the efficient costs. The nature of these activities is broadly similar to existing water take, regulation and compliance management activities which all have a 100% customer share.

This chapter sets out our draft decisions on Water NSW's cost shares for the non-urban metering reforms.

3.1 User share of 100% is appropriate

Our draft decision is:

3 That a 100% user share is appropriate for expenditure incurred by Water NSW implementing the NSW Government's non-urban metering reforms.

We allocate the efficient costs of Water NSW's rural bulk water services and WAMC's water management costs on the basis of whichever party created the need for an activity (and its associated costs) to be incurred (see Box 3.1 for further information).

Box 3.1 How do we determine who should pay for efficient costs?

Our cost sharing framework takes the efficient and prudent capital and operating costs, excludes 'legacy costs', and then applies our funding hierarchy to determine who should pay for the costs.

Our funding hierarchy, which is applied to monopoly water services and other regulated industries, is as follows:

1. Preferably, the party that creates the need to incur the cost should pay in the first instance.
2. If that is not possible, the party that benefits should pay.
3. Where it is not feasible to charge the above parties (for example, because of social welfare policy, public goods, externalities, or an administrative or legislative impracticality of charging), the government (taxpayers) should pay.

We consider that this approach is more efficient than alternatives because it results in customers facing the full costs of the services they receive. In addition, it is a more practical and transparent method for allocating costs and is consistent with the funding hierarchy that we have previously used for other services.

Several stakeholders considered that the government is the impactor and should fund the costs of the non-urban metering reforms.[xix] However, we consider that a 100% user share is appropriate.

A compliant meter is required to ensure water users' water take is accurately measured. The NSW Government has updated the requirements for compliant meters. Water NSW is required to provide metering services and other activities to ensure compliance. Therefore, we consider that water users have created the need for Water NSW providing these services (and the associated costs).

3.2 Non-urban metering activities are similar to other Water NSW activities with a 100% user share

Cardno also considered and recommended that a 100% customer share is appropriate for Water NSW's non-urban metering reform activities. It considered that the nature of the activities is broadly similar to existing water take activities which have the following activity codes and user shares:[xx]

- W03-01 Water take data collection – 100% user share
- W03-02 Water take data management and reporting – 100% user share.

Further, metering reform supports compliance activities and the same impactor logic applies. The user shares for compliance activities are as follows:

- W08-01 Regulation systems management – 100% user share
- W08-02 Consents management and licence conversion – 100% user share
- W08-03 Compliance management 100% user share.

We agree with Cardno's assessment and consider that a 100% user share is appropriate.

4 Metering charge structure

Summary of draft decisions on structure

We have made a draft decision to broadly adopt the price structure proposed by Water NSW

This structure apportions the costs of the reform appropriately across licence holders and water users with compliant meters.

Scheme management, telemetry and non-telemetry charges vary with efficient costs

As noted in Chapter 2, the efficient costs vary based on the number of customers that voluntarily opt in to telemetry.

We have made a draft decision to set charges that vary based on the proportion of customers that voluntarily opt in to telemetry. As the proportion of customers that opt in increases, both the scheme management charge and telemetry charge decrease.

After considering the efficient costs of providing non-urban metering services and the appropriate customer share, we next considered the structure of charges to recover these costs.

Water NSW proposed a price structure made up of the three elements:[xxi]

- A 'scheme management charge' would apply to all licensed customers.
- A 'telemetry charge' or 'non-telemetry charge' would apply to all compliant meters (privately owned and government owned) based on the technology applied to the metering installation. Although separate charges for telemetry and non-telemetry would be established, Water NSW proposed that the annual fees would be the same for the 2021 Determination period.
- Additional 'annual meter service charges' would apply to water users with government owned meters. These would be made up of:
  - Operating costs of maintaining the meters and support systems.
  - Annualised capital costs of meter and metering equipment.

The following sections set out our draft decisions on these charging elements.

4.1 Scheme management charges to be recovered from all licences

Our draft decision is:

4 To recover the wider costs of introducing the reform, such as recording and reporting, customer self-reporting, general enquiries and education, through a 'scheme management charge' to be applied annually to all licence holders from 1 October 2021.

A scheme management charge could apply to either individual meter owners or all licence holders. It includes the wider costs associated with the introduction of the reform, such as recording and reporting, customer self-reporting, general enquiries and education whereby the benefits extend beyond any individual user.[xxii]

We consider that all users are driving the need to improve water resource management and associated compliance management and not just those that need to comply with the new policy.[10] These activities are similar to the compliance and enforcement activities of the Natural Resource Access Regulator (NRAR), where the need is driven by all licence holders rather than just those with meters. We consider it appropriate that the charge is applied to all licence holders.

This approach was supported by several stakeholders. The Public Interest Advocacy Centre (PIAC) supported a per-licence basis for the scheme management charge because the reforms provide direct benefits to all licence holders.[xxiii] Lachlan Valley Water considered that the scheme management charges should be based on the cost driver, which it understands will be per licence.[xxiv]

In the Water NSW and WAMC Draft Reports we considered that there may be benefits in charging customers variable fees depending on the underlying water source and meter size, if these variables are significant drivers of the underlying costs of installing and servicing each meter type. In response, Water NSW submitted that the potential for differentiation in charging based on customer type (or meter size) was a key consideration in developing its charges. However, it considered that:

- Many of the activities and the level of associated effort and cost across the metering scheme management life cycle are homogenous.
- While some activities may have a higher or lower level of actual or perceived complexity depending on the customer's characteristics, complexity is not in itself universally driven by customer type. For example, the complexity of audit activities and enquiries may be greater for large industrial customers compared to smaller residential customers, taking longer to resolve and involving higher costs. Alternatively, small customers may be more likely to fail to self-report, triggering an increased need for follow up activities and engagement by Water NSW.
- Those activities with a higher or lower level of actual or perceived complexity are not significant cost drivers.[xxv]

Our draft decision is to set a common scheme management charge for all licence holders that does not distinguish between water source and meter size. This provides a simple approach that reflects the activities and costs of scheme management over the metering lifecycle.

10 Only users with meters >100 mm are required to comply.

4.2 Telemetry or non-telemetry charge to apply based on meter technology

Our draft decision is:

5 To recover the costs of compliance activities, water take assessments, meter reading and meter data services through:

- a telemetry charge to be applied annually to customers who use telemetry
- a non-telemetry charge to be applied annually to customers who do not use telemetry.

There are two types of compliant meters under the metering reforms:

- telemetry meters – meters with data recording and remote transmitting of meter data reads to Water NSW's centralised data systems
- non-telemetry meters – meters without remote transmitting systems that store meter data on-site and require periodic manual data logger download.[xxvi]

Water users are required to have telemetry installed on their meters if they relate to surface water works, except for pumps below 200mm in diameter or those directed to install telemetry by an order of the Minister.[xxvii]

Water NSW estimates 23.6% of compliant meters will need to be connected to telemetry by 2024-25 (see Table 4.1).[xxviii] Other water users may also choose to have telemetry installed on their compliant meters (i.e. 'opt in' to telemetry), but it is not mandatory for them to do so.

Table 4.1 Water NSW's forecast of meters with and without telemetry

	2021-22	2022-23	2023-24	2024-25
Meters with telemetry	2,969	5,259	5,401	5,527
Meters without telemetry (LID data downloads)	6,711	11,563	17,249	17,923
Total meters	**9,680**	**16,822**	**22,650**	**23,450**

Source: IPART analysis using information provided by Water NSW, Submission to IPART's Draft Report and Water NSW rural review – metering reform, pp 14-15.

4.2.1 Water NSW proposed setting the same charge for telemetry and non-telemetry services

Water NSW expects that the need for physical meter reads will diminish over time with the progressive uptake of telemetry. Water users may also avoid the need to self-report water take if they voluntarily use telemetry.[xxix]

Water NSW considers that managing water users reading their meters and undertaking periodic attendances at site to download data from a meter's LID is less efficient than extracting and processing data via telemetry. It therefore considers the uptake of telemetry, including as a means of improving reporting and monitoring of water take over time consistent with the objectives of the metering scheme management program, should be encouraged where appropriate through pricing signals.[xxx]

Water NSW has proposed separate telemetry and non-telemetry charges for the 2021 determination period, based on the meter technology applied to the metering installation. The charges would be applied as an annual $/per metering installation.[xxxi]

Although the charges would be separate, Water NSW proposed that they be set at the same level. It considered this mitigates the impacts of a potentially higher apportionment of costs to telemetry customers during the establishment phase of the metering scheme program.[xxxii] Water NSW expects telemetry costs would reduce over time as telemetry volumes increase.[xxxiii]

Water NSW noted that its pricing analysis resulted in an annual fee for telemetry that was higher than that for non-telemetry. While reflective of costs, particularly during the establishment phase of the program, it considered that this would not provide a price signal for the uptake of telemetry and support of the objectives of the metering scheme management program.[xxxiv]

4.2.2 Stakeholders did not support Water NSW's proposal

NSW Irrigators' Council (NSWIC) strongly disagreed with the pricing outcomes regarding telemetry. NSWIC noted that telemetry was not a legislative requirement, nor was it included in the national standards. In its view, the reason for telemetry was to service NRAR, by providing a simple and secure connection for NRAR to collect evidence in the event of a prosecution case.

NSWIC also noted that the large cost burden of start-up costs would fall on a very small number of users with telemetry in the initial phase. NSWIC recommended a phase-in system be adopted to avoid this small group of initial users facing the large start-up costs, until a point of economies of scale can be achieved.[xxxv]

PIAC considered that the relative installation costs of telemetry and non-telemetry meters should be informed by their contribution to the long-term objectives of non-urban metering reform. It should also specifically consider minimising costs on smaller users, the accuracy and auditability of water take information, and the practicality of metering requirements. PIAC thought it was not clear why telemetry and non-telemetry metering installation costs were equivalent and why, if telemetry metering is preferred, the option for non-telemetry metering is retained.[xxxvi]

4.2.3 Government rebate to be provided to customers that use telemetry

In June 2021, the NSW Government and Australian Government decided that they will each provide $9 million in funding to deliver an $18 million telemetry rebate program across NSW over the rollout of the non-urban metering rules. The rebate will automatically be applied as a one-off $975 credit on a water bill when an eligible water user with a meter connects to the NSW Government's telemetry system. This will provide a financial incentive for metered non-urban water users to use telemetry to remotely transmit their water take information.

The rebate program aims to accelerate uptake of telemetry in NSW, increasing transparency of water take, supporting on-farm management, and positioning NSW to better deliver efficiencies in water management.

At this stage, it is unclear how many customers will voluntarily opt in to telemetry because of the rebate. However, we expect that the proportion would be greater than the 0% adopted in Water NSW's proposed base case which was developed prior to government's decision on the rebate.

4.2.4 Our draft decision is for a separate telemetry and non-telemetry charge structure with charges that vary with the level of telemetry opt in

We consider that a separate telemetry and non-telemetry charge structure better reflects the efficient costs of providing services.

While Cardno concluded that a 0% opt-in to telemetry was credible, it highlighted the risk that Water NSW's costs could be overstated if voluntary telemetry uptake is higher than forecast over the determination period, in particular if a government subsidy was provided to encourage opt-in. For example, compared to the 0% opt-in, Water NSW's costs would be around:

- 6% lower for operating expenditure and 14% lower for capital expenditure under a 25% telemetry opt-in
- 13% lower for operating expenditure and 30% lower for capital expenditure under a 50% telemetry opt-in.[xxxvii]

Cardno therefore recommended that telemetry uptake should be monitored throughout the scheduled meter regional rollout over the next 4 years, to allow the accuracy of this core assumption in Water NSW's expenditure forecasts to be assessed.[xxxviii]

Using information from Water NSW and Cardno, we have modelled the telemetry and non-telemetry charges required to recover the efficient costs of providing services under 5 levels of telemetry opt-in (see Table 4.2).

Table 4.2 Charges and bills for different telemetry opt-in proportions ($2021-22)

Telemetry opt-in	0%	25%	50%	75%	100%
Charges					
Scheme management charge	74	67	60	52	45
Telemetry charge	240	204	189	180	176
Non-telemetry charge	221	221	221	221	0
Blended telemetry/non-telemetry charge	226	213	201	188	176
Bills (one meter plus one licence)					
Scheme management charge *plus* telemetry charge	314	271	249	233	221
Scheme management charge *plus* non-telemetry charge	295	288	280	273	0
Scheme management charge *plus* blended telemetry/non-telemetry charge	300	280	260	240	221

Note: The non-telemetry charge does not vary as telemetry uptake increases since the underlying costs are all variable (i.e., staff time for site inspections and downloading LIDs). The charges are based on Cardno's estimate of efficient costs at 1 October 2021, the start date for the 2021 determination period.
Source: IPART analysis using information provided by Water NSW and Cardno.

Once Cardno's recommendations have been applied to determine efficient costs (which made reductions to the telemetry costs), our analysis indicates that telemetry is less expensive than non-telemetry when voluntary uptake is 25% (see Table 4.2 above). Further, it gets progressively less expensive at even higher levels of voluntary uptake, as fixed costs – such as IT systems – are spread over a greater number of water users. Non-telemetry costs do not vary as telemetry uptake increases. However, a blended telemetry/non-telemetry charge would decrease as telemetry uptake increases given the contribution of telemetry charges to the blended charge. The scheme management charge (levied on all water licence holders) would also be lower if more customers opt in to telemetry.

4.3 Government owned meter charges to recover operating and capital costs

Our draft decision is:

6 To recover the costs of bringing government owned meters up to regulatory compliance and maintaining them to the required standard through a 'meter service charge – operating costs' and 'meter service charge – capital costs' to be applied annually to customers with compliant government owned meters.

There are around 2,800 water users with government owned meters (i.e., the meters are owned and maintained by Water NSW). Government owned meters are located in the Southern Basin, Hawkesbury-Nepean and Bega Bemboka regions.[xxxix]

4.3.1 Water NSW proposed setting annual meter service charges

Under Water NSW's proposal, water users with a government owned meter would pay the following annual charges:

- A **meter service charge – operating costs**, recovering the ongoing annual operating expenditure required to maintain those meters in a condition and to a standard that complies with the new regulations.[xl]
- A **meter service charge – capital costs**, partially recovering the capital expenditure required to bring existing government owned meters into compliance.[xli]

Water NSW's proposal embedded the telemetry or non-telemetry charges in the meter service charge for operating costs.[xlii] The existing meter service charge is already structured this way.

Water NSW's proposal represents a simpler charging structure than the existing meter service charges, which varies by meter size, telemetry use and water source (i.e., regulated, unregulated and groundwater).

4.3.2 Stakeholders did not directly comment on the price structure for government owned meter charges

While stakeholders raised concerns about the affordability of the charges for government owned meters and queried whether water users were the impactors of the underlying costs, they did not specifically comment on the price structure for these charges.

4.3.3 We accepted Water NSW's proposed price structure for meter service charges

We have adopted the price structure proposed by Water NSW and setting separate meter service changes for capital costs and operating costs which do not vary across water users. However, we have decided not to embed the telemetry or non-telemetry charge within the meter service charges to create a more transparent price structure.

In relation to the meter service charges, Water NSW proposed to:

- have separate charges for capital costs and operating costs
- not vary these charges by meter size, telemetry use or water source.

We consider that separate charges are a transparent way of recovering the different capital and operating costs for this service. We also support moving to a simpler structure and not varying these charges across the different water users because:

- This is consistent with the approach we have used to set the scheme management, telemetry and non-telemetry charges. For example, none of these charges would vary by meter size.
- The existing meter service charges are relatively complex, and may imply an overly precise level of cost-reflectiveness. They vary not only by meter size, but also by telemetry use and whether the water source is regulated, unregulated or groundwater (see Table 4.3). This price structure was proposed by Water NSW for the 2017 and 2021 Determinations, which we then accepted. We consider the new meter service charges proposed by Water NSW represent an opportunity to reduce this complexity.

Table 4.3 Government owned meter charges proposed by Water NSW in June 2020 and accepted by IPART in the Draft Report ($2021-22)

Meter size (mm)	Meter service charge
Regulated	
50	$487.82
80	$490.09
100	$490.08
150	$495.84
200	$498.69
250	$501.33
300	$508.14
350	$538.75
400	$556.97
450	$560.49
500	$575.42
600	$594.55
700	$617.28
750	$649.12
800	$670.63
900	$677.44
1,000	$690.03
Unregulated/Groundwater (telemetered)	
50-300	$519.97
350-700	$540.29
750-1,000	$587.36
Unregulated/Groundwater (non-telemetered)	
50-300	$407.91
350-700	$423.85
750-1,000	$460.78

Source: IPART analysis using IPART, R*eview of Water NSW's Rural Bulk Water Prices from 1 July 2021 to 30 June 2025 – Draft Report*, March 2021, p 157 and IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 July 2021 to 30 June 2025 – Draft Report*, March 2021, p 147.

Note: These charges will continue to apply users that are not covered by the reforms.

5 Setting metering charges

Summary of our draft decisions on metering charges

Metering charges reflect efficient costs that vary with telemetry opt-in

We have largely adopted Water NSW's proposed approach to modelling the level of charges. However, as discussed in Chapter 4, we consider that there should be separate charges for telemetry and non-telemetry that vary with the telemetry opt in. In addition, the scheme management charge should also vary as more users opt in to telemetry.

Charges are lower than Water NSW's revised proposal

We made several further adjustments to Water NSW's proposed charges. We have also considered the NSW Government's decision to provide funding for the capital costs to upgrade government owned meters. This decision was made after Water NSW submitted its revised proposal in April 2021. This adjustment reduces the 'meter service charge – capital costs' to $0 for the 2021 determination period.

5.1 Metering charges reflect efficient costs which vary with telemetry opt-in

We made a draft decision:

7 To set charges for Water NSW's non-urban metering reforms as set out in Table 5.1 and Table 5.2.

Table 5.1 compares our draft charges to Water NSW's original and revised proposals.

Table 5.1 Draft decisions on non-urban metering charges compared to Water NSW's proposals ($/year, $2021-22)

	Charge ($/year) Water NSW December 2020 proposal	Charge ($/year) Water NSW 2021 revised proposal	Charge ($/year) IPART draft decision from 1 October 2021	Privately owned meter	Government owned meter
Scheme management charge	78	79	**74**	✓	✓
Telemetry charge	349	257	**226**	✓	✓
Non-telemetry charge	349	257	**226**	✓	✓
Meter service charge – operating costs	934	934	**831**	✗	✓
Meter service charge – capital costs	608	608	**0**	✗	✓

Note: Totals may not sum due to rounding. Water NSW's December 2020 and April 2021 proposed charges are shown in $2021-22. The scheme management charges, telemetry charge and non-telemetry charge will vary if more customers use telemetry. See Table 5.2 for further information.

Source: Water NSW, *Supplementary pricing proposal to IPART*, December 2020, pp 27, 29, 37 and Water NSW, Response to the IPART Draft Determination on Rural Bulk Water and WAMC Pricing – Metering Reform, April 2021, p 21, 28, 29. Cost for telemetry/non-telemetry is not included in the 'meter service charge – operating costs' for government owned meters.

We have also made a draft decision that the level of scheme management charge, telemetry charge and non-telemetry charge should vary as the proportion of users that voluntarily opt in to telemetry increases, as set out in Table 5.2. The charge to apply in each year would be based on the proportion of telemetry opt-in that has been achieved in the previous financial year. For example, the scheme management charge would be $74 a year if there is 0% voluntary opt-in. However, this charge would reduce to $52 a year if there is 75% or more voluntary opt-in.

Table 5.2 Draft decision on scheme management, telemetry and non-telemetry charges for different telemetry opt-in proportions ($2021-22)

Telemetry opt-in	Up to 25%	25-49%	50-74%	75% or more
Scheme management charge	74	67	60	52
Telemetry charge	226	204	189	180
Non-telemetry charge	226	221	221	221

Note: The non-telemetry charge for 25-49%, 50-74% and 75-100% does not vary since the underlying costs are all variable (i.e. staff time for site inspections and downloading LIDs).
Source: IPART analysis using information provided by Water NSW and Cardno.

We have decided that the telemetry and non-telemetry charge should be set at the same level when telemetry opt-in is up to 25%. As the proportion of customers that opt in increases, both the scheme management charge and telemetry charge decrease. However, when the proportion of customers that opt in is low (up to 25%), the telemetry costs per meter are higher than the non-telemetry costs per meter. To ensure that these charges do not provide a disincentive for customers to opt in to telemetry, we have decided to set the same charge of $226 for up to 25% telemetry opt-in. Once telemetry opt-in is greater 25% or more, the telemeter and non-telemetry charges will reflect the efficient costs of providing these services.

Our draft decisions are:

- 11% or $36 lower than Water NSW's revised proposal and 30% or $127 lower than Water NSW's original December 2020 proposal for water users with privately owned meters
- 40% or $746 lower than Water NSW's revised proposal and 43% or $837 lower than Water NSW's original December 2020 proposal for water users with government owned meters.

5.2 Charges are lower than Water NSW proposals

Our draft decisions are lower than Water NSW's revised proposal because of 4 main differences:

- Adopting Cardno's recommended levels of efficient operating and capital expenditure as discussed in section 1.1. Our efficient costs are 12.3% lower than Water NSW's April revised proposal and will ensure that customers are not paying for costs that are not efficient.
- Applying a WACC of 1.8% real post-tax, calculated with regard to the ACCC's pricing principles as required under the WCR. Water NSW applied a higher WACC, calculated using IPART's standard approach, for WAMC and all corporate costs. To prevent over-recovery of costs for customers in MDB valleys, we have applied the lower WACC to all customers.
- Calculating charges to apply from 1 October 2021 rather than from 1 July 2021.
- Adjusting the 'meter service charge – capital costs' to reflect recent government funding. The NSW Government will provide funding for Water NSW to offset the capital costs of upgrading government owned meters. We have taken this into account in our draft decisions and set a meter service charge – capital costs of $0 per year for the 2021 determination period. In the absence of this funding, users with government owned meters would have faced a higher meter service charge – capital costs of $587 per year.

6 Transitioning to new metering charges

Summary of our draft decisions on transitioning to new metering charges

Transitioning to new charges should be transparent and with appropriate incentives for customers and Water NSW

To achieve these objectives, we have adopted different approaches for each of the charges and for customers with privately owned and government owned meters:

- The scheme management charge would apply from 1 October 2021, as Water NSW will incur several wider costs associated with introducing the reform from the start of the determination period.
- For customers with privately owned meters, the telemetry or non-telemetry charge would be prorated from the compliance dates specified under the Water Management (General) Regulation 2018. This approach will provide an incentive for customers to ensure their meters are compliant and allow Water NSW to start recovering the costs of providing the services.
- For customers with government owned meters, the telemetry or non-telemetry charges and the meter service charge – operating costs would be prorated from the later of the compliance dates set out in the Water Management (General) Regulation 2018 or the date the meter is made compliant. This will ensure Water NSW has appropriate incentives to meet the relevant compliance dates and that water users are not paying for services that they do not receive if meters have not been made compliant.

This chapter outlines our draft decisions on transitioning from existing to new metering charges.

6.1 Overview of draft decisions on transitioning to new charges

Our draft decision is:

8 To apply the following transitional arrangements in moving from existing to new metering charges:

- Scheme management charge to apply annually from the start of the determination period, 1 October 2021.
- Telemetry or non-telemetry charge for customers with privately owned meters to be prorated using the number of days remaining in the financial year from the relevant compliance date set out in the *Water Management (General) Regulation 2018*.
- Telemetry or non-telemetry charge and government owned meter service charge – operating costs for customers with government owned meters to be prorated using the number of days remaining in the financial year from the later of the relevant compliance date set out in the *Water Management (General) Regulation 2018* or the date the meter is made compliant.

Water NSW and Lachlan Valley Water supported a transparent transition. However, Lachlan Valley Water considered that the transition from existing charges to new charges should not take place until the entire state is compliant and licence holders are meeting the required conditions.[xliii]

We consider that the transition to new charges should take place transparently and in a manner that matches revenue from charges to the costs incurred by Water NSW. In addition, the transition should ensure that there are appropriate incentives in place for water users with privately owned meters and Water NSW, who is responsible for government owned meters, to achieve compliance with the required roll out dates. The following sections set out our draft decision on each for the non-urban metering charges.

6.2 Scheme management charge to apply annually from start of determination period

Water NSW proposed that the scheme management charge should apply from the start of the upcoming determination period as these costs are expected to be incurred from the start of the period.[xliv] Given our decision to delay all bulk water and metering charges, this would mean that the scheme management charge of $74 would apply from 1 October. We consider that this approach is reasonable as it best matches the costs incurred by Water NSW to the charges.

6.3 Telemetry and non-telemetry charge to be prorated from the compliance date

Water NSW proposed that the trigger for the telemetry and non-telemetry charge should be the compliance date.[xlv] In the first year that the new metering charge is applied, it would be prorated based on the number of months between the compliance date and the end of the financial year. For example, a compliance date of 1 December 2021 would mean the new charges would be prorated as follows: 7 remaining months divided by 12 months is 58%.

We consider that this approach is reasonable for all customers with privately owned meters. The compliance date should be based on the date required under the relevant regulation for the meter to be made compliant. This means that even if a water user has not met the required compliance date, they will still be required to start paying the new telemetry and non-telemetry charge. This approach will provide a further incentive for customers to ensure their meters are compliant and allow Water NSW to start recovering the costs of providing the services as expected.

However, for customers with government owned meters, this charge should only be prorated at the compliance date under the relevant regulation if Water NSW has completed the activities required to make the meter compliant (i.e. when a compliant meter is installed). This will ensure Water NSW has appropriate incentives to meet the relevant compliance dates and that water users are not paying for services that they do not receive if meters have not been made compliant. This means that if a meter is made compliant 6 months after the compliance date the charge would be prorated from this later date.

In addition, WAMC is currently charging water users with an existing privately owned meter a water take assessment charge. This charge will be replaced by the telemetry and non-telemetry charge. Our draft water take assessment charges are shown in Table 6.1 below.

Table 6.1 Draft annual water take assessment charges ($2021-22)

Charge type	Current 2020-21 ($2020-21)	Proposed 2021-22 to 2024-25	Draft decision 2021-22 to 2024-25	Change from current to draft decision
Water take charge	$207.08	$416.00	$209.36	1%

Source: Water NSW, *WAMC pricing proposal to IPART*, June 2020, Table 74, p 136 and Cardno, WAMC *Expenditure Review - Final Report for IPART*, March 2021, p 184

Under our proposed transition arrangement, the water take assessment charge would apply from 1 October 2021 to unregulated and groundwater users who have an existing privately owned meter. These water users will continue to pay this annual charge until it is replaced by the telemetry and non-telemetry charge (prorated from the relevant compliance date).

6.4 Government owned meter service charge – operating costs to be prorated from later of compliance date and date meter is made compliant

Water NSW proposed to prorate the government owned meter service charge – operating cost component from the compliance date to the end of the relevant financial year. [xlvi] Like the telemetry and non-telemetry charge for government owned meters, we consider that this charge should only be prorated at the compliance date if Water NSW has completed the activities required to make the meter compliant. This means that if a meter is made compliant 6 months after the compliance date the charge would be levied from the later date.

6.5 Adjusting bulk water charges on regulated rivers for any metering costs at the next review

The existing bulk water charges for regulated rivers may include some activities associated with existing metering. If these activities are either no longer undertaken by Water NSW once meters are made compliant or are duplicating new metering activities, we will need to consider how to ensure that there is no over-recovery or double counting of costs between bulk water and non-urban metering charges.

We estimate that these activities may make up less than 1% of Water NSW's net revenue requirement. We will seek further information from Water NSW on its activities and if necessary make an adjustment as part of the next review of bulk water charges.

7 Dealing with uncertainty

Summary of our draft decisions on dealing with uncertainty

An unders and overs mechanism is not appropriate

We do not consider that it is appropriate for Water NSW to have an unders and overs (UOM) mechanism to mitigate the financial risks arising from cost uncertainty or other factors that are within its control such as higher or lower unit costs or a delay in the rollout for government owned meters (which it is responsible for delivering).

Exit fees may be needed in future reviews

However, we consider that an exit fee may be needed to mitigate the financial risks Water NSW faces associated with customers leaving the government owned meters program after investment has occurred. Our modelling currently indicates that the NSW Government's funding for government owned meters will cover Water NSW's capital costs for upgrading these meters. As a result, we have set the exit charge for the 2021 determination period at $0.

However, in future determination periods, if Water NSW incurs prudent and efficient capital expenditure that is greater than the level of government funding, it may be appropriate for Water NSW to charge customers an exit fee. In this case, we consider that customers should be charged an exit fee based on capital expenditure that was incurred by Water NSW less any depreciation that has occurred up to that point.

In its original proposal, Water NSW proposed that IPART introduce an 'unders and overs' mechanism (UOM) to protect customers and Water NSW from any unintended windfall gains or losses associated with forecasting the costs of implementing the reform program.[xlvii]

In its April revised proposal, Water NSW also proposed an exit fee to mitigate the financial risks associated with customers leaving the government owned meters program after investment has occurred. Water NSW notes that risk, and the need for a UOM, will be materially increased in circumstances where IPART does not accept the proposed application of exit fees.[xlviii]

The chapter sets out our draft decisions on each of these areas.

7.1 An unders and overs mechanism is not appropriate

Our draft decision is:

9 Not to provide an unders and overs mechanism to Water NSW for the rollout of the non-urban metering reforms.

We do not consider that it is appropriate for Water NSW to have a UOM to mitigate its financial risks arising from cost uncertainty or other factors that are within its control, higher or lower unit costs or a delay in the rollout for government owned meters based on its ability to deliver the program.

7.2 Exit fees for the meter service charge – capital cost for government owned meters may be needed in future reviews

Our draft decision is:

10 To set an exit charge for the 2021 determination period of $0.

We sought further information from Water NSW on how exit fees would be applied for government owned meters. It advised that the exit fee should represent the cost of the residual RAB used to estimate the meter service charge – capital cost. That is, the value of Water NSW's capital investment on upgrades to the government owned meters minus any contribution from the customer recovered through the annual charges from the start of the upcoming determination period to the exit date.[xlix]

In theory, we consider that an exit fee is needed to mitigate the financial risks Water NSW faces from customers leaving the government owned meters program after investment has occurred. In addition, we consider that Water NSW's proposed approach for estimating the charge is reasonable.

However, our modelling currently indicates that the NSW Government's funding for government owned meters will cover Water NSW's capital costs for upgrading these meters. As a result, we have set the exit charge for the 2021 determination period at $0.

In future determination periods, if Water NSW incurs prudent and efficient capital expenditure that is greater than the level of government funding, it may be appropriate for Water NSW to charge customers an exit fee. In this case, we consider that customers should be charged an exit fee based on the residual value of the RAB for each meter.

Under this approach, Water NSW has invested in capital that is now tied up in a customer's meter. At the point of opting out of the scheme, a customer has paid charges to provide a fair return to Water NSW and paid off some of the principal as depreciation. If a customer opts out of the government owned meter, then it is appropriate for Water NSW to charge a fee to recover the outstanding amount of principal – that is the capital expenditure less cumulative depreciation.

We consider that the exit fee should be calculated based on the residual value of the RAB for each meter on the day a customer opts out. The exit fee would be calculated as:

Exit fee = Average capital expenditure per meter ($) – depreciation since meter made compliant ($).

If Water NSW incurred $1,000 of efficient and prudent expenditure that was not covered by government funding, an exit fee could be calculated as follows. The determination would specify the following formula (see Box 7.1 for further details)

Exit fee ($2020-21) = $1,000 – ($0.27 x Days since meter made compliant)

Box 7.1 Calculating an exit fee for meter service charge – capital costs

This example of how to calculate an exit fee is based on capital expenditure of $1,000 per meter depreciated over a ten-year asset life. This equates to annual depreciation of $100 a year or $0.27 a day. The table below sets out the exit fee that would apply through the determination period.

	RAB value of meter on	Cumulative depreciation at end of day	Exit fee (end of day)
1	Day 1	0.27	1,000
90	Day 90	24.66	975
180	Day 180	49.32	951
270	Day 270	73.97	926
360	Day 360	98.63	901
450	Day 450	123.29	877
540	Day 540	147.95	852
630	Day 630	172.60	827
720	Day 720	197.26	803
810	Day 810	221.92	778
900	Day 900	246.58	753
990	Day 990	271.23	729
1,080	Day 1080	295.89	704
1,170	Day 1170	320.55	679
1,260	Day 1260	345.21	655
1,350	Day 1350	369.86	630
1,440	Day 1440	394.52	605
1,461	Day 1461 (end of determination pe	400.27	600
3,650	Day 3650 (end of asset life)	1,000.00	-

Note: $2020-21

8 Impacts on customers

Summary of our impact analysis

New metering charges will increase bills for customers

The size of the increase depends on several factors including whether a customers' meter is privately owned or government owned, water source, location, meter size and entitlement.

The additional costs faced by customers relative to their existing bills are greatest for customers with government owned meters.

However, customers with privately owned meters will also be required to purchase a new or replacement meter at their own expense. These costs would be borne by customers and have not been included in our impact analysis.

Government funding for installing telemetry and upgrading government owned meters will mitigate customer impacts

Under our draft decisions, the scheme management charge, telemetry charge and non-telemetry charge would decrease as more customers use telemetry. We expect that the telemetry rebate will increase the number of customers using telemetry, although the specific level of this increase is not yet known. We therefore present a range of possible increases in metering charges throughout this chapter.

This chapter sets out the impacts of our draft decisions on customers. The impacts shown are based on the additional metering charges resulting from the non-urban metering reforms. Appendix B sets out the combined impact of our draft decisions on non-urban metering reform charges and Water NSW and WAMC bulk water and water management charges.

8.1 Impacts on customers and water users in regulated rivers

The overall bill impacts arising from the new charges depend on whether a customer's meter is privately owned or government owned, water source, location, meter size and entitlement.

8.1.1 Government owned meters

Table 8.1 and Table 8.2 set out the overall impact on Water NSW bulk water bills for typical regulated river General Security licence holders with a government owned meter. Table 8.1 sets out the impacts for customers with telemetry and Table 8.2 sets out impacts for customers without telemetry.[11] As set out in Chapter 6, the charges paid will be lower if more customers use telemetry. In Table 8.1 and Table 8.2 (and all tables throughout this chapter), we show a range of additional charges and percentage increases which are based on the following scenarios:

- The higher end of the range (or left-hand value) shows charges where voluntary opt-in for telemetry is up to 25%.
- The lower end of the range (or right-hand value) shows charges where voluntary opt-in for telemetry is 75% or more.

11 Government owned meters are located in the Southern Basin, Hawkesbury-Nepean and Bega regions.

Table 8.1 Indicative impact of draft decisions on bills on regulated rivers with government owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges[b]	% increase caused by metering
Murray	75	1,150	653 - 586	57% - 51%
Murrumbidgee	150	1,257	653 - 586	52% - 47%
South Coast	90	2,884	653 - 586	23% - 20%

a Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. $2020-21).

b Net of existing MSC charges.

Note: Assumes a 100mm meter.

Table 8.2 Indicative impact of draft decisions on bills on regulated rivers with government owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges[b]	% increase caused by metering
Murray	75	1,150	653 - 626	57% - 54%
Murrumbidgee	150	1,257	653 - 626	52% - 50%
South Coast	90	2,884	653 - 626	23% - 22%

a Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. $2020-21).

b Net of existing MSC charges.

Note: Assumes a 100mm meter.

We note that the percentage impacts increase with smaller licence entitlement volumes and usage. The fixed nature of the meter charge means that the lower the water charge bill, the greater the increase caused by the proposed metering charges. In addition, not all customers in these valleys have a government owned meter.

8.1.2 Privately owned meters

Table 8.3 and Table 8.4 set out the overall impact on Water NSW bulk water bills on typical General Security licence holders in regulated rivers with a privately owned meter in each valley. Table 8.3 sets out the impacts for customers with telemetry and Table 8.4 sets out impacts for customers without telemetry.

Table 8.3 Indicative impact of draft decisions on bills on regulated rivers with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges	% increase caused by metering
Border	100	1,050	300 - 233	29% - 22%
Gwydir	1,000	9,633	300 - 233	3% - 2%
Namoi	500	11,495	300 - 233	3% - 2%
Peel	100	1,436	300 - 233	21% - 16%
Lachlan	200	2,221	300 - 233	14% - 10%
Macquarie	100	978	300 - 233	31% - 24%
Murray	75	672	300 - 233	45% - 35%
Murrumbidgee	150	778	300 - 233	39% - 30%
North Coast	100	1,629	300 - 233	18% - 14%
Hunter	80	1,758	300 - 233	17% - 13%
South Coast	90	2,406	300 - 233	12% - 10%

a Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. $2020-21).
Note: Assumes a 100mm meter.

Table 8.4 Indicative impact of draft decisions on bills on regulated rivers with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges	% increase caused by metering
Border	100	1,050	300 - 273	29% - 26%
Gwydir	1,000	9,633	300 - 273	3% - 3%
Namoi	500	11,495	300 - 273	3% - 2%
Peel	100	1,436	300 - 273	21% - 19%
Lachlan	200	2,221	300 - 273	14% - 12%
Macquarie	100	978	300 - 273	31% - 28%
Murray	75	672	300 - 273	45% - 41%
Murrumbidgee	150	778	300 - 273	39% - 35%
North Coast	100	1,629	300 - 273	18% - 17%
Hunter	80	1,758	300 - 273	17% - 16%
South Coast	90	2,406	300 - 273	12% - 11%

a Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. $2020-21).
Note: Assumes a 100mm meter.

These figures show that the impact on a typical customer with a privately owned meter in most valleys is less severe than for government owned meters. However, we note that this is the impact of Water NSW charges only, and so excludes the customer's own cost of installing, upgrading and maintaining their own meter.

8.2 Impacts on customers and water users in unregulated rivers

As with regulated rivers, water users on unregulated rivers face increases in WAMC bills that depend on whether a customer's meter is privately owned or government owned, location, meter size and entitlement.

We note that bill impacts presented here are for a medium user with a 500ML entitlement and 60% water usage.[12] Actual bill impacts for each water user depend on a number of factors including entitlement volumes, usage and whether they currently pay meter charges.

8.2.1 Government owned meters

Table 8.5 and Table 8.6 set out the overall impact on WAMC bulk water bills on General Security licence holders in unregulated rivers with a government owned meter. Table 8.5 sets out the impacts for customers with telemetry and Table 8.6 sets out impacts for customers without telemetry.

Table 8.5 Indicative impact of draft decisions on bills on unregulated rivers with government owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges[b]	% increase caused by metering
Murray	500	2,985	728 - 661	24% - 22%
Murrumbidgee	500	3,783	728 - 661	19% - 17%
South Coast	500	1,725	728 - 661	42% - 38%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).
b Net of existing MSC charges.
Note: Assumes a 100mm meter.

Table 8.6 Indicative impact of draft decisions on bills on unregulated rivers with government owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges[b]	% increase caused by metering
Murray	500	2,985	728 - 701	24% - 23%
Murrumbidgee	500	3,783	728 - 701	19% - 19%
South Coast	500	1,725	728 - 701	42% - 41%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).
b Net of existing MSC charges.
Note: Assumes a 100mm meter.

We also note that we have used a standard entitlement of 500 ML for comparative purposes. Many water users on unregulated rivers hold significantly smaller entitlements and would face higher percentage increases under the new framework.

8.2.2 Privately owned meters

Table 8.7 and Table 8.8 set out the overall impact on WAMC bulk water bills on General Security licence holders in unregulated rivers with a privately owned meter. Table 8.7 sets out the impacts for customers with telemetry and Table 8.8 sets out impacts for customers without telemetry.

12 Water users with smaller entitlements on unregulated rivers face a minimum annual charge (MAC) of $213.74. Any water user paying the MAC who has a 100mm government owned meter and is required to comply with the new metering policy would face a bill increase of around 305%.

Table 8.7 Indicative impact of draft decision on bills on unregulated rivers with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges	% increase caused by metering
Border	500	1,896	300 - 233	16% - 12%
Gwydir	500	1,896	300 - 233	16% - 12%
Namoi	500	1,896	300 - 233	16% - 12%
Peel	500	1,896	300 - 233	16% - 12%
Lachlan	500	2,219	300 - 233	14% - 10%
Macquarie	500	2,219	300 - 233	14% - 10%
Far West	500	2,822	300 - 233	11% - 8%
Murray	500	2,582	300 - 233	12% - 9%
Murrumbidgee	500	3,379	300 - 233	9% - 7%
North Coast	500	3,773	300 - 233	8% - 6%
Hunter	500	1,288	300 - 233	23% - 18%
South Coast	500	1,322	300 - 233	23% - 18%

a Includes WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter.

Table 8.8 Indicative impact of draft decision on bills on unregulated rivers with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges	% increase caused by metering
Border	500	1,896	300 - 273	16% - 14%
Gwydir	500	1,896	300 - 273	16% - 14%
Namoi	500	1,896	300 - 273	16% - 14%
Peel	500	1,896	300 - 273	16% - 14%
Lachlan	500	2,219	300 - 273	14% - 12%
Macquarie	500	2,219	300 - 273	14% - 12%
Far West	500	2,822	300 - 273	11% - 10%
Murray	500	2,582	300 - 273	12% - 11%
Murrumbidgee	500	3,379	300 - 273	9% - 8%
North Coast	500	3,773	300 - 273	8% - 7%
Hunter	500	1,288	300 - 273	23% - 21%
South Coast	500	1,322	300 - 273	23% - 21%

a Includes WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter.

As with regulated rivers, the impacts of Water NSW's proposed metering charges are lower in unregulated rivers for water users with a privately owned meter. However, this excludes the additional costs incurred by the customer directly in complying with the policy, including the purchase, upgrade and maintenance of the meter.

8.3 Impacts on customers and water users in groundwater

The impact on groundwater users of the metering reforms are shown below.

8.3.1 Government owned meters

Table 8.9 and Table 8.10 set out the overall impact on WAMC bulk water bills on groundwater licence holders with a government owned meter. Table 8.9 sets out the impacts for customers with telemetry and Table 8.10 sets out impacts for customers without telemetry.

Table 8.9 Indicative impact of draft decisions on bills on groundwater with government owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges[b]	% increase caused by metering
Inland	500	3,274	728 - 661	22% - 20%
Murrumbidgee	500	2,309	728 - 661	32% - 29%
Coastal	500	2,272	728 - 661	32% - 29%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).
b Net of existing MSC charges.
Note: Assumes a 100mm meter.

Table 8.10 Indicative impact of draft decisions on bills on groundwater with government owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges[b]	% increase caused by metering
Inland	500	3,274	728 - 701	22% - 21%
Murrumbidgee	500	2,309	728 - 701	32% - 30%
Coastal	500	2,272	728 - 701	32% - 31%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21$).
b Net of existing MSC charges.
Note: Assumes a 100mm meter.

8.3.2 Privately owned meters

Table 8.11 and Table 8.12 sets out the overall impact on WAMC bulk water bills on groundwater licence holders with a privately owned meter. Table 8.11 sets out the impacts for customers with telemetry and Table 8.12 sets out impacts for customers without telemetry.

Table 8.11 Indicative impact of draft decisions on bills on groundwater with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges	% increase caused by metering
Inland	500	2,871	300 - 233	10% - 8%
Murrumbidgee	500	1,905	300 - 233	16% - 12%
Coastal	500	1,868	300 - 233	16% - 12%

Note: Includes WAMC charges, MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Table 8.12 Indicative impact of draft decisions on bills on groundwater with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	2021 bill[a]	Additional metering charges	% increase caused by metering
Inland	500	2,871	300 - 273	10% - 10%
Murrumbidgee	500	1,905	300 - 273	16% - 14%
Coastal	500	1,868	300 - 273	16% - 15%

Note: Includes WAMC charges, MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Water users with a privately owned meter will face a smaller increase in Water NSW's proposed charges than those with a government owned meter. However, this excludes the additional costs incurred by the customer directly in complying with the policy, including the purchase, upgrade and maintenance of the meter.

Most groundwater customers will require a meter for the first time. This is particularly the case in coastal regions where Water NSW estimates the existing number of groundwater meters will need to increase from 56 to 2,657.

Appendices

A Matters considered by IPART

This appendix explains how we have considered certain matters we are required to consider under the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act) and the *Water Charge Rules 2010* (Cth) (WCR).

On 1 July 2020, the *Water Charge Amendment Rules 2019* (Cth) took effect, amending the WCR. However, as Water NSW submitted its pricing application before 30 June 2020, transitional arrangements apply and we can set prices for Murray Darling Basin (MDB) services for one more determination period under the WCR as in force on 30 June 2020 and IPART's current accreditation with the ACCC.[1]

A.1 Matters under section 15 of the IPART Act

IPART is required under section 15 of the IPART Act to have regard to the following matters:

a) The cost of providing the services concerned

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

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

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

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

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

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

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

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

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

k) The social impact of the determinations and recommendations

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

A.2 Matters considered by IPART under the Water Act (2007)

Rule 29 of the WCR sets out the matters that we are required to consider in determining charges for MDB valleys.[13] Rule 29(2) and (3) specify the matters that IPART must be satisfied of when approving or determining regulated charges. Rule 29(4) explains the relevance of the Basin water charging objectives and principles that are set out below.[14]

A.2.1 Schedule 2 – Basin water charging objectives and principles[15]

Part 2 — Water charging objectives

The water charging objectives are:

a) to promote the economically efficient and sustainable use of:
   i) water resources; and
   ii) water infrastructure assets; and
   iii) government resources devoted to the management of water resources; and

b) to ensure sufficient revenue streams to allow efficient delivery of the required services; and

c) to facilitate the efficient functioning of water markets (including interjurisdictional water markets, and in both rural and urban settings); and

d) to give effect to the principles of user-pays and achieve pricing transparency in respect of water storage and delivery in irrigation systems and cost recovery for water planning and management; and

e) to avoid perverse or unintended pricing outcomes.

Part 3 — Water charging principles

Water storage and delivery

1. Pricing policies for water storage and delivery in rural systems are to be developed to facilitate efficient water use and trade in water entitlements.
2. Water charges are to include a consumption-based component.
3. Water charges are to be based on full cost recovery for water services to ensure business viability and avoid monopoly rents, including recovery of environmental externalities where feasible and practical.
4. Water charges in the rural water sector are to continue to move towards upper bound pricing where practicable.
5. In subclause (4): upper bound pricing means the level at which, to avoid monopoly rents, a water business should not recover more than:
   a) the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes; and
   b) provision for the cost of asset consumption; and

13 *Water Charge (Infrastructure) Rules 2010* (Cth).
14 Under the *Water Act 2007* (Cth), schedule 2
15 See *Water Act 2007* (Cth), schedule 2

c) provision for the cost of capital (calculated using a weighted average cost of capital).

6. If full cost recovery is unlikely to be achieved and a Community Service Obligation is deemed necessary:
   a) the size of the subsidy is to be reported publicly; and
   b) where practicable, subsidies or Community Service Obligations are to be reduced or eliminated.

7. Pricing policies should ensure consistency across sectors and jurisdictions where entitlements are able to be traded.

Cost recovery for planning and management

1. All costs associated with water planning and management must be identified, including the costs of underpinning water markets (such as the provision of registers, accounting and measurement frameworks and performance monitoring and benchmarking).

2. The proportion of costs that can be attributed to water access entitlement holders is to be identified consistently with the principles set out in subclauses (3) and (4).

3. Water planning and management charges are to be linked as closely as possible to the costs of activities or products.

4. Water planning and management charges are to exclude activities undertaken for the Government (such as policy development and Ministerial or Parliamentary services).

5. States and Territories are to report publicly on cost recovery for water planning and management annually. The reports are to include:
   a) the total cost of water planning and management; and
   b) 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.

Environmental externalities

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 were found to be feasible.

Benchmarking and efficiency reviews

1. Independent and public benchmarking or efficiency reviews of pricing and service quality relevant to regulated water charges is or are to be undertaken based on a nationally consistent framework.

2. The costs of operating these benchmarking and efficiency review systems are to be met through recovery of regulated water charges

B Combined impact of draft decisions on non-urban metering reform charges and Water NSW and WAMC bulk water and water management charges

B.1 Impacts on customers in regulated rivers

B.1.1 Government owned meters

Table B.1 Indicative impact of draft decisions on bills on regulated rivers with government owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
High Security							
Murray	50	70%	1,295	2,040 - 1,973	58% - 52%	2,057 - 1,990	59% - 54%
Murrumbidgee	100	90%	1,546	2,374 - 2,307	54% - 49%	2,387 - 2,320	54% - 50%
South Coast	10	100%	1,210	1,876 - 1,809	55% - 50%	1,893 - 1,826	57% - 51%
General Security							
Murray	75	40%	1,150	1,837 - 1,770	60% - 54%	1,854 - 1,787	61% - 55%
Murrumbidgee	150	40%	1,257	2,010 - 1,943	60% - 55%	2,025 - 1,958	61% - 56%
South Coast	90	25%	2,884	3,574 - 3,507	24% - 22%	3,608 - 3,541	25% - 23%

a Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter. 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.2 Indicative impact of draft decisions on bills on regulated rivers with government owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
High Security							
Murray	50	70%	1,295	2,040 - 2,013	58% - 55%	2,057 - 2,030	59% - 57%
Murrumbidgee	100	90%	1,546	2,374 - 2,347	54% - 52%	2,387 - 2,360	54% - 53%
South Coast	10	100%	1,210	1,876 - 1,849	55% - 53%	1,893 - 1,867	57% - 54%
General Security							
Murray	75	40%	1,150	1,837 - 1,810	60% - 57%	1,854 - 1,827	61% - 59%
Murrumbidgee	150	40%	1,257	2,010 - 1,983	60% - 58%	2,025 - 1,998	61% - 59%
South Coast	90	25%	2,884	3,574 - 3,547	24% - 23%	3,608 - 3,581	25% - 24%

a Includes Water NSW bulk water charges, WAMC charges, MDBA and BRC charges and meter service charge (MSC). Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter. 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

B.1.2 Privately owned meters

Table B.3 Indicative impact of draft decisions on bills on regulated rivers with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
High security							
Border	75	90%	1,547	2,025 - 1,958	31% - 27%	2,025 - 1,958	31% - 27%
Gwydir	100	90%	2,633	3,541 - 3,474	34% - 32%	3,541 - 3,474	34% - 32%
Namoi	30	60%	1,153	1,773 - 1,706	54% - 48%	1,790 - 1,723	55% - 49%
Peel	50	60%	3,108	4,401 - 4,334	42% - 39%	4,424 - 4,356	42% - 40%
Lachlan	100	70%	3,370	4,896 - 4,829	45% - 43%	4,913 - 4,846	46% - 44%
Macquarie	50	80%	1,535	2,230 - 2,163	45% - 41%	2,247 - 2,180	46% - 42%
Murray	50	70%	817	1,209 - 1,142	48% - 40%	1,226 - 1,159	50% - 42%
Murrumbidgee	100	90%	1,068	1,543 - 1,476	44% - 38%	1,555 - 1,488	46% - 39%
North Coast	10	100%	528	839 - 772	59% - 46%	856 - 789	62% - 49%
Hunter	30	100%	1,046	1,634 - 1,567	56% - 50%	1,651 - 1,584	58% - 51%
South Coast	10	100%	732	1,045 - 978	43% - 34%	1,062 - 995	45% - 36%
General security							
Border	100	50%	1,050	1,522 - 1,455	45% - 39%	1,522 - 1,455	45% - 39%
Gwydir	1,000	30%	9,633	10,720 - 10,653	11% - 11%	10,720 - 10,653	11% - 11%
Namoi	500	50%	11,495	12,982 - 12,915	13% - 12%	12,982 - 12,915	13% - 12%
Peel	100	30%	1,436	2,082 - 2,015	45% - 40%	2,117 - 2,049	47% - 43%
Lachlan	200	30%	2,221	3,087 - 3,020	39% - 36%	3,111 - 3,044	40% - 37%
Macquarie	100	30%	978	1,482 - 1,415	51% - 45%	1,497 - 1,430	53% - 46%
Murray	75	40%	672	1,006 - 939	50% - 40%	1,023 - 956	52% - 42%
Murrumbidgee	150	40%	778	1,179 - 1,112	51% - 43%	1,194 - 1,127	53% - 45%
North Coast	100	10%	1,629	1,978 - 1,911	21% - 17%	2,016 - 1,948	24% - 20%
Hunter	80	50%	1,758	2,546 - 2,479	45% - 41%	2,573 - 2,506	46% - 43%
South Coast	90	25%	2,406	2,743 - 2,676	14% - 11%	2,777 - 2,710	15% - 13%

a Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Note: 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.4 Indicative impact of draft decisions on bills on regulated rivers with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
High security							
Border	75	90%	1,547	2,025 - 1,998	31% - 29%	2,025 - 1,998	31% - 29%
Gwydir	100	90%	2,633	3,541 - 3,514	34% - 33%	3,541 - 3,514	34% - 33%
Namoi	30	60%	1,153	1,773 - 1,746	54% - 51%	1,790 - 1,763	55% - 53%
Peel	50	60%	3,108	4,401 - 4,374	42% - 41%	4,424 - 4,397	42% - 41%
Lachlan	100	70%	3,370	4,896 - 4,869	45% - 45%	4,913 - 4,886	46% - 45%
Macquarie	50	80%	1,535	2,230 - 2,203	45% - 44%	2,247 - 2,220	46% - 45%
Murray	50	70%	817	1,209 - 1,182	48% - 45%	1,226 - 1,199	50% - 47%
Murrumbidgee	100	90%	1,068	1,543 - 1,516	44% - 42%	1,555 - 1,529	46% - 43%
North Coast	10	100%	528	839 - 813	59% - 54%	856 - 830	62% - 57%
Hunter	30	100%	1,046	1,634 - 1,607	56% - 54%	1,651 - 1,624	58% - 55%
South Coast	10	100%	732	1,045 - 1,018	43% - 39%	1,062 - 1,035	45% - 41%
General security							
Border	100	50%	1,050	1,522 - 1,496	45% - 42%	1,522 - 1,496	45% - 42%
Gwydir	1,000	30%	9,633	10,720 - 10,693	11% - 11%	10,720 - 10,693	11% - 11%
Namoi	500	50%	11,495	12,982 - 12,956	13% - 13%	12,982 - 12,956	13% - 13%
Peel	100	30%	1,436	2,082 - 2,055	45% - 43%	2,117 - 2,090	47% - 46%
Lachlan	200	30%	2,221	3,087 - 3,060	39% - 38%	3,111 - 3,084	40% - 39%
Macquarie	100	30%	978	1,482 - 1,455	51% - 49%	1,497 - 1,470	53% - 50%
Murray	75	40%	672	1,006 - 979	50% - 46%	1,023 - 996	52% - 48%
Murrumbidgee	150	40%	778	1,179 - 1,152	51% - 48%	1,194 - 1,167	53% - 50%
North Coast	100	10%	1,629	1,978 - 1,951	21% - 20%	2,016 - 1,989	24% - 22%
Hunter	80	50%	1,758	2,546 - 2,519	45% - 43%	2,573 - 2,546	46% - 45%
South Coast	90	25%	2,406	2,743 - 2,716	14% - 13%	2,777 - 2,750	15% - 14%

a Includes Water NSW bulk water charges, WAMC charges and MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Note: 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

B.2 Impacts on customers in unregulated rivers

B.2.1 Government owned meters

Table B.5 Indicative impact of draft decisions on bills on unregulated rivers with government owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Murray	500	60%	2,985	3,685 - 3,618	23% - 21%	3,867 - 3,800	30% - 27%
Murrumbidgee	500	60%	3,783	4,590 - 4,523	21% - 20%	4,849 - 4,782	28% - 26%
South Coast	500	60%	1,725	2,518 - 2,451	46% - 42%	2,629 - 2,562	52% - 48%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter. 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.6 Indicative impact of draft decisions on bills on unregulated rivers with government owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Murray	500	60%	2,985	3,685 - 3,658	23% - 23%	3,867 - 3,840	30% - 29%
Murrumbidgee	500	60%	3,783	4,590 - 4,563	21% - 21%	4,849 - 4,822	28% - 27%
South Coast	500	60%	1,725	2,518 - 2,491	46% - 44%	2,629 - 2,602	52% - 51%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter. 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

B.2.2 Privately owned meters

Table B.7 Indicative impact of draft decision on bills on unregulated rivers with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Border	500	60%	1,896	1,885 - 1,818	-1% - -4%	1,996 - 1,929	5% - 2%
Gwydir	500	60%	1,896	1,885 - 1,818	-1% - -4%	1,996 - 1,929	5% - 2%
Namoi	500	60%	1,896	1,885 - 1,818	-1% - -4%	1,996 - 1,929	5% - 2%
Peel	500	60%	1,896	1,885 - 1,818	-1% - -4%	1,996 - 1,929	5% - 2%
Lachlan	500	60%	2,219	2,407 - 2,340	8% - 5%	2,407 - 2,340	8% - 5%
Macquarie	500	60%	2,219	2,407 - 2,340	8% - 5%	2,407 - 2,340	8% - 5%
Far West	500	60%	2,822	3,553 - 3,486	26% - 24%	3,553 - 3,486	26% - 24%
Murray	500	60%	2,582	2,854 - 2,787	11% - 8%	3,036 - 2,969	18% - 15%
Murrumbidgee	500	60%	3,379	3,759 - 3,692	11% - 9%	4,018 - 3,951	19% - 17%
North Coast	500	60%	3,773	4,139 - 4,072	10% - 8%	4,430 - 4,363	17% - 16%
Hunter	500	60%	1,288	1,617 - 1,550	26% - 20%	1,718 - 1,651	33% - 28%
South Coast	500	60%	1,322	1,687 - 1,620	28% - 23%	1,798 - 1,731	36% - 31%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.8 Indicative impact of draft decision on bills on unregulated rivers with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Border	500	60%	1,896	1,885 - 1,858	-1% - -2%	1,996 - 1,969	5% - 4%
Gwydir	500	60%	1,896	1,885 - 1,858	-1% - -2%	1,996 - 1,969	5% - 4%
Namoi	500	60%	1,896	1,885 - 1,858	-1% - -2%	1,996 - 1,969	5% - 4%
Peel	500	60%	1,896	1,885 - 1,858	-1% - -2%	1,996 - 1,969	5% - 4%
Lachlan	500	60%	2,219	2,407 - 2,380	8% - 7%	2,407 - 2,380	8% - 7%
Macquarie	500	60%	2,219	2,407 - 2,380	8% - 7%	2,407 - 2,380	8% - 7%
Far West	500	60%	2,822	3,553 - 3,526	26% - 25%	3,553 - 3,526	26% - 25%
Murray	500	60%	2,582	2,854 - 2,827	11% - 10%	3,036 - 3,009	18% - 17%
Murrumbidgee	500	60%	3,379	3,759 - 3,732	11% - 10%	4,018 - 3,991	19% - 18%
North Coast	500	60%	3,773	4,139 - 4,112	10% - 9%	4,430 - 4,403	17% - 17%
Hunter	500	60%	1,288	1,617 - 1,590	26% - 23%	1,718 - 1,691	33% - 31%
South Coast	500	60%	1,322	1,687 - 1,660	28% - 26%	1,798 - 1,771	36% - 34%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

B.3 Impacts on customers in groundwater

B.3.1 Government owned meters

Table B.9 Indicative impact of draft decisions on bills on groundwater with government owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Inland	500	60%	3,274	3,657 - 3,590	12% - 10%	3,657 - 3,590	12% - 10%
Murrumbidgee	500	60%	2,309	3,286 - 3,219	42% - 39%	3,443 - 3,376	49% - 46%
Coastal	500	60%	2,272	3,063 - 2,996	35% - 32%	3,211 - 3,144	41% - 38%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter. 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.10 Indicative impact of draft decisions on bills on groundwater with government owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Inland	500	60%	3,274	3,657 - 3,630	12% - 11%	3,657 - 3,630	12% - 11%
Murrumbidgee	500	60%	2,309	3,286 - 3,259	42% - 41%	3,443 - 3,416	49% - 48%
Coastal	500	60%	2,272	3,063 - 3,036	35% - 34%	3,211 - 3,184	41% - 40%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: Assumes a 100mm meter. 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

B.3.2 Privately owned meters

Table B.11 Indicative impact of draft decisions on bills on groundwater with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Inland	500	60%	2,871	2,826 - 2,759	-2% - -4%	2,826 - 2,759	-2% - -4%
Murrumbidgee	500	60%	1,905	2,455 - 2,388	29% - 25%	2,612 - 2,545	37% - 34%
Coastal	500	60%	1,868	2,232 - 2,165	19% - 16%	2,380 - 2,313	27% - 24%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.12 Indicative impact of draft decisions on bills on groundwater with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Inland	500	60%	2,871	2,826 - 2,799	-2% - -2%	2,826 - 2,799	-2% - -2%
Murrumbidgee	500	60%	1,905	2,455 - 2,428	29% - 27%	2,612 - 2,585	37% - 36%
Coastal	500	60%	1,868	2,232 - 2,205	19% - 18%	2,380 - 2,353	27% - 26%

a Includes WAMC charges, MDBA and BRC charges and MSCs. Bills are nominal (i.e. $2020-21).

Note: 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

B.3.3 Privately owned meters

Table B.13 Indicative impact of draft decisions on bills on groundwater with privately owned meters with telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Inland	500	60%	2,871	2,826 - 2,759	-2% - -4%	2,826 - 2,759	-2% - -4%
Murrumbidgee	500	60%	1,905	2,455 - 2,388	29% - 25%	2,612 - 2,545	37% - 34%
Coastal	500	60%	1,868	2,232 - 2,165	19% - 16%	2,380 - 2,313	27% - 24%

Note: Includes WAMC charges, MDBA and BRC charges. Bills are nominal (i.e. $2020-21). 2021-22 and 2024-25 bill estimated as if new prices apply from 1 July 2021.

Table B.14 Indicative impact of draft decisions on bills on groundwater with privately owned meters without telemetry ($/year, $2021-22)

Valley	ML entitlement	Usage (%)	2020-21 bill[a]	2021-22 bill including metering	% change to 2020-21 bill	2024-25 bill including metering	% change to 2020-21 bill
Inland	500	60%	2,871	2,826 - 2,799	-2% - -2%	2,826 - 2,799	-2% - -2%
Murrumbidgee	500	60%	1,905	2,455 - 2,428	29% - 27%	2,612 - 2,585	37% - 36%
Coastal	500	60%	1,868	2,232 - 2,205	19% - 18%	2,380 - 2,353	27% - 26%

Note: Includes WAMC charges, MDBA and BRC charges. Bills are nominal (i.e. $2020-21).

Glossary

2017 Determination	Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation, September 2006 (Determination Nos 4 and 5, 2006)
2017 determination period	The period from 1 July 2017 to 30 June 2021, as set in the 2017 Determination
2021 Determination	Review of bulk water charges for state water corporation, June 2010 (Determination No 2, 2010)
2021 determination period	The period from 1 July 2021 to 30 June 2025, that will be set in the 2021 Determination
ACCC	Australian Competition and Consumer Commission
ACCC's Pricing Principles	Pricing principles for price approvals and determinations under the WCR
BRC	Border Rivers Commission
Capex	Capital expenditure
CPI	Consumer Price Index
Customer share of costs	We have decided to refer to what has previously been known as the 'user share of costs' as the 'customer share of costs', given that there are users of rural bulk water services (e.g. the community at large), that do not contribute to the recovery of Water NSW's NRR
DPI Water	Department of Primary Industries Water
DPIE	Department of Planning, Industry & Environment
FCR	Full cost recovery
FFO	Funds from operations
FRWS	Fish River Water Supply Scheme
GS	General security
GL	Gigalitre

Greater Sydney area	Water catchments that service Water NSW storages including the Blue Mountains, Shoalhaven, Warragamba, Upper Nepean and Woronora catchments
GVIA	Gwydir Valley Irrigators Association
HS	High security
ICDs	Irrigation corporations and districts
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act	Independent Pricing and Regulatory Tribunal Act 1992 (NSW)
kL	Kilolitre
LID	Local Intelligence Device. A LID is a device, such as a telemetry-enabled data logger or other telemetry-capable field solution that is able to connect to a water meter and transmit metering data to government via telemetry.
MDB	Murray Darling Basin
MDBA	Murray Darling Basin Authority
MAQ	Minimum Annual Quantity
ML	Megalitre
mm	Millimetre
MSC	Meter service charges
NRR	Notional revenue requirement. Revenue requirement set by IPART that represents the efficient costs of providing Water NSW's regulated monopoly services
NPV	Net Present Value
NRAR	Natural Resources Access Regulator
NSW	New South Wales
NSWIC	New South Wales Irrigators' Council
Opex	Operating expenditure
PIAC	Public Interest Advocacy Centre

RAB	Regulatory asset base
RTP	Risk transfer product
SIS	Salt Inception Scheme
SOC	State-owned corporation
SRMC	Short-Run Marginal Cost
Target revenue	The revenue Water NSW generates from prices set by IPART for that year
TCorp	NSW Treasury Corporation
TOTEX	Total expenditure, includes expenditure on operations and capital.
UOM	Unders and overs mechanism
VaR	Value at risk
WACC	Weighted average cost of capital
WAMC	Water Administration Ministerial Corporation
Water Act	*Water Act 2007* (Cth)
WCR	Water Charge (Infrastructure) Rules 2010 made under s 92 of the Water Act 2007 (Cth)
YACTAC	Yanco Creek and Tributaries Advisory Council

[i] NSW Department of Planning, Industry and Environment, Telemetry to support NSW Non-Urban Water Metering Framework, Available from: https://www.industry.nsw.gov.au/water/metering/telemetry , Accessed 24 May 2021.
[ii] Cardno, Final Report – Review of Water NSW's Metering Reform Costs, April 2020, pp 24-25.
[iii] For example see CICL, Submission to Water NSW rural review, April 2021, p 5, GVIA, Submission to IPART's Draft Report for the WAMC and Water NSW rural review, April 2021, pp 2-3.
[iv] NSW Irrigators' Council, Submission to IPART's Draft Report for the Water NSW review, April 2021, pp 22-23.
[v] Coleambally Irrigation Co-operative Limited, Submission to IPART's Draft Report for the Water NSW review, April 2021, p 6.
[vi] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 25.
[vii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 3.
[viii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 31.
[ix] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 32.
[x] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 30.
[xi] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 5.
[xii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 32.
[xiii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 33.

[xiv] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 33.
[xv] NSW Department of Planning, Industry and Environment, Telemetry to support NSW Non-Urban Water Metering Framework, https://www.industry.nsw.gov.au/water/metering/telemetry, accessed 24 May 2021.
[xvi] Water NSW, Submission to IPART's Draft Report for the Water NSW review, April 2021, p 14.
[xvii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, pp 24-25.
[xviii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, pp 24-25.
[xix] For example see Coleambally Irrigation Co-operative Limited (CICL), Submission to IPART's Draft Report for the Water NSW review, April 2021, p 5, Gwydir Valley Irrigators Association (GVIA), Submission to IPART's Draft Report for the WAMC and Water NSW review, April 2021, pp 2-3.
[xx] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, pp 27.
[xxi] Water NSW, Response to Request for Information on Metering Reform Costs, December 2020.
[xxii] Water NSW (Water NSW) revised pricing proposal to IPART, April 2021, pp 19-20.
[xxiii] Public Interest Advocacy Centre (PIAC), Submission to Draft Report for IPART's Water NSW rural review, 23 April 2021, p 9.
[xxiv] Lachlan Valley Water, Submission to IPART's Draft Report for the WAMC review, 16 April 2021, p 8.
[xxv] Water NSW, Submission to IPART's Draft Report and Water NSW rural review – metering reform, p 20
[xxvi] Water NSW, Water NSW revised pricing proposal to IPART, December 2020, p 10.
[xxvii] Water NSW, Water NSW revised pricing proposal to IPART, December 2020, p 7.
[xxviii] Water NSW, Submission to IPART's Draft Report and Water NSW rural review – metering reform, April 2021, p 14.
[xxix] Water NSW, Water NSW (Water NSW) pricing proposal to IPART, December 2020, p 20.
[xxx] Water NSW, Water NSW (Water NSW) pricing proposal to IPART, December 2020, p 20.
[xxxi] Water NSW, Water NSW (Water NSW) pricing proposal to IPART, December 2020, p 20.
[xxxii] Water NSW, Water NSW (Water NSW) pricing proposal to IPART, December 2020, p 20.
[xxxiii] Water NSW, Water NSW (Water NSW) pricing proposal to IPART, December 2020, p 27.
[xxxiv] Water NSW, Water NSW (Water NSW) pricing proposal to IPART, December 2020, p 36.
[xxxv] NSWIC, Submission to Draft Report for IPART's WAMC and Water NSW rural reviews, 16 April 2021, p 24.
[xxxvi] PIAC, Submission to Draft Report for IPART's Water NSW rural review, April 2021, p 13.
[xxxvii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, p 25.
[xxxviii] Cardno, *Review of Water NSW's Metering Reform Costs – Final Report*, June 2021, pp 24-25.
[xxxix] Water NSW, Submission to IPART's Draft Report and Water NSW rural review – metering reform, April 2021, p 22.
[xl] Water NSW, Submission to IPART's Draft Report and Water NSW rural review – metering reform, p 22.
[xli] Water NSW, Response to Request for Information on Metering Reform Costs, December 2020, p 29 and Water NSW, Submission to IPART Draft Report, April 2021, p 22.
[xlii] Water NSW, Submission to IPART's Draft Report and Water NSW rural review – metering reform, April 2021, pp 37-38.
[xliii] Water NSW, Submission to IPART's Draft Report for the WAMC and Water NSW rural review, April 2021, p 65 and Lachlan Valley Water, Submission to IPART's Draft Report for the WAMC review, 16 April 2021, p 8.
[xliv] Water NSW, Information provided to IPART, 17 May 2021.
[xlv] Water NSW, Information provided to IPART, 17 May 2021.
[xlvi] Water NSW, Information provided to IPART, 17 May 2021.
[xlvii] Water NSW, Water NSW revised pricing proposal to IPART, December 2020, p 4.
[xlviii] Water NSW, Submission to IPART's Draft Report for the WAMC and Water NSW rural review, April 2021, pp 27-28.
[xlix] Water NSW, Further information provided to IPART, 17 May 2021.
[l] ACCC Final Decision, *IPART Application for accreditation under Part 9 of the Water Charge (Infrastructure) Rules 2010*, September 2015, section 2.4.