

10 December 2020

Ms Liz Livingstone
Chief Executive Officer
Independent Pricing and Regulatory Tribunal of NSW
Level 15, 2-24 Rawson Place
SYDNEY NSW 2000

Dear Ms Livingstone,

Additional information on the cost of non-urban metering reform for the review of WAMC and WaterNSW's Rural Bulk Water Prices from 1 July

Thank you for your letter dated 4 December 2020 requesting a CEO declaration to certify the accuracy of the additional information provided on 30 November 2020 on non-urban metering reform costs. The completed CEO declaration can be found at Appendix A to this letter.

I confirm that the additional information provided on 30 November constitutes a supplementary submission to our 30 June 2020 pricing proposals for both the WAMC and WaterNSW rural price reviews. The additional information is consistent with the original intent and commentary contained within the original pricing proposals. As such, WaterNSW is proposing to include these proposed costs in both its rural valley and WAMC prices.

Whilst considered to be a supplementary submission, the additional information also responds to IPART's 18 September 2020 Request for Information (RFI) issued under WaterNSW's Rural Pricing Review in relation to updated costs and prices to cover all four years from 2021-22 to 2024-25. It is important to clarify this intention, as IPART has recently decided to set a 4 year determination period for Rural Valley Pricing.

If you would like to discuss this response further, please do not hesitate to contact Mr. Michael Martinson, Manager Economic Regulation, on 0419 121 429 or myself 0400 742 136.

Yours sincerely,

A black rectangular redaction box covering the signature of Andrew George.

Andrew George
Acting Chief Executive Officer

Attachments:

Appendix A – Chief Executive Officer Declaration

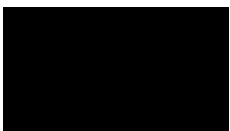
Chief Executive Officer's Declaration

I declare that the information provided in our supplementary pricing submission submitted on 30 November 2020:

- a) provides the latest available information of the non-urban metering reform costs of WaterNSW for both the reviews of the Water Administration and Ministerial Corporation's (WAMC's) water management prices and WaterNSW's rural bulk water prices;
- b) has been developed using estimates and assumptions that are reasonable to the best of my information, knowledge and belief and are largely commensurate with the risks and uncertainties related to the implementation of the non-urban metering reform;
- c) also constitutes a response to IPART's 18 September 2020 Request for Information (RFI) issued under the WaterNSW Rural Pricing Review in relation to updated costs and prices to cover all four years from 2021-22 to 2024-25;

There are no circumstances of which I am aware that would render the information provided to be misleading or inaccurate.

Certified by the Chief Executive Officer:



Andrew George

Acting Chief Executive Officer

Dated: 10.12.2020

Response to Request for Information on Metering Reform Costs

**Response to IPART's Request for Information on the Cost of
Non-urban Metering Reform for the Review of WaterNSW Rural Bulk
Water Prices and WAMC Prices from 1 July 2021**

30 November 2020

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1. Introduction

In its Pricing Proposal to IPART for NSW Rural Bulk Water Services 1 July 2021 to 30 June 2022, WaterNSW raised that the NSW Government is implementing a new metering framework for non-urban water take. Given the ongoing uncertainty around the policy and operational landscape, and the associated costs of metering reform, WaterNSW excluded the costs of the non-urban metering reform from its Pricing Proposal. WaterNSW noted that it would provide cost forecasts to IPART during the review process, for IPART's consideration and inclusion in the Draft Determination. As part of the Price Review process, IPART requested further information on the cost of metering reform.

In response to IPART's request for information on the costs of non-urban metering reform, WaterNSW has prepared this submission on the additional costs to be included in Rural Valley and WAMC prices.

In recent months, certain elements of the non-urban metering reform program became clearer, enabling WaterNSW to undertake initial analysis of the costs it will incur in assisting customers to achieve compliance with the new requirements. This document sets out WaterNSW's consideration of these new requirements, and provides preliminary cost estimates and a proposed approach to pricing for IPART's consideration as part of the Pricing Proposal process.

WaterNSW is implementing the NSW Government's reform program as it stood as of 30 November 2020. Subsequent changes to the reform program may require WaterNSW to update the costs and prices outlined in this submission.

In preparing this response, WaterNSW engaged with the NSW Government to explore refinements to the reform program that would still achieve the intended policy outcomes, but at a lower cost to customers. These refinements have been included in this submission.

WaterNSW highlights that with the introduction of the metering reforms, there is inherent uncertainty and an element of stepping into the unknown. Metering rollouts in other sectors and jurisdictions have demonstrated that the best laid plans and forecasts may prove, even with the best intentions, to be inaccurate. To this end, we propose that IPART introduce an 'unders and overs' mechanism ("**UOM**") for the upcoming 2021 Rural Valley bulk water and Water Administration Ministerial Corporation ("**WAMC**") determinations that will protect customers and WaterNSW from any unintended windfall gains or losses associated with forecasting the costs of implementing the reform program.

1.1 Background

As part of the Water Reform Action Plan ("**WRAP**") 2017, the NSW Government detailed the implementation of a new and updated metering framework that seeks to improve the standard and coverage of non-urban water meters ("**Metering Reform Program**"). The Metering Reform Program impacts roles and responsibilities and requires implementation across all water governance bodies – Department of Planning, Industry and Environment ("**DPIE**"), Natural Resource Access Regulator ("**NRAR**") and WaterNSW. Further metering and measurement reforms are also being implemented under the Floodplain Harvesting Measurement Policy released in 2020, and are being integrated with the Metering Reform Program.

As WaterNSW maintains, manages and operates major infrastructure to deliver bulk water to licensed water users on the State's regulated rivers, primary responsibility for the administration of the reform rests within WaterNSW.

WaterNSW metering activities are considered across three stages of process: metering compliance; recording; and reporting and general enquires. WaterNSW will be required to periodically report to both NRAR and DPIE Water on the compliance of relevant irrigators with non-urban metering regulatory requirements. The new non-urban metering framework will have a significant impact on WaterNSW's current business functions; across all aspects of the process, as well as integration of new systems and data to carry out existing and extended functions.

Costs associated with the implementation of the metering scheme management are captured for the purposes of price regulation. Non-urban meters administered by WaterNSW include customers in regulated rivers (Rural Valleys) and unregulated rivers (WAMC).

Matthews Review

The Water Reform Action Plan was developed by the NSW Government in December 2017 following the Matthews Review and the Murray-Darling Basin Compliance Review.

In particular, The Matthews Review *Independent Investigation into NSW Water Management and Compliance*, provided to the NSW Department of Industry (November 2017), diagnosed shortcomings in the NSW water management and compliance and enforcement system. A detailed and transformational report, the Matthews Review was undertaken following allegations of water theft or illegal water take from within the Murray Darling Basin (MDB) and surrounding regions. At the time NSW water use accounted for more than half of the water use in the MDB, however an estimated one-third of that water take was unmetered. The Matthews Review validated these allegations and provided recommendations and ultimately a comprehensive plan to significantly improve water management and compliance in NSW.

Two key recommendations from the Matthews Review which impact WaterNSW's costs are:

- A universal requirement for metering of water extractions; and
- A significant improvement to transparency and public accessibility of information about water usage.

Water Reform Action Plan

The Water Reform Action Plan (“**WRAP**”) detailed how governance bodies would implement review recommendations. In the WRAP, the NSW Government committed to four key goals:

- Introduce best practice for water management;
- Ensure transparency in how we share, allocate and manage water;
- Build a compliance and enforcement regime that ensures strong and certain regulation; and
- Build capability to support implementation of water reforms.

The WRAP committed the NSW Government to 40 actions to improve water management in NSW, including a commitment to implement a robust water metering framework. It outlined a staged approach to implementation of the recommendations with all actions sought to be completed by Q1 2019. The WRAP also identified five key investment projects to drive sustainability of water across the State.

Floodplain Harvesting Policy

In August 2020, as part of its broader Floodplain Harvesting Policy the NSW Government released its Floodplain Harvesting Measurement Policy which sets out an approach for measuring water taken under a floodplain harvesting access licence.

Roles and responsibilities

As part of the WRAP, the NSW Government sought to clearly articulate and designate roles and responsibilities to the governance and management bodies for NSW water, as follows:

- DPIE (NSW Government):
 - Responsible for surface and groundwater management including water security;
 - Ensures equitable sharing of surface and groundwater resources and that water entitlements and allocations are secure and tradeable; and
 - Leads negotiations with the Commonwealth, including the MDBA and other jurisdictions.

- NRAR (Established in 2018 as an outcome of the Matthews Review):
 - Responsible for compliance and enforcement of NSW water law with powers for investigations and other strategies as part of providing quality regulation;
 - Determines when to commence prosecutions or uses other enforcement tools in the event of non-compliance; and
 - Prepares policies and procedures relating to the enforcement powers under natural resources management legislation.

- WaterNSW:
 - Bulk water supplier and operational manager of surface water and groundwater resources;
 - Develops and operates infrastructure solutions for water supply and security and reliability;
 - Conducts customer-facing functions including customer management and the delivery of water; and
 - Recording and tracking water take and billing.

- Office of Environment and Heritage:
 - Manages the State's environmental water holdings; and
 - Develops a long-term environmental watering plan as required under the Basin Plan.

1.2 WRAP metering work program

Specific to metering, the WRAP outlined a process for public consultation on:

- An approach to implementing 'no meter, no pump' objectives;
- Identification of any necessary legislative reforms to support these changes;
- How to monitor metering of water consumption; and
- A policy on self-reporting and random checks.

Following consultation, the metering framework was established with the following key objectives:

- The vast majority of licensed water take must be accurately metered;
- Meters must be accurate, tamper proof and auditable;
- Undue costs on smaller water users are to be minimised; and
- Metering requirements are to be practical and able to be implemented effectively.

A timetable for implementing new metering requirements followed.

For WaterNSW, the major element of the new framework is the introduction of a mandatory metering condition in licences, to require metering equipment that meets specified standard plus telemetry to be installed, used and properly maintained on all water supply work approvals above a certain threshold.

Under the new framework, water users with works that meet one or more of the following metering thresholds will be required to have compliant metering equipment:

- Users who are already required to have a meter or measure water take;
- All surface water works except for pumps below 100mm in diameter;
- All groundwater works except for bores below 200mm in diameter;
- Users with pump infrastructure size of 200mm or larger;
- Multiple works on a single property or authority; and
- All groundwater works that take water from at-risk groundwater sources.

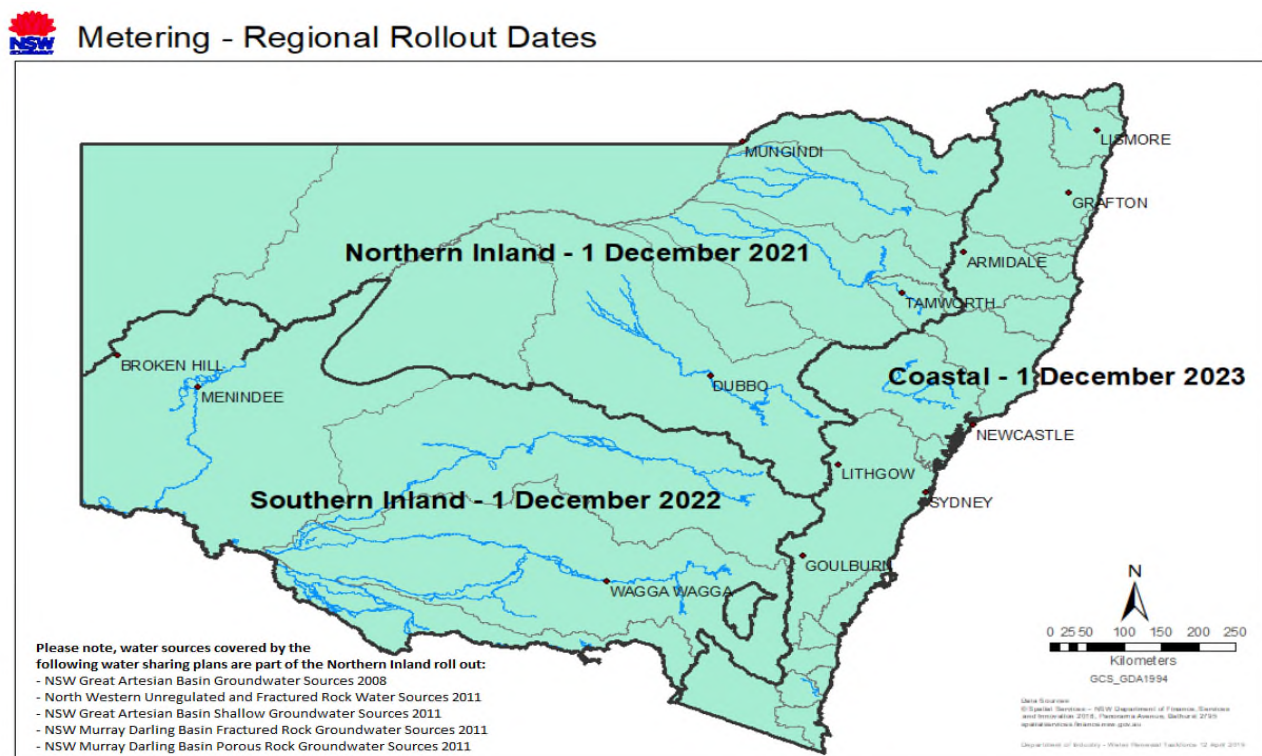
In addition, all surface water works, except for pumps below 200mm in diameter, will be required to remotely transmit water take information to the NSW Government. DPIE have recently released a *Market Engagement Policy for Telemetry* which provides a pathway for customers to retain their existing telemetry services if they are shown to meet equivalent outcomes to the telemetry requirements under the metering policy.¹

Legislation underpinning the new metering framework has commenced and will be rolled out over a five-year period, starting with the largest consumers of water and then progressively implemented on a region-by-region basis. The remaining transition to the new metering requirements will impact the 2021 Determination period:

- Stage 1 - 1 December 2020 - for all surface water pumps 500 mm or larger;
- Stage 2 - 1 December 2021 - for all remaining works in the inland northern region;
- Stage 3 - 1 December 2022 - for all remaining works in the inland southern region; and
- Stage 4 - 1 December 2023 - for all remaining works in the coastal regions.

¹ < <https://www.industry.nsw.gov.au/water/metering/telemetry> >

Figure 1: Regional rollout



* roll out date of 1 December 2020 for meters >500mm across all water sources

According to DPIE, the proposed thresholds will result in about 56% of licensed works being metered to the required standards and coverage of over 95% of the water infrastructure capacity for existing licensed water.²

Floodplain Harvesting Measurement Policy

In August 2020, as part of its broader Floodplain Harvesting Policy the NSW Government released its Floodplain Harvesting Measurement Policy which sets out an approach for measuring water taken under a floodplain harvesting access licence.

The NSW Government is currently exhibiting a draft amendment regulation which will give legal effect to the Floodplain Harvesting Measurement Policy, with a view to the amendment regulation coming into force on or before 1 July 2021.

The Floodplain Harvesting Measurement Policy will leverage existing systems and processes operated by WaterNSW to support non-urban metering rules, including the telemetry data acquisition services, DQP Portal and processes for reporting faulty metering equipment.

1.3 Purpose

This document provides detail and breakdown of estimated metering costs and metering charges under the metering scheme management for the 2021 Determination period.

² < https://www.industry.nsw.gov.au/_data/assets/pdf_file/0007/312469/NSW-water-metering-framework-consultation-paper.pdf>

The functions and activities undertaken by WaterNSW as a result of the updated metering frameworks and implementation of new systems are defined, and cost estimates are included, in the response as are the proposed pricing approach and associated charges.

This paper presents:

- Metering activities and requirements resulting from the reforms;
- Process overviews, including activities and systems associated with the new requirements;
- Forecast operating and capital expenditure over the 2021 Determination period, including metering costs associated with each stage of the process; and
- Pricing approach and preliminary structures and prices.

The impacts, forecasted expenditure and charges are separately identified for the:

- **Metering Scheme Management** (sections 2 – 4); and
- **Government owned meters** (section 5).

WaterNSW notes that the cost estimates provided as part of this response are best estimates driven by resource and system requirements and forecasts at a point in time. However, as these processes are new to the businesses, a full understanding of costs and volumes is expected to evolve over time. For example, there is uncertainty over the following:

- The number of customers who will provide their own meter, rather than opt for a WaterNSW Government owned meter;
- The decommission costs of removing a Government owned meter on request from a water user. These costs will be borne by WaterNSW;
- The number of customers who opt into telemetry; and
- The number of customers that use the online platform to lodge their usage.

Given these uncertainties and the fact that WaterNSW is implementing new reforms which have a number of assumptions as to the implementation approach, we are proposing a UOM mechanism, with any balances resolved at the subsequent determination which will protect both customers and WaterNSW where the assumptions prove to be materially inaccurate. This will protect all stakeholders from the risk of windfall gains or losses arising from the implementation of the reform program. WaterNSW's proposed UOM is discussed in Section 5.4.

For decommissioning costs and additional capital expenditure, the costs will be borne by WaterNSW in the 2021-25 Determination period. Related expenditure may enter the RAB if deemed to be prudent and efficient by IPART at a future price review, or will be recovered under our proposed UOM mechanism.

For those elements where final policy positions on program application and operation have yet to be settled, this document seeks to identify issues and the pricing impacts of likely options.

WaterNSW will undertake consultation with customers on the proposed charges and supporting framework through its Customer Advisory Groups in early 2021.

2. WaterNSW impacts

This section outlines the processes and activities related to WaterNSW's role within the metering scheme management program. WaterNSW's role spans program establishment, the oversight of installation certification and ongoing management, meter reading and data management for both telemetry and non-telemetry sites, customer education, and exception and enquiry management.

2.1 Meter establishment

The following approach to metering is to be applied:

- **New or replacement meters to be installed:** All meters must be maintained to the required specifications and if deemed non-compliant, meters are to be replaced, with compliance, installation and recording to be administered by WaterNSW (and DQPs).

Over the period of program implementation, an estimated 14,400 new or replacement meters are anticipated to be required.

New or replacement meters include:

- Telemetry – meters with data recording and remote transmitting of meter data reads to WaterNSW centralised data systems; or
 - Non- telemetry – meters without remote transmitting systems that store meter data on-site and require periodic manual data logger download.
- **Existing meters to remain:** There are pathways for water users to retain their existing meter if it is pattern-approved and validated and confirmed as accurate. On site testing and validation of existing meters is required by DQPs.

WaterNSW expects an estimated 8,500 existing meters may be maintained over the period of program implementation, with allocation of approximately 40% to the 2021 WAMC determination and 60% to the WaterNSW 2021 Rural Valleys Determination.

2.2 Implementation and ongoing management

WaterNSW currently determines water take, a role which will greatly expand in the 2021 Determination period with the requirements for additional meters to be installed.

Given the phased transition to the new metering framework, WaterNSW will be required to extend some of its current practices when undertaking implementation activities to transition to the full and amended metering process. Major implementation activities include those that are required for implementation of the new metering framework and those activities which will continue over time.

Key areas of new activity and ongoing management for WaterNSW include:

- **Government owned meters** – as part of the reform. WaterNSW has the responsibility to make all government-owned meters on private land compliant with existing metering requirements and the new non-urban metering regulation and is required to establish a new meter maintenance regime (based on the meter maintenance requirements in the same regulations). The NSW Government decided, following consultation, that WaterNSW will retain ownership of these meters. WaterNSW will therefore need to recover from customers the efficient costs of retaining, upgrading and maintaining these meters to the new standards.
- **Reporting requirements** – Water users who are required to install a meter but do not use telemetry, will be required to self-report their water extractions or confirm that they will not

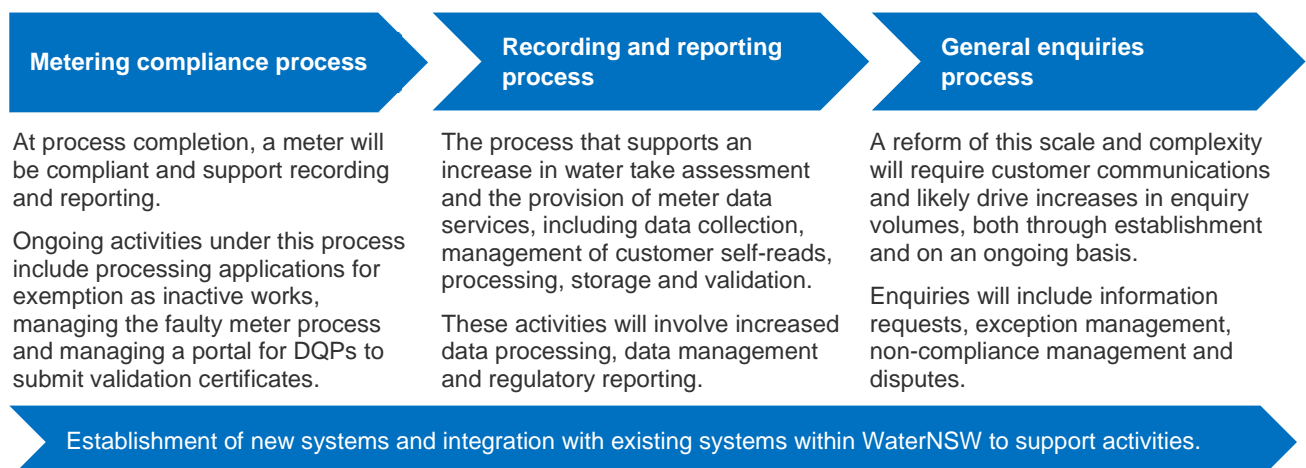
extract water for a defined period of time. This data will be captured and stored in a data repository and then used for the intended purposes of billing, account management, determining water take, system operations and compliance.

- **Reporting requirements** – WaterNSW will need to download the data from each local intelligence device (“LID”) onsite at least once per annum for those not connected to telemetry. This data needs to be stored in a data repository and then used for the intended purposes of billing, account management, determining water take, system operations and compliance.
- Hosting of the **Data Acquisition Service (“DAS”)** – the NSW Government has procured a cloud-based DAS to collect and store data received from the compatible data logging and telemetry devices on meters. Data collected will inform compliance and enforcement activities. WaterNSW is responsible for the establishment of DAS and its ongoing operation and maintenance.
- Development of a **Duly Qualified Person (“DQP”) Portal** – the DQP is a newly created role as part of the metering scheme management program, being a person with the qualifications, skills and experience to carry out work on metering equipment. The DQP Portal will enable DQPs to register new and replacement meters, telemetry, complete online and submit validation certificates. WaterNSW is responsible for managing the online portal used by DQPs to submit validation certificates.
- Development of **education and communications materials** that will help explain to customers the nature of their obligations.
- **Supporting customers**, for example, responding to and managing increased inquiries, calls, site visits and complaints.
- **Project management** to oversee and process the changes throughout the business.

2.3 Metering process

The metering scheme management program changes the existing metering landscape and results in new and amended activities and processes.

WaterNSW’s functions and activities under the metering scheme management program are reflected in three core processes: **metering compliance, recording and reporting and general enquiries**.



Metering compliance process

The metering compliance process manages the interface with customers and DQPs relating to the certification of compliant metering installations and ongoing business processes for compliance management. Key reforms that are driving WaterNSW activities within this workstream include:

1. **Meter certification and compliance** - While WaterNSW will not install or maintain customer owned meters, WaterNSW is responsible for oversight of the validation certification of submission process. This includes the process of initial certification under the program, the provision of exemptions for inactive works, as well as a requirement for DQPs to inspect and test meters every 5 years.

Certification and compliance activities include development and maintenance of the DQP Portal, through which DQPs submit the necessary certificates to ensure their customer's meters are compliant to the regulations.

2. **LID and telemetry** - With limited exception, all program works need to be fitted with an accurate meter and a compatible LID. A LID sits within meter hardware acting as a telemetry-enabled data logger that can connect to a water meter and transmit metering data to a third party via telemetry. Non-telemetry systems are allowed in specified circumstances but require self-reporting.

Figure 2: Metering compliance process flow

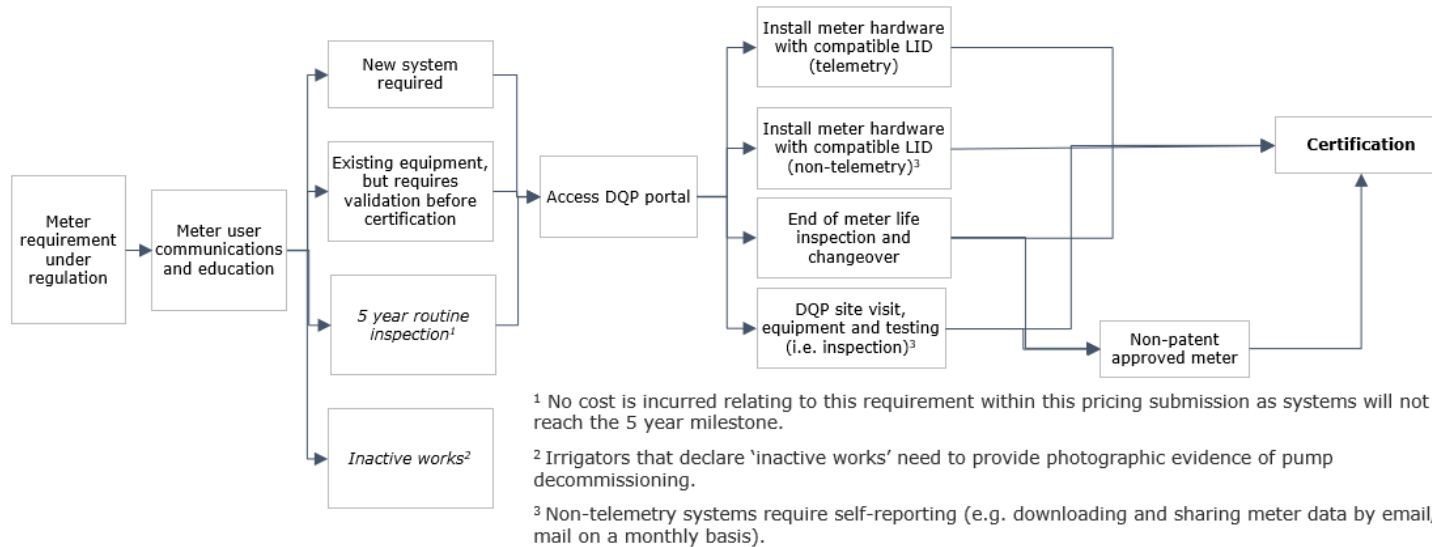


Table 1: Metering compliance activities and systems

Step	Communications	Equipment	Access DQP Portal	Accreditation	Non-patent	Certification
Activities	<ul style="list-style-type: none"> Manage delivery of communications plan Facilitate mailouts of communication/ educational materials 	<ul style="list-style-type: none"> Support customers with accurate information Fault management (system use) 	<ul style="list-style-type: none"> Build and manage Portal First level of user support for Portal use Accredit DQPs Manage DPQs³ Quality assurance of DQPs Inform DPQs of updates to standards and rules 	<ul style="list-style-type: none"> Maintain information on accredited systems/ infrastructure Accredit equipment 	<ul style="list-style-type: none"> Process non-patent approved meter inspections and certifications Manage communications and education 	<ul style="list-style-type: none"> Process certificates of compliance Manage ongoing accreditation requirements

³ In relation to using the DQP portal. Does not include accreditation as DQPs.

Recording and reporting process

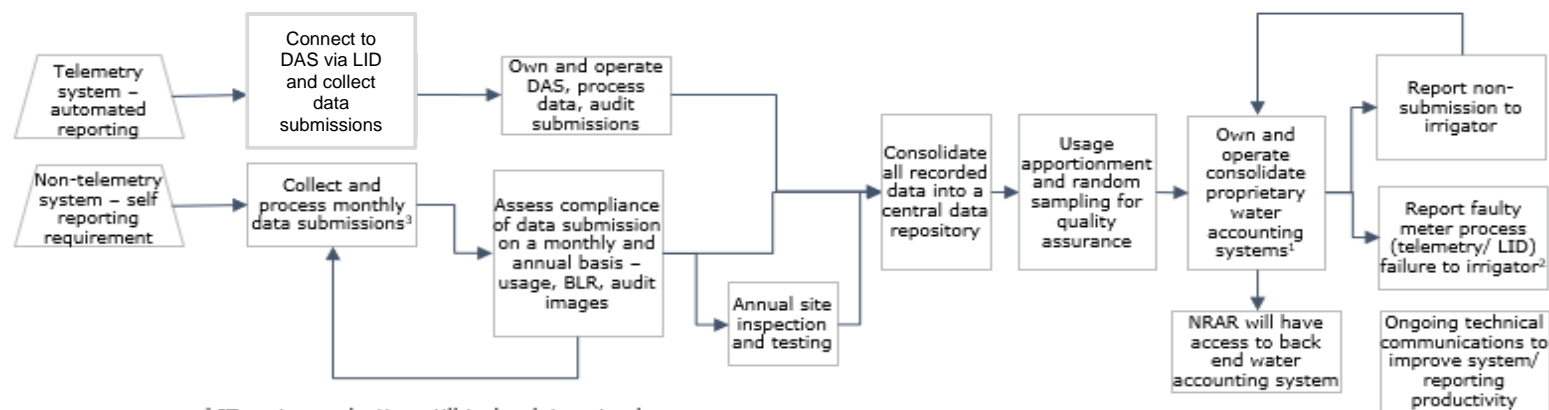
The recording and reporting process primarily addresses business as usual meter data recording activities including interfacing with the regulator, NRAR. WaterNSW's water take assessment, meter reading and meter data activities include data collection, management of customer self-reads, and the processing, storage and validation of data.

Key reforms that are driving WaterNSW activities within this workstream include:

DAS – DPIE has procured a cloud-based data acquisition service that will collect, and store data received from LIDs. WaterNSW will own and operate the DAS, including the processing and audit of data. Meters with telemetry will have direct data flow. Water users who use a metered work to take **both** water under an access licence **and** under a Basic Landholder Right (“**BLR**”) or other licence exemption, will have to self-report the proportion of take under each entitlement at prescribed intervals, regardless of whether they have telemetry. Water users with telemetry will also have to submit data submission on Basic Landholder Rights (“**BLR**”) use.

1. **LID and telemetry** – As not all meters are required to have telemetry, WaterNSW maintains the process that aligns to the self-reporting download requirements and undertakes an annual site visit to download LID data from the meter. WaterNSW collects and processes data submissions as well as assessing the compliance of data and testing.
2. **Faulty meters and telemetry** – Water users are required to report faulty metering equipment (including telemetry) within 24 hours to WaterNSW. Confirmation of recertification may be required (under metering compliance process).

Figure 3: Recording and reporting process flow



¹ IT system selection still to be determined.

² Faulty meter notifications necessitate a DPQ site visit and inspection to regain certification. This means a return to the 'metering compliance process'.

³ Reporting and Recording frequency still to be finalised.

Table 2: Recording and reporting activities and systems

Step	Receive data	Process data	Site inspection	Database	Verification	Conversion	Comms	Reporting
Activities	<ul style="list-style-type: none"> Receive manual data (emails, mail) Ensure secure connectivity of telemetry systems with DAS (including satellite systems) 	<ul style="list-style-type: none"> Operate and maintain DAS licence Analyse data Categorise irrigator compliance against licenses Cross check recorded meter images against reported data 	<ul style="list-style-type: none"> Physical annual site visit to verify data and download data from LID(including travel) 	<ul style="list-style-type: none"> Manage a centralise database for all metering data 	<ul style="list-style-type: none"> Matching take to water rights/ licence/s Random sampling a proportion of submissions to verify accuracy 	<ul style="list-style-type: none"> Manage water accounting system Integrate with other systems and communicate (e.g. licences, billing) Monitor submission conversion Manage those water users who have not submitted their data 	<ul style="list-style-type: none"> Notify irrigators of non-compliance Manage comms and education Proactive comms with users on options for enhanced system/ reporting productivity 	<ul style="list-style-type: none"> Assess success of customer's providing accurate, timely information through reporting suite

General enquiries process

WaterNSW is the key interface for customers in the delivery of the metering scheme management program.

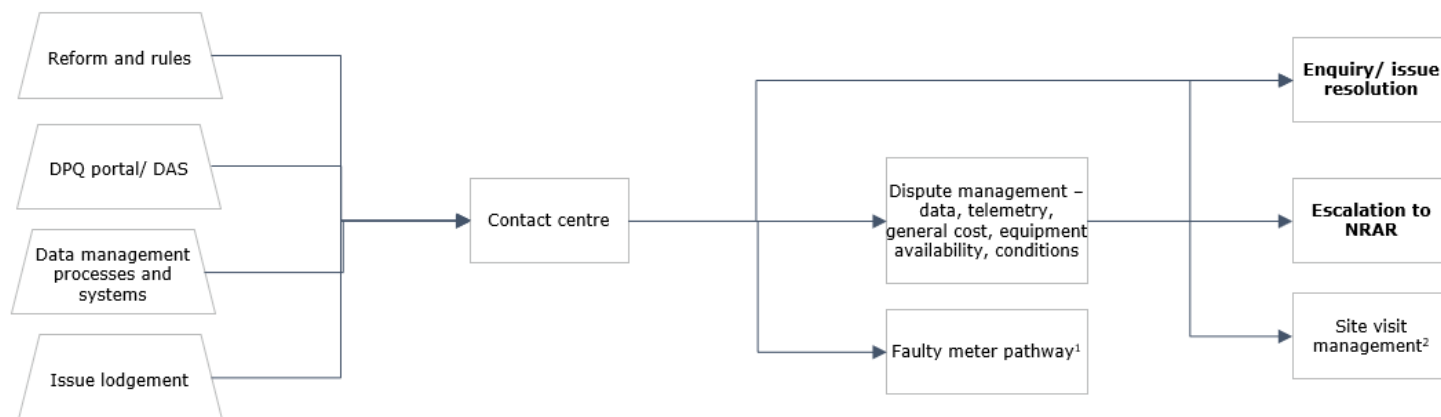
Given program materiality and scale, it is anticipated that there will be a material increase in customer enquiry volumes and potentially, complexity. While enquiry volumes are difficult to forecast, key areas of enquiry are expected to include:

- Program rules and transitional arrangements;
- DQP Portal and DAS;
- Process for obtaining a new meter;
- Data management; and
- Exceptions, issues and disputes.

WaterNSW will manage the customer enquiries through its Service Centre in the first instance, with queries referred to personnel more broadly within the business where appropriate. Initial and ongoing training of staff on meter reforms and related processes will be required.

WaterNSW will also manage online materials and provide education, contact information and service processes for customers.

Figure 3: General enquiries process flow



¹ Faulty meter pathway necessitates a DPQ site visit and inspection to regain certification. This means a return to the 'metering compliance process'. This process is managed through WaterNSW online channel.

² Initiates a site visit under the 'recording and reporting' process.

Table 3: General enquiries activities and systems

Step	Service Centre	Manage disputes	Close
Activities	<ul style="list-style-type: none"> Process calls relating to the metering program Manage online materials and education, contact details and processes for metering users Train Service Centre staff relating to meter reform and processes 	<ul style="list-style-type: none"> Manage dispute and faulty meter cases Develop pathways for resolution or escalation 	<ul style="list-style-type: none"> Close enquiries and resolutions Manage reporting of alleged breaches to NRAR in line with guidelines Facilitate site visits

3. NSW metering scheme management costs

This section outlines the expenditure associated with the management of the NSW metering scheme and the basis upon which operating and capital expenditure forecasts have been developed.

3.1 Approach

A bottom-up build of costs has been undertaken by WaterNSW to derive preliminary cost estimates.

The costs have been allocated across the NSW metering scheme management process stages discussed above to support:

- The identification of the drivers for costs across the life cycle of service activity; and
- Consideration of whether these costs should be socialised across a range of customers, or individually attributed to customers or subsets of customers.

It is important to note that elements of the reform program are still to be determined by Government, potentially impacting the certainty with which costs can be captured and forecast. Key areas of the policy framework yet to be confirmed include: the frequency of reporting and recording and legacy issues associated with the metering scheme management transition period.

The existing WAMC water take assessment charge is being assessed separately by IPART as part of the WAMC efficiency review and is not covered by this response.

3.2 Operating expenditure

Operating expenditure forms the majority of metering scheme management costs, for both project establishment and ongoing management.

The main drivers of operating expenditure are labour and IT licensing fees (e.g. DAS portal). WaterNSW staff will be required to undertake field work (e.g. downloading LIDs), customer communications (e.g. notifying customers of the reform process) and enquiry management (e.g. reporting and recording and general enquiries) activities.

A significant step change in the volume of activities required to be undertaken by WaterNSW across these areas is expected relative to current levels.

Table 4: Operating expenditure (\$ millions)

Description	2021-22	2022-23	2023-24	2024-25	Total
Downloading LID Data* <i>17,919 sites p.a. impacted by FY25</i>	\$2.68	\$3.93	\$5.74	\$5.57	\$17.92
Operating and Maintaining DAS & DQP Portal <i>4,706 sites p.a. impacted by FY25</i>	\$1.29	\$1.62	\$1.63	\$1.66	\$6.20
Managing DQP Certificates <i>8,889 labour hours cumulative FY22-25</i>	\$0.28	\$0.24	\$0.17	\$0.02	\$0.71

Description	2021-22	2022-23	2023-24	2024-25	Total
Customer Self Reporting <i>25,870 labour hours p.a. by FY25</i>	\$1.01	\$1.58	\$2.09	\$2.18	\$6.86
General Enquiries and Education <i>27,546 labour hours cumulative FY22-25</i>	\$0.46	\$0.65	\$0.86	\$0.82	\$2.80
Other Activity (processing inactive works and faulty meters) <i>11,922 labour hours cumulative FY22-25</i>	\$0.12	\$0.23	\$0.33	\$0.35	\$1.03
Total	\$5.85	\$8.26	\$10.81	\$10.60	\$35.52

Expenditure will be split across the WAMC and Rural Valley determinations. Excludes overhead.

* downloading LID Data for sites without telemetry

** the volumes assumptions are made using the best available information at the time of the submission.

Key assumptions driving the operating expenditure forecast include:

- Reporting from water users to WaterNSW and recording requirements;
- The management of customer declarations for non-usage is required;
- 100% of non-telemetry sites to be visited annually to download LIDs; and
- The need for WaterNSW to undertake follow up activities in circumstances where a customer does not self-report.

Changes to these assumptions have the potential to materially impact costs across the lifecycle, particularly within the recording and reporting process.

3.3 Capital expenditure

To undertake the necessary field work and Service Centre activities, WaterNSW will incur costs related to motor vehicles and corporate systems will need to be upgraded to effectively upload, store and validate the significant increase in meter data.

The specific corporate systems that will be applied have yet to be fully scoped, although the aim is to automate as much of the metering scheme management process as is efficient and prudent. The need to implement appropriate systems and processes is paramount given the downstream efficiencies (e.g. increased initial compliance and time savings) that can be achieved.

Table 5: Capital expenditure

	2021/22	2022/23	2023/24	2024/25	Total
Total	\$462,766	\$575,411	\$733,086	\$680,160	\$2,451,423

4. NSW metering scheme management charges

Given the increase in costs, the allocation of costs across water users and customers has been considered in regard to the metering scheme management guiding principles. This was intended to ensure the pricing approach adopted is transparent, fair and equitable across the multiple and varied water users upon which WaterNSW provides rural metering services.

4.1 Key considerations in developing metering scheme management services and charges

This section identifies key considerations that WaterNSW has taken into account in the development of its proposed pricing approach and pricing structures for meter scheme management services.

Telemetry vs non-telemetry

WaterNSW expects that the need for physical meter reads will diminish over time with the progressive uptake of telemetry. Customers may also avoid the need to self-report water take if they voluntarily use telemetry.⁴

As the need to manage customer meter reads and undertake periodic attendances at site to download data from LIDs is less efficient than the extraction and processing of data via telemetry, 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.

It is important to recognise, however, that the higher proportion of fixed costs (e.g. IT systems and licences) relative to variable costs (e.g. labour associated with site visits) will impact the level of variation in charges between meter services with and without telemetry over time and therefore, the degree of signaling that can be delivered.

Regardless, it is important for pricing structures to provide clarity and transparency of cost drivers and equity for customers both now and over time. Therefore, WaterNSW's preliminary position is to have separate meter services charges for sites with and without telemetry. Details on the options considered and the reasoning for the preferred option are outlined below.

Transitional vs ongoing costs

The costs to implement the reform process include both transitional (necessary to shift from current state to the desired state outlined by policy reform) and ongoing costs.

Transitional costs borne by WaterNSW include initial site inspections, recording compliance and providing customers with the necessary information to understand the reforms and their changing obligations. Ongoing costs refer to 'BAU' activities to deliver the required level of service such as responding to general enquiries, meter reading and meter data services.

While it would be possible to attempt to separate metering scheme management 'establishment' costs from the meter reform service charge and seek to recover these as a specific charge as customers enter the program, this is likely to materially increase the costs of transition for customers, exacerbate affordability concerns and negatively impact water user engagement and buy-in to the program's objectives.

⁴⁴ BLR users still need to self-report.

The preliminary position applied by WaterNSW is to avoid a significant upfront fee to customers by recovering transitional costs as part of the meter reform service charge and over the 2021 Determination period.

Differentiation by customer type

Differentiation in charging based on customer 'size' (e.g. entitlement, connection complexity) has historically been applied by WaterNSW through its charging arrangements to more equitably and transparently allocate costs to subsets of customers in appropriate circumstances.

While many of the activities and the level of associated effort and cost across the metering scheme management life cycle are homogenous, some activities may have a higher or lower level of actual or perceived complexity depending on the customer's characteristics. 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 WaterNSW.

Uncertainties

Frequency of recording take and self-reporting

The frequency of meter recording and reporting is still to be determined (currently being discussed with customers) and will significantly impact the volume of data that is needed to be processed.

The current view is that this will be a periodic process to ensure WaterNSW and NRAR have consistent visibility on water usage in order to avoid potential usage 'shocks' that could arise under a quarterly recording and reporting process. Government is currently considering whether customers can make declarations for months in advance if their water usage will be zero. It is unknown how many customers will want to take advantage of the declaration option.

Customer enquiries

The volume of general customer enquiries that will transpire as a result of this reform is unknown; however, given the scope of the reform it is forecast that all customers will enquire initially regarding the process to be undertaken.

4.2 NSW metering scheme management services

The table below identifies the meter services that are proposed to support the management of the NSW metering scheme.

Table 6: Meter services

Service	Definition
NSW Metering Scheme management	<p>NSW metering scheme management covers compliance activities, meter reading and meter data services related to the NSW metering framework for non-urban water take, including:</p> <ul style="list-style-type: none"> • Non-telemetry: <ul style="list-style-type: none"> – Compliance – Certification of compliance, including an initial site inspection for meter data verification purposes (undertaken at the same time the LID data is downloaded). This includes DQP Portal operation and maintenance – Water Take Assessment – periodic reading of a meter or receipt and recording of a data submission, whether by WaterNSW or customer self-read. This includes an annual site visit to the to allow WaterNSW to download LID data from the meter – Meter data services – collection, processing, storage and validation of metering data, sampling, and management of exceptions (e.g. non-reporting). • Telemetry: <ul style="list-style-type: none"> – Compliance – Certification of compliance, establishment of the site within the DAS – Meter reading – management of periodic receipt and recording of meter data provided via telemetry, through the DAS Portal. This includes DAS operation and maintenance – Meter data services – collection, processing, storage and validation of metering data, and management of exceptions. • Other activities – scheme management: <ul style="list-style-type: none"> – Processing of inactive works – Processing faulty meter – Customer communications and service requests – General enquiries.

WaterNSW considered a range of alternative approaches to the recovery of the costs of meter reform services and associated charging structures. Table 7 provides a summary of the alternative charging options that were considered by WaterNSW when developing its proposed pricing approach.

Table 7: Meter reform service charges option summary

Option	Description
Option 1 – Fully bundled and socialised	<p>A single ‘fully bundled’ charge which captures all charging components of the meter reform services.</p> <p>Costs are pro-rated and fully socialised across the WaterNSW customer on either a:</p> <ul style="list-style-type: none"> • per entitlement basis (entitlement volume as \$/ML), or • per licence basis (licence volume as \$/licence).

<p>Option 2 – Fee based</p>	<p>Two separate charges applied to all customers directly impacted by the metering reform program (i.e. not socialised across the WaterNSW customer base), represented by:</p> <ul style="list-style-type: none"> • A ‘telemetry’ or a ‘non-telemetry’ charge, based on the meter technology applied to the customer. This charge is applied as an annual \$ fee per metering installation. • A ‘scheme management’ charge, on a: <ul style="list-style-type: none"> • per entitlement basis (entitlement volume as \$/ML), or • per licence basis (licence volume as \$/licence).
<p>Option 3 – Fee based (equivalent charge) (preferred option)</p>	<p>Similar to option 2, a separate charge is applied to all customers directly impacted by the metering reform program, represented by:</p> <ul style="list-style-type: none"> • A ‘telemetry’ or a ‘non-telemetry’ charge, based on the meter technology applied to the customer. This charge is applied as an annual \$ fee per metering installation. <p>Although separate charges for telemetry and non-telemetry would be established, the annual fees would be the same for the 2021 Determination period.</p> <ul style="list-style-type: none"> • A ‘scheme management’ charge, on a per licence basis (licence volume as \$/licence).
<p>Option 4 - Socialised (by meter type)</p>	<p>A single ‘fully bundled’ charge which captures all charging components of the meter reform services.</p> <p>The charge is represented as either a ‘telemetry’ or a ‘non-telemetry’ charge, based on the meter technology applied to the customer.</p>

Additional detail, together with the preliminary view on price outcomes under each option, is provided at **Appendix A**.

Appendix B maps the proposed charges to the Rural Valley and WAMC Determinations.

4.3 Pricing principles

The options for metering service charging have been assessed on a qualitative basis against the following guiding principles, as a guide to the identification of a preferred option:









- The pricing arrangements are administratively simple and sustainable;
- There is transparency in the development of prices allowing customers to understand what, when and how they are required to pay;
- There is alignment to the regulatory pricing approvals and determination principles upon which assessment will be made;
- Customer outcomes are equitable for existing water users as well as future users and ongoing requirements;
- Tariffs should be set to the level that facilitates the efficient functioning of NSW water markets and the management of legacy and transitional issues; and
- Consideration should be given to the impact on the development of competition and contestable markets (now and future).

The evaluation of options identified above against the pricing principles is illustrated in the table below.

Table 8: Assessment of charging approach against the principles

Key: ● Strongest alignment with principle ○ Weakest alignment with principle

Principle	Option 1 Fully bundled	Option 2 Fee based	Option 3 Fee based equivalent	Option 4 Socialised by meter type	Comments
The pricing arrangements are administratively simple	●	◐	●	◐	<p>With the exception of option 4, all options are administratively simple. Options 2 and 3 provide for clear distinction in pricing for telemetry and non-telemetry meters.</p> <p>There is a concern that, under option 4, the required association of metering installation types with entitlement or licences on a socialised basis (i.e. across telemetered and non-telemetered customers) will be administratively complex and may require significant investment to identify and maintain.</p>
There is transparency in the development of prices allowing customers to understand what, when and how they are required to pay	◐	●	●	◐	<p>There is transparency in the process of price development itself and the methodology applied to recover charges under all options.</p> <p>Options 2 and 3, however, provide a greater degree of transparency for customers regarding the driver of costs through the separation of telemetry/non-telemetry costs from scheme management.</p>
There is alignment to the regulatory pricing approvals and determination principles upon which assessment will be made	◐	●	●	◐	<p>WaterNSW's current approach to pricing is informed by IPART's cost recovery framework, which is based on an impactor-pays approach. Options 2 and 3 are largely aligned to this approach through the allocation of costs to those customers captured by the metering scheme management program.</p> <p>Options 1 and 4 socialise costs across the entire WaterNSW customer base, which is more aligned to a beneficiary-pays approach, and would require acceptance by IPART that a departure from the general principle of impactor pays is appropriate in these circumstances.</p>
Customer outcomes are equitable for existing water users as well as future users and ongoing requirements	◐	◐	◐	◐	<p>Options 2 and 3 can be considered equitable to the extent that customer outcomes reflect an impactor-pays approach, noting that option 3 also seeks to mitigate the impacts of establishment and transition by the recovery of these collective costs across all customers impacted by the program, given the broader benefits of the reform framework and the program's objectives.</p>

					Although fully socialised, options 1 and 4 may be considered to provide equitable outcomes to the extent that all customers could be viewed as benefiting from more accurate and efficient monitoring of water take and a reduction in water losses.
Tariffs should be set to the level that facilitates the efficient functioning of NSW water markets and the management of legacy and transitional issues					Options 2 and 3 are anticipated to best support the management of legacy and transitional issues as charges only apply to customers directly impacted by the metering scheme management program. Transitional arrangements are considered to be more difficult to manage under option 4 given the complexity of the administrative arrangements that may need to be established to support implementation.
Consideration should be given to the impact on the development of competition and contestable markets (now and future)					Competition in metering services is not currently feasible, however the proposed pricing structure for options 2 and 3 provides some transparency in costs to be recovered which can inform contestability in the future. The socialisation of costs under option 1 and 4 result in less transparency of underlying activities and a less direct association of those activities with an individual customer and therefore may be less supportive of the development of competitive arrangements for service provision.

Options 1 and 4 do not signal the costs of reform to those impacting the costs, and are based on a fully ‘socialised’ basis. WaterNSW does not consider that these options adequately signal the costs of reform and are unlikely to lead to a greater take-up of telemetry due to the lack of targeted ‘user’ charging. WaterNSW therefore did not consider these options further.

Options 2 and 3 most closely align to the principles, although option 3 is likely to deliver a slightly higher degree of administrative simplicity and is seen as more equitable in that it seeks to mitigate the impacts of a potential higher apportionment of costs to telemetry customers as a consequence of metering scheme management program establishment and transition, by the socialisation of these collective costs across all customers impacted by the metering scheme management program, given the broader benefits of the reform framework and the program’s objectives.

In this context, it is noted that there is an expectation that the telemetry and non-telemetry charges under option 3 will be differentiated in the future following the process of transition and as telemetry volumes increase.

WaterNSW's proposed approach is to adopt **Option 3** resulting in two separate charge elements, which will be applied to all customers directly impacted by the metering scheme management program (i.e. these charges will not be socialised more broadly across the WaterNSW customer base).

The two proposed charging elements for meter reform services are:

- 1 A **'telemetry' or a 'non-telemetry' charge**, based on the meter technology applied to the metering installation. This charge is applied as an annual \$/per metering installation.

Although separate charges for telemetry and non-telemetry have been established, for the 2021 Determination period, the annual fee will be the same.

This approach seeks to mitigate the impacts of a potential higher apportionment of costs to telemetry customers as a consequence of metering scheme management program establishment and transition, by the socialisation of these collective costs across all customers impacted by the Meter Reform Program, given the broader benefits of the reform framework and the program's objectives.

Separate charges have been retained for telemetry and non-telemetry (although with the same annual fee for the upcoming determination period) with the expectation that telemetry costs will reduce following the process of transition and as telemetry volumes increase, providing improved price signals over time.

- 2 A **'Scheme management' charge**, applied per licence on an annual basis (\$/licence). This category includes the wider costs associated with the introduction of the reform, such as recording and reporting, customer self reporting, DQP Portal and DAS, general enquiries and education whereby the benefits extend beyond any individual user. This charge reflects that all water users will benefit from the metering reforms to some extent, suggesting that a portion of the total costs should be recovered from licence holders.

The table below identifies the charges proposed to be applied over the 2021 Determination period.

Table 9: Metering scheme management service charges

Meter reform service charge component	2021/22	2022/23	2023/24	2024/25	Smoothed
Telemetry	\$454	\$347	\$337	\$319	\$345
Non-telemetry	\$454	\$347	\$337	\$319	\$345
Annual NSW Metering Scheme Management Charge (per licence p.a.)	\$49	\$72	\$94	\$95	\$77

It is noted that an 'Inspection and testing – compliance charge' is anticipated to be applied on a fee for service basis, comprising a fixed price (i.e. \$/transaction). This charge will be applied to customers requesting the service.

As this service will not be provided within the 2021 Determination period however, a fee has not been established for this service at this time.

5. Government owned meters

As part of the reform process, in particular as a result of feedback from stakeholder consultation, WaterNSW will retain ownership of existing Government owned meters. WaterNSW will therefore be responsible for the costs associated with ensuring Government owned meters are compliant with the new regulatory framework. DPIE have advised that the ratio of Government owned meters to privately owned meters covered by the metering rules is 12%:88%.

WaterNSW owns and operates Government owned meters that provide metering services for private water users. These meters are referred to in this section as Government owned meters. These meters were funded under a variety of grant programs DPIE have advised that the ratio of Government owned meters to privately owned meters covered by the metering rules is 12%:88%. The majority of the Government owned meter fleet is located in the Southern Murray Darling Basin, with smaller fleets in the Hawkesbury Nepean and the Bega Bemboka regions.

The Government owned meter fleet is required to comply with new metering rules, as are all other meters across the state irrespective of ownership. Fleet ownership does however provide opportunities to reduce costs by taking a fleet-based approach to procurement, and to meeting AS4747 verification requirements.

DPIE have previously proposed and consulted on the transfer of Government owned meters to individual private owners and sought funding on behalf of WaterNSW to bring these meters into compliance ahead of any transfer. However, as a result of feedback from stakeholder consultation, WaterNSW will retain ownership of existing Government owned meters. Whilst this will reduce the overall cost of upgrading and operating the Government owned meters to meet the new metering rules, it will increase the charge to affected customers.

The provision of Government owned meters was deemed to be a monopoly service under the 2016-20 IPART WAMC determination, the 2017-21 IPART Rural Valley Determination and the 2014-17 ACCC Murray Darling Basin Bulk Water Determination.⁵ However, customers may choose to install their own meter and take direct responsibility for ensuring they have compliant metering requirement and hence bear the costs as all other water users across the State in bringing their metering equipment into compliance.

This section addresses the activities, costs and pricing associated with the government owned meter transition scheme.

5.1 Activities

Activities and costs associated with bringing government owned meters up to regulatory compliance are:

- **Capital expenditure** required to bring existing government owned meters into compliance (section 5.2)
- Ongoing annual **operating expenditure** to maintain those meters in a condition and to a standard that complies with the new regulations (section 5.3)..

It should also be noted that there is ongoing annual **expenditure** required to manage the NSW metering scheme (this applies to all meters and telemetry, not just Government owned meters). ***These ongoing annual costs are captured and discussed in section 4, as they apply to all meters and telemetry in the same manner.***

⁵ In 2014, the ACCC considered that metering services for regulated customers were provided in relation to water service infrastructure and where therefore regulated under the ACCC pricing rules [see page 24 ACCC Final Decision on State Water Pricing application 2014-15 to 2016-17].

5.2 Capital expenditure

The WaterNSW Board has approved approximately \$2.5 million in capital expenditure to bring the +500 mm pumps in the Southern Valley up to standard in the current financial year. This is to bring Government owned meters through the transition scheme and support compliance with the new regulatory framework.

Further analysis and review has identified \$14.6 million in capital expenditure requirements across the 2021 Determination period in order to achieve compliance.

Assuming no meter replacement, a 10-year remaining asset life for meters and 3.2% and 1.7% WACCs for WAMC (unregulated and groundwater) and Rural Bulk Water customers, respectively, this cost results in a capital charge of **\$601 per annum per meter** (across the 2021 Determination period).

Table 10: Capital expenditure for compliance (\$ millions)

Cost recovery	Description	Total (\$ millions)
Meter Compliance Update charge of \$601 per meter p.a.	Water users upgraded to the DAS	\$2.54
	Metering equipment certification	\$3.25
	Validation of buried meters (e.g. excavation)	\$0.56
	Removal of above ground meters in exceptional circumstances	\$1.02
	Cost of bringing non-PA meters into compliance	\$0.52
	Rectify or replace damaged or faulty meters	\$1.85
	Sample verification of 10% of WaterNSW's metering fleet	\$2.57
	Scheme administration	\$2.31
	Total Capital Expenditure	\$14.61

Expenditure will be split across the WAMC and Rural Valley determinations. Excludes overhead.

5.3 Operating expenditure

The annual operating costs to maintain these meters in a condition and to a standard that complies with the new regulation have also been reviewed and will be applied as an ongoing meter service charge ("**MSC**").

Whilst a MSC already applies to these metering installations, which covers the costs of maintaining the meter fleet to the existing standards, the costs associated with that charge will increase due to the additional regulatory requirements and obligations.

The MSC has been calculated at **\$1,269 per annum per meter**, using costs as shown in Table 11.

Table 11: Operating expenditure and Meter Service Charge (government owned)

Expenditure will be split across the WAMC and Rural Valley determinations. Excludes overhead.

Cost recovery	Description	Total (\$M)
Meter Service Charge \$1,269 per meter p.a.	Supervisory charge	\$0.98
	Contract Administration	\$1.13
	On site telemetry costs (all compliant meters)	\$3.38
	DQPP data entry	\$0.74
	Office based work	\$0.74
	Consumables	\$0.74
	Accuracy Testing	\$0.25
	Resealing meters/LIDs	\$0.74
	Cutting back vegetation	\$0.37
	Travel Time	\$0.74
	Faults meter/telemetry	\$0.74
	LID Repair costs	\$0.70
	Meter Replacement costs	\$0.88
	Meter Rectification Costs	\$0.34
Total Operating Expenditure*	\$12.44	

* There are no patent approved channel meters. Therefore, the charges and costs exclude channel meters pending confirmation of the requirements.

5.4 Unders and overs mechanism

With the introduction of the NSW Government's non-urban metering reforms, there is inherent uncertainty of the forecasts, costs and customer behaviour (e.g. opt-in / opt-out rates). Metering rollouts in other sectors and jurisdictions⁶ have demonstrated the challenges in accurately forecasting the costs and benefits of a major reform program.

We propose that IPART introduce a UOM for the upcoming 2021 Rural Valleys and WAMC determinations that will protect stakeholders from any unintended windfall gains or losses through IPART's pricing arrangements associated with forecasting the costs of implementing the non-urban metering reform program.

Without the incorporation of a UOM into the regulatory framework, WaterNSW would be required to submit higher capital and operating compliance costs in recognition of the level of uncertainty in relation to the activities required in ensuring Government owned meters are compliant and providing metering scheme management activities.

⁶ For example, see the Victorian Auditor-General Report 2015 titled "Realising the Benefits of Smart Meters". <https://www.audit.vic.gov.au/sites/default/files/20150916-Smart-Meters.pdf>

While WaterNSW will separately provide IPART and its technical consultants details on the additional costs that would be required in the absence of an UOM, including any updated assumptions that arise during the review process.

The main drivers for the change in the capital and operating costs relate to ensuring that Government owned meters are compliant and include:

- **Changes to Telemetry Device (LIDs) Costs** – This would need to be increased by \$3.02 million as WaterNSW has incorporated lower costs based on a new vendor who has provided a quote at a significantly lower unit price for LIDs. Residual risk remains, as we have not undertaken a procurement process; and while we have received a quote, this supplier remains unproven with respect to both fulfillment and price. However, we have based our pricing on the basis of this (lower) quote and a probable downward shift in market pricing.
- **Changes to buried meter validation costs** – This would need to be increased by \$4.98 million if changes are required to our assumptions to excavate only a portion of buried meters as part of the validation process. As WaterNSW will continue to own these meters and uniquely be able to rely on a fleet-based approach to validating our fleet, we have assumed that we would only need to excavate 10% of buried meters these to provide the required validation.

Residual risks remain as we begin to excavate the meters that we may identify issues and further excavations are required and that NRAR may request for a meter to be excavated.

- **Changes to the removal of above ground meters** – If WaterNSW is required to move above ground meters, our costs would increase accordingly. For example, if we are required to remove 30% of above ground meters on the basis that customers opt in / opt out of Government owned metering at this level, our costs would increase by \$2.04 million.
- **Meter Service Charge** - material adjustments in this area would include revised costs for failure of unproven LIDs in Australian conditions (\$1.5 million increase); and increased meter replacement costs to 1% from 0.5% of fleet (\$1.3 million increase). Increased risk spans a broad range of administrative and system related activities, which at an aggregate level make up the balance of increased costings in this area. With the incorporation of a UOM mechanism, WaterNSW is able to reduce our proposed costs for these scenarios.

WaterNSW considers that additional capital expenditures of \$9.5 million and additional operating expenditure of \$6.2 million would need to be incorporated into the proposed prices in the absence of a UOM.

If IPART decides not to implement an UOM, WaterNSW requests, as a minimum, that IPART account for any non-allowed capital expenditure incurred during the regulatory period (including the efficient financing costs and return of capital) to be included in the RAB roll-forward for the subsequent determination.

5.5 Bill impacts

Total costs as required for the maintenance and compliance of Government owned meters have been considered as bill impacts on total FY19 actual (representative) bills.

The proposed MSC and the meter capital charge will be triggered when the meter is made compliant. The existing meter service charge will continue to apply in the interim.

For customers on a Government owned meters, the analysis presents the impact of the cost of upgrading and maintaining the Government owned meters (i.e. costs of capital, revised MSC)

and the meter scheme management charges. The charges and costs exclude channel meters pending confirmation of the requirements.

For customers without a Government owned meter, the analysis presents the impact of the meter scheme management charges.

Tables 12 – 15 illustrate the percentage increase across bill totals for the regulated, unregulated and groundwater customers groups, all other costs and charges being equal.

Table 12: Bill impacts for Government owned meters transition scheme (total bill)

	FY19 Bill (Actual Median Bill for GW/UNREG) (Representative Bill for REG)	Incremental cost of capital charge and updated MSC	Total cost with meter costs	% increase
Representative Reg bill (Murrumbidgee)*	\$2,282.09	\$1,330 **	\$3,612.25	58%
Representative Reg bill (Murray)*	\$2,765.59	\$1,330 **	\$4,095.75	48%
Median Unregulated Bill	\$701.52	\$1,327 ***	\$2,028.04	189%
Median Groundwater Bill	\$2,824.68	\$1,327 ***	\$4,151.20	47%

*assumes GS licence holder with 250ML of entitlements and 60% utilisation. Includes MDBA charges.

** \$1870 annual charge per Govt owned meter minus average of existing Rural Valley MSC of \$539.59.per annum

***\$1870 annual charge per Govt owned meter minus average of existing WAMC MSC of \$543.23.per annum

Table 13: Bill impacts for Government owned meters transition scheme (regulated customers)

Meter Size	\$2019-20 MSC	Total cost of Scheme **	Variance (%)
50mm	466.00	\$1,869.75	301%
80mm	468.17	\$1,869.75	299%
100mm	468.16	\$1,869.75	299%
150mm	473.66	\$1,869.75	295%
200mm	476.38	\$1,869.75	292%
250mm	478.90	\$1,869.75	290%
300mm	485.41	\$1,869.75	285%
350mm	514.65	\$1,869.75	263%
400mm	532.06	\$1,869.75	251%
450mm	535.41	\$1,869.75	249%
500mm	549.68	\$1,869.75	240%
600mm	567.95	\$1,869.75	229%
700mm	589.67	\$1,869.75	217%
750mm	620.08	\$1,869.75	202%
800mm	640.63	\$1,869.75	192%
900mm	647.13	\$1,869.75	189%
1,000mm	659.16	\$1,869.75	184%
Channel*	6,107.36	N/A	N/A

*There are no patent approved channel meters. Therefore, the charges and costs exclude channel meters pending confirmation of the requirements.

**\$1869.75 per annum is the total cost of the scheme. This differs from the incremental cost presented in table 12 (e.g. minus the average cost of the existing meter service charge).

Table 14: Bill impacts for Government owned meters transition scheme (telemetered sites in unregulated and groundwater)

Meter Size	\$2019-20 MSC	Including cost of Scheme*	Variance (%)
50-300mm	\$514.31	\$1,869.75	264%
350-700mm	\$534.41	\$1,869.75	250%
750-1000mm	\$580.97	\$1,869.75	222%

*\$1,869.75 per annum is the total cost of the scheme. This differs from the incremental cost presented in table 12 (e.g. minus the average cost of the existing meter service charge).

Table 15: Bill impacts for Government owned meters transition scheme (non-telemetered sites in unregulated and groundwater)

Meter Size	\$2019-20 MSC	Total cost of Scheme*	Variance (%)
50-300mm	\$403.47	\$1,869.75	363%
350-700mm	\$419.24	\$1,869.75	346%
750-1000mm	\$455.77	\$1,869.75	310%

*\$1869.75 per annum is the total cost of the scheme. This differs from the incremental cost presented in table 12 (e.g. minus the average cost of the existing meter service charge).

An analysis of the bill impacts resulting from proposed metering charges based on total customer bills, including rural bulk water charges, WAMC charges, Murray Darling Basin Authority (“**MDBA**”) or Dumaresq-Barwon Border Rivers Commission (“**BRC**”) charges (if relevant), and existing metering charges is presented in Attachment C.

Attachment C provides a representative sample of bill impacts.

Appendix A: Alternative meter service charge options

The following table identifies the options for the recovery of charges for meter services that have been considered by WaterNSW. As noted in section 4, WaterNSW proposes to apply Option 3 for the 2021 Determination period.

The charges associated with each option based on preliminary analysis, have also been identified.

Options	Description
Alternative Option 1	<p>A single 'fully bundled' charge which captures all charging components of the meter reform services.</p> <p>Costs are pro-rated and fully socialised across the WaterNSW customer base on either a:</p> <ul style="list-style-type: none"> per entitlement basis (entitlement volume as \$/ML), or per licence basis (licence volume as \$/licence). <p>Socialising costs across all customers supports a beneficiary-pays approach under which all customers are assumed to receive the benefit of more accurate and efficient monitoring of water take and reduced water losses.</p> <p>Preliminary analysis suggests that this would result in the following smoothed charges over the 2021 Determination period:</p> <ul style="list-style-type: none"> Per entitlement charge of \$0.70, or Per licence charge of \$228.
Alternative Option 2 Fee based	<p>Two separate charges applied to all customers directly impacted by the metering scheme management reform program (i.e. not socialised across the WaterNSW customer base).</p> <p>These charges are represented by:</p> <ul style="list-style-type: none"> A 'telemetry' or a 'non-telemetry' charge, based on the meter technology applied to the customer. This charge is applied as an annual \$ fee per metering installation. Equity and affordability concerns could be managed by differentiating the annual charge on a small, medium and large customer basis. A 'scheme management' charge, on a: <ul style="list-style-type: none"> per entitlement basis (entitlement volume as \$/ML), or per licence basis (licence volume as \$/licence). <p>Application of the 'scheme management' charge on a per licence basis may be preferred under this option as reflective of a more equitable allocation of costs.</p> <p>It is noted that, preliminary pricing outcomes result in an annual fee for telemetry that is higher than that for non-telemetry. While reflective of costs, particularly during the establishment phase of the program, this does not provide a price signal for the uptake of telemetry, supportive of the objectives of the metering scheme management program.</p> <p>Preliminary analysis suggests that this would result in the following smoothed charges over the 2021 Determination period:</p> <ul style="list-style-type: none"> Telemetry charge \$390 Non-telemetry charge \$332 <p>and</p> <ul style="list-style-type: none"> Scheme management charge on a per entitlement basis of \$0.23, or Scheme management charge on a per licence charge of \$77.

<p>Option 3 – Fee based (equivalent charge) (preferred option)</p>	<p>Similar to option 2, a separate charge is applied to all customers directly impacted by the metering scheme management program, represented by:</p> <ul style="list-style-type: none"> • A ‘telemetry’ or a ‘non-telemetry’ charge, based on the meter technology applied to the customer. This charge is applied as an annual \$ fee per metering installation. <p>Equity and affordability concerns could be managed by differentiating the annual charge on a small, medium and large customer basis.</p> <p>Although separate charges for telemetry and non-telemetry would be established, the annual fee would be the same for the 2021 Determination period. This approach seeks to mitigate the impacts of a potential higher apportionment of costs to telemetry customers as a consequence of metering scheme management program establishment and transition, by the socialisation of these collective costs across all customers impacted by the Meter Reform Program, given the broader benefits of the reform framework and the program’s objectives.</p> <p>Separate charges have been retained for telemetry and non-telemetry with the expectation that telemetry costs will reduce following the process of transition and as telemetry volumes increase, providing improved price signals over time.</p> <ul style="list-style-type: none"> • A ‘scheme management’ charge, on a per licence basis (licence volume as \$/licence). <p>Application of the ‘scheme management’ charge on a per licence basis is preferred under this option as reflective of a more equitable allocation of costs.</p> <p>Preliminary analysis suggests that this would result in the following smoothed charges over the 2021 Determination period:</p> <ul style="list-style-type: none"> • Telemetry charge \$345 • Non-telemetry charge \$345 <p>Scheme management charge on a per licence basis of \$77.</p>
<p>Alternative Option 4 Socialised</p>	<p>A single ‘fully bundled’ charge which captures all charging components of the meter reform services.</p> <p>The charge is represented as either a ‘telemetry’ or a ‘non-telemetry’ charge, based on the meter technology applied to the customer. Equity and affordability concerns could be managed by differentiating the annual charge on a small, medium and large customer basis.</p> <p>Preliminary analysis suggests that this would result in the following smoothed charges over the 2021 Determination period:</p> <ul style="list-style-type: none"> • Telemetry charge \$519 • Non-telemetry charge \$519.

Appendix B: Proposed charges mapped to determinations

WAMC Determination Charges	Rural Valley Determination Charges
<p>Meter Service Charge for Unregulated Rivers and Groundwater sources</p> <p>Rationale: to mirror the charging arrangements for the current WAMC Meter Service Charge</p>	<p>Meter Service Charge for Regulated Rivers</p> <p>Rationale: to mirror the charging arrangements for the current Rural Valley Meter Service Charge</p>
<p>Meter Capital Charge for Unregulated Rivers and Groundwater sources</p> <p>Rationale: to mirror the charging arrangements for the current WAMC Meter Service Charge</p>	<p>Meter Capital Charge for Regulated Rivers</p> <p>Rationale: to mirror the charging arrangements for the current Rural Valley Meter Service Charge.</p>
<p>Scheme management charge on a per licence basis for license holders on Unregulated Rivers and Groundwater sources</p> <p>Rationale: the per licence charge can be allocated between regulated, unregulated and groundwater customers. We propose that the per licence charge for unregulated and groundwater customers be included in the WAMC determination.</p>	<p>Scheme management charge on a per licence basis for license holders on regulated rivers</p> <p>Rationale: the per licence charge can be allocated between regulated, unregulated and groundwater customers. We propose that the per licence charge for regulated customers be included in the Rural Valley determination.</p>
<p>Telemetry Charge for impacted sites on Unregulated Rivers, Regulated Rivers and Groundwater sources</p> <p>Rationale: site data has not been split by Unregulated and Regulated rivers. The site data is currently aggregated into Surface Water which includes Regulated and Unregulated Rivers. It is proposed that the telemetry charge be included in the WAMC determination until such time that the allocated is available for regulated river customers.</p>	
<p>Non-telemetry charge for impacted sites on Unregulated Rivers, Regulated Rivers and Groundwater sources</p> <p>Rationale: site data has not been allocated by Unregulated, Regulated and Groundwater sources at this stage. The sites are currently split between Surface Water (which includes Regulated and Unregulated Rivers) and Groundwater. It is proposed that the non-telemetry charge be included in the WAMC determination until such time that the split is available for regulated river customers.</p>	

Forecast revenue based on the metering charges discussed in this paper is summarised below by the relevant determination:

Rural Valleys	2021-22	2022-23	2023-24	2024-25	Total
Meter Service Charge	\$1,011,294	\$1,510,877	\$1,710,954	\$1,710,954	\$5,944,078
Capital charge	\$747,188	\$747,188	\$747,188	\$747,188	\$2,988,751
Per licence charge	\$1,024,458	\$1,024,458	\$1,024,458	\$1,024,458	\$4,097,832
Total	\$2,782,939	\$3,282,523	\$3,482,599	\$3,482,599	\$13,030,661

WAMC	2021-22	2022-23	2023-24	2024-25	Total
Meter Service Charge	\$1,105,594	\$1,651,763	\$1,870,496	\$1,870,496	\$6,498,349
Capital charge	\$816,861	\$816,861	\$816,861	\$816,861	\$3,267,445
Per licence charge	\$1,988,487	\$1,988,487	\$1,988,487	\$1,988,487	\$7,953,948
Telemetry charge	\$710,433	\$1,542,320	\$1,593,731	\$1,623,749	\$5,470,234
Non-telemetry charge	\$2,311,410	\$3,983,120	\$5,942,936	\$6,182,738	\$18,420,204
Total	\$6,932,786	\$9,982,552	\$12,212,511	\$12,482,331	\$41,610,181

Appendix C: Bill impacts on total customer bills

The following charts present bill impacts resulting from proposed charges based on total customer bills, including rural bulk water charges, WAMC, MDBA/BRC (as relevant), and existing metering charges. A representative sample of valleys is shown. Customers are assumed to be subject to a general security two-part tariffs, holding 100 ML of entitlements with 60% utilisation.

Bill impacts are shown separately for customers with and without a Government owned meter.

Figure C1: Total bill impacts – Peel (Regulated, customers without a Government owned meter)

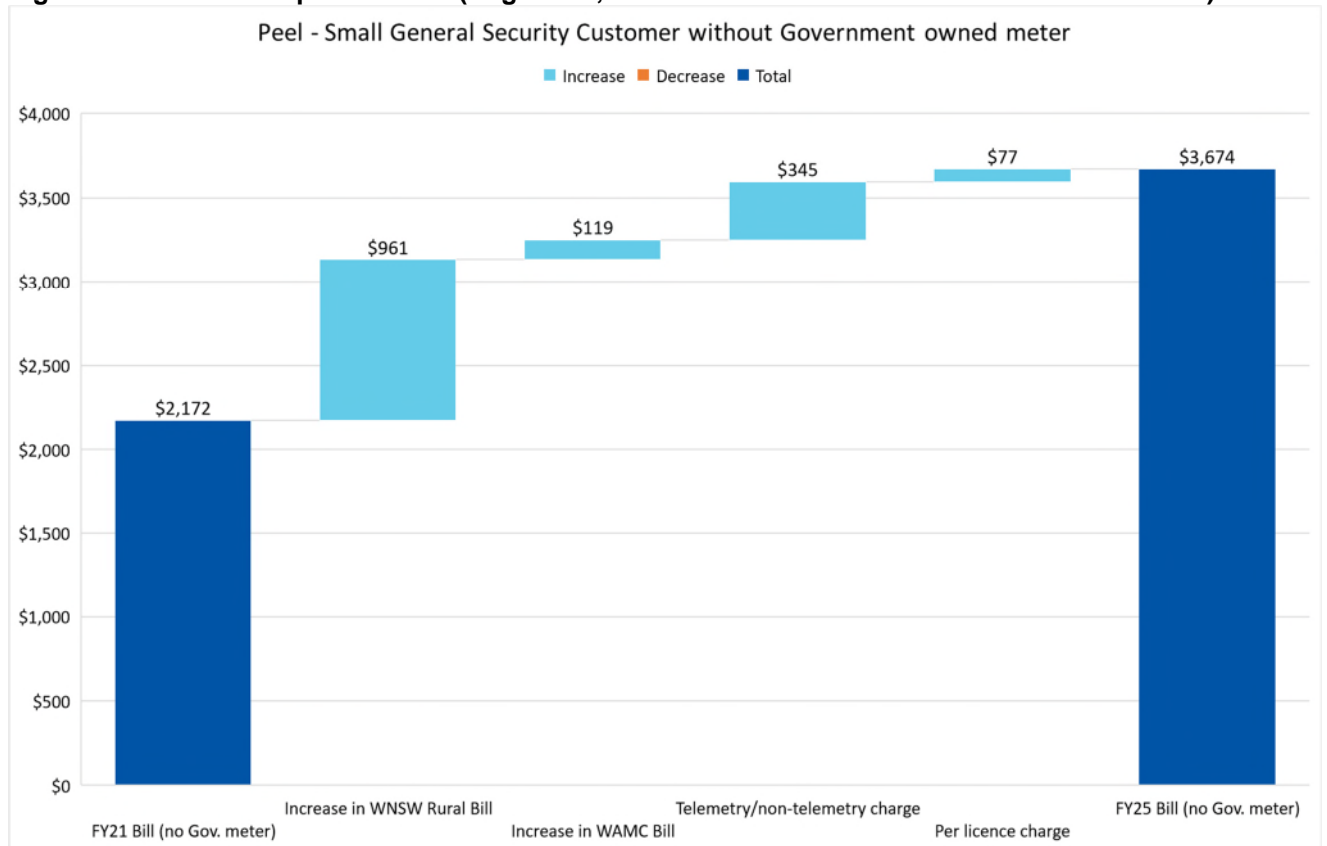


Figure C2: Total bill impacts – Lachlan (Regulated, customers without a Government owned meter)

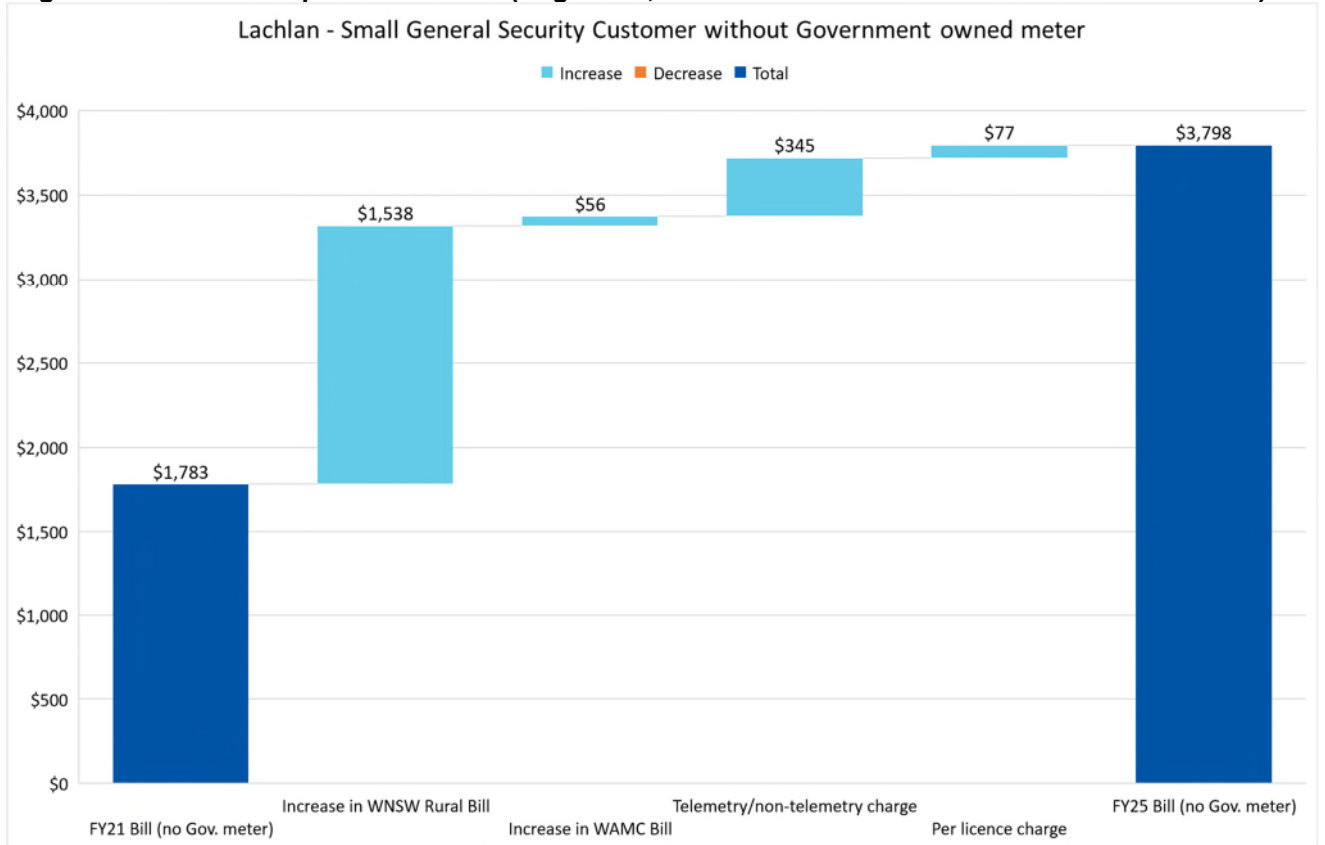


Figure C3: Total bill impacts – Murray (Regulated, customers without a Government owned meter)

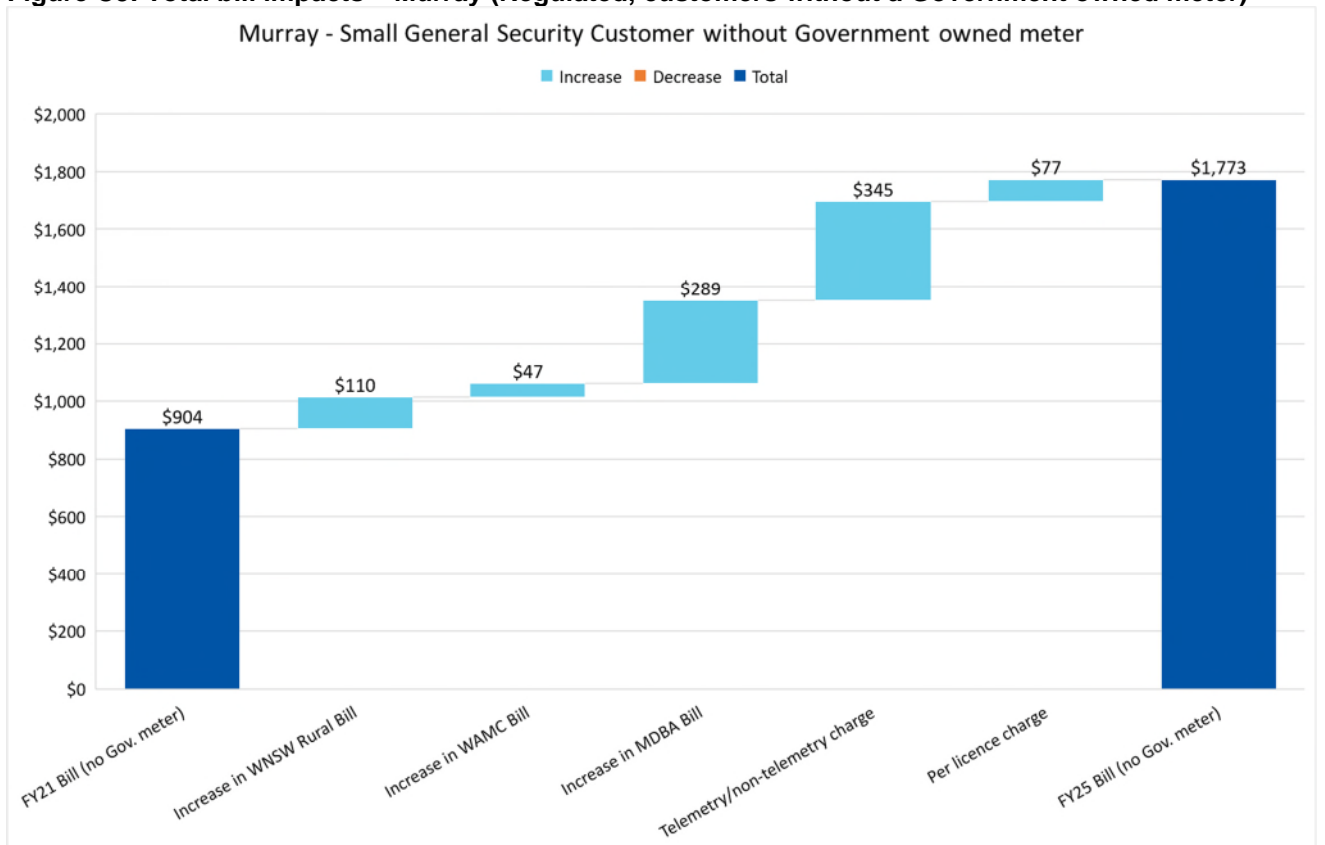


Figure C4: Total bill impacts – Murray (Regulated, customers with a Government owned meter)

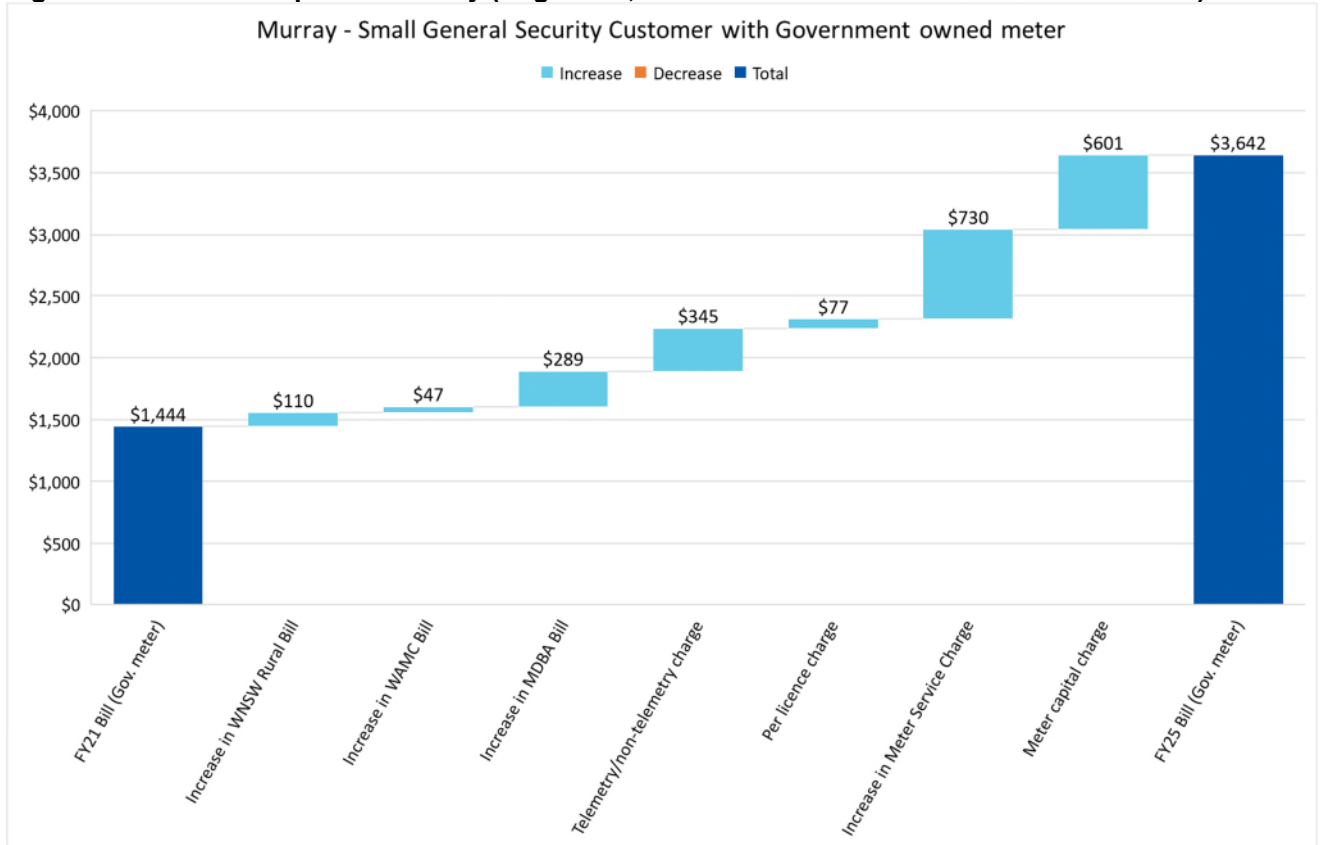


Figure C5: Total bill impacts – Northern Valleys (Unregulated, customers without a Government owned meter)

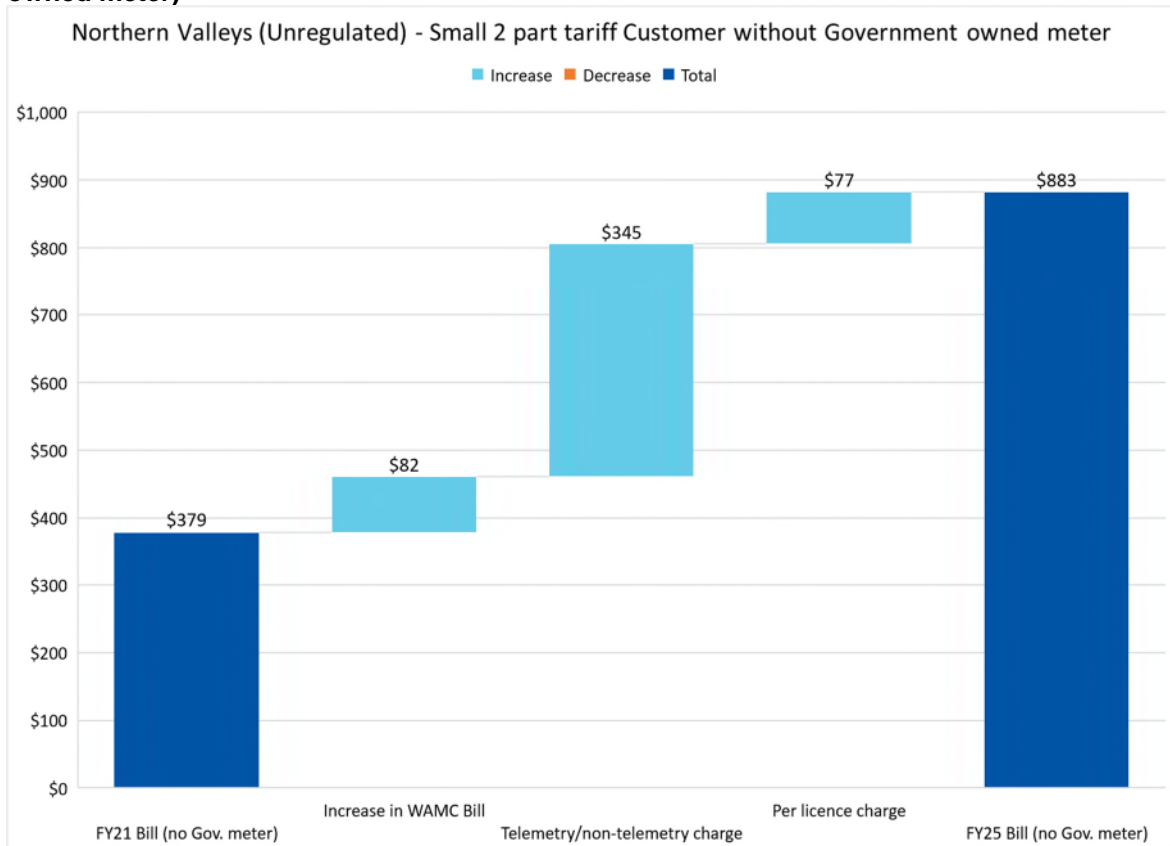


Figure C6: Total bill impacts – Central Valleys (Unregulated, customers without a Govt owned meter)

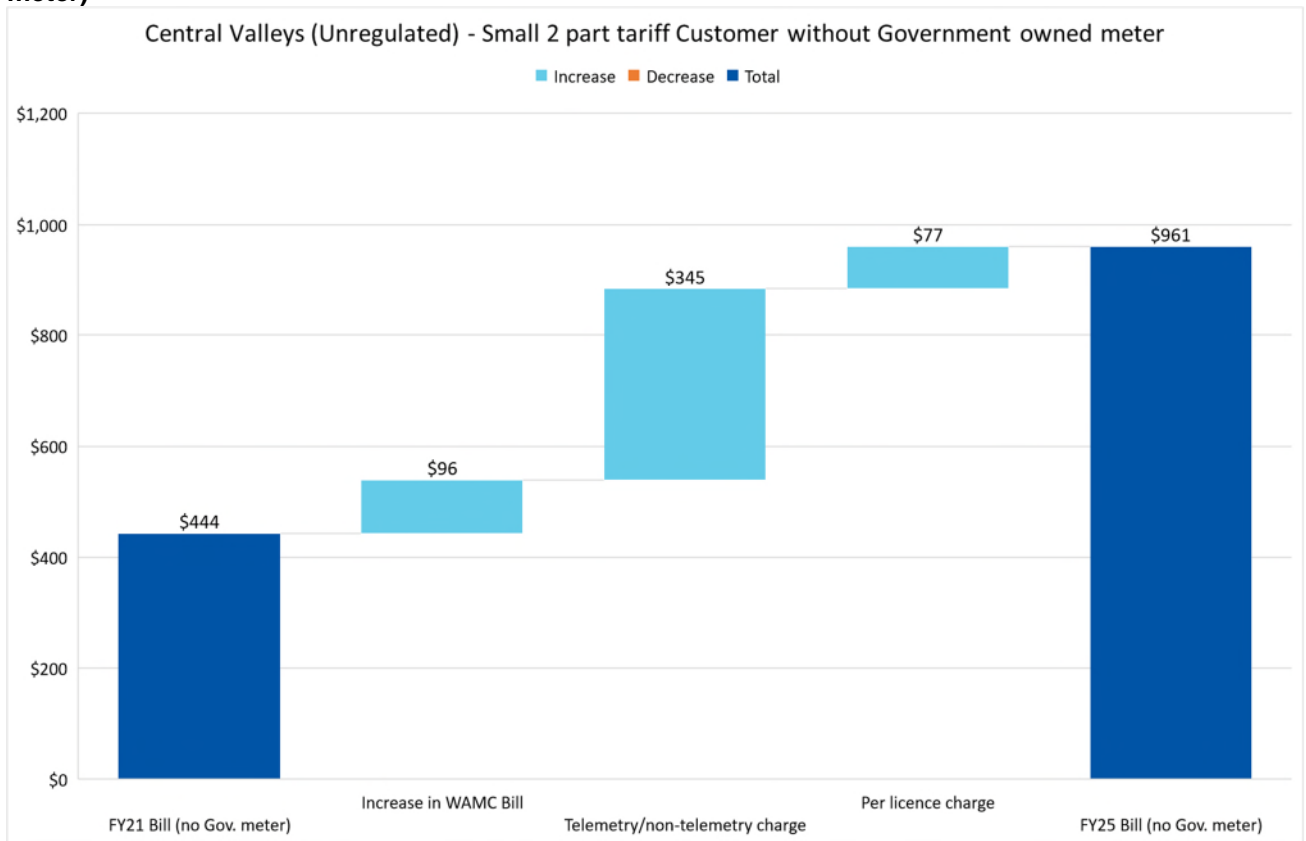


Figure C7: Total bill impacts – Murray (Unregulated, customers without a Govt owned meter)

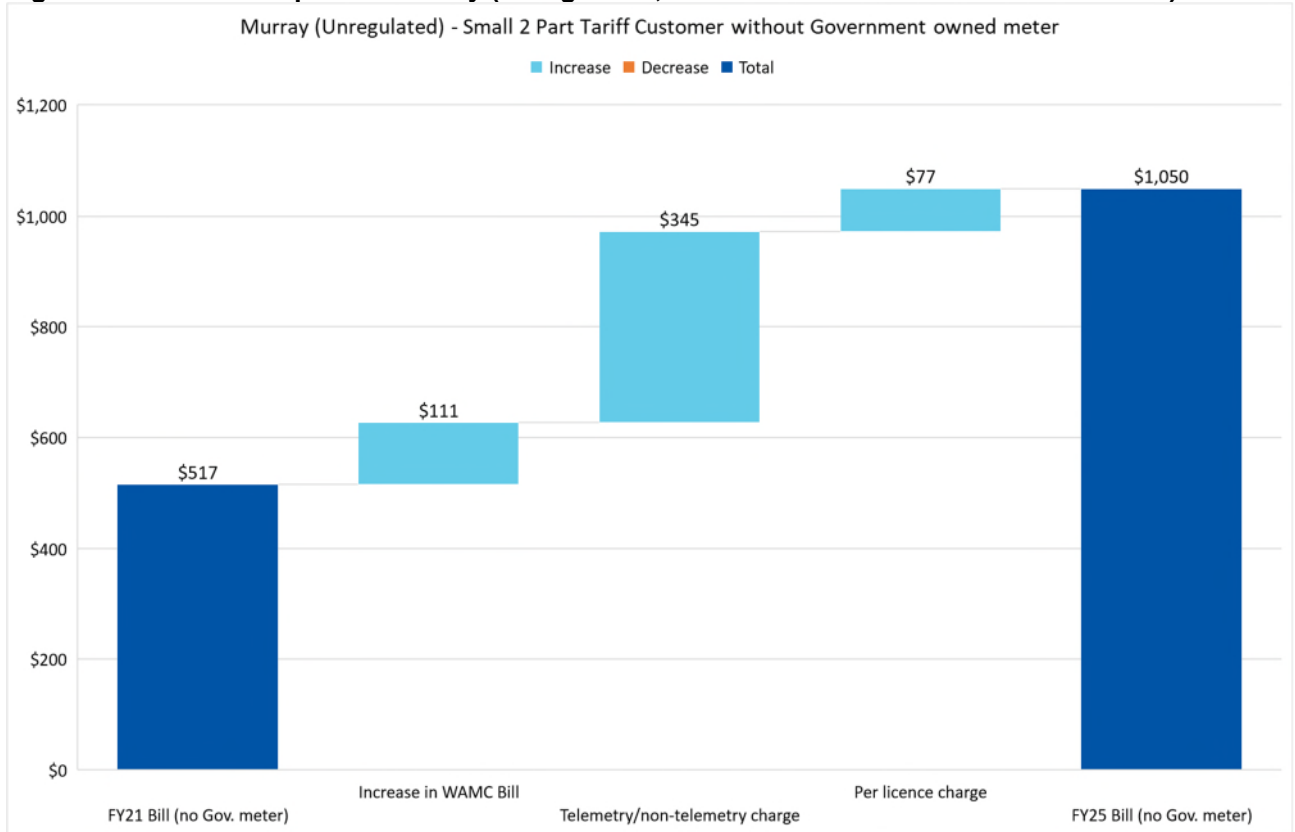


Figure C8: Total bill impacts – Murray (Unregulated, customers with a Govt owned meter)

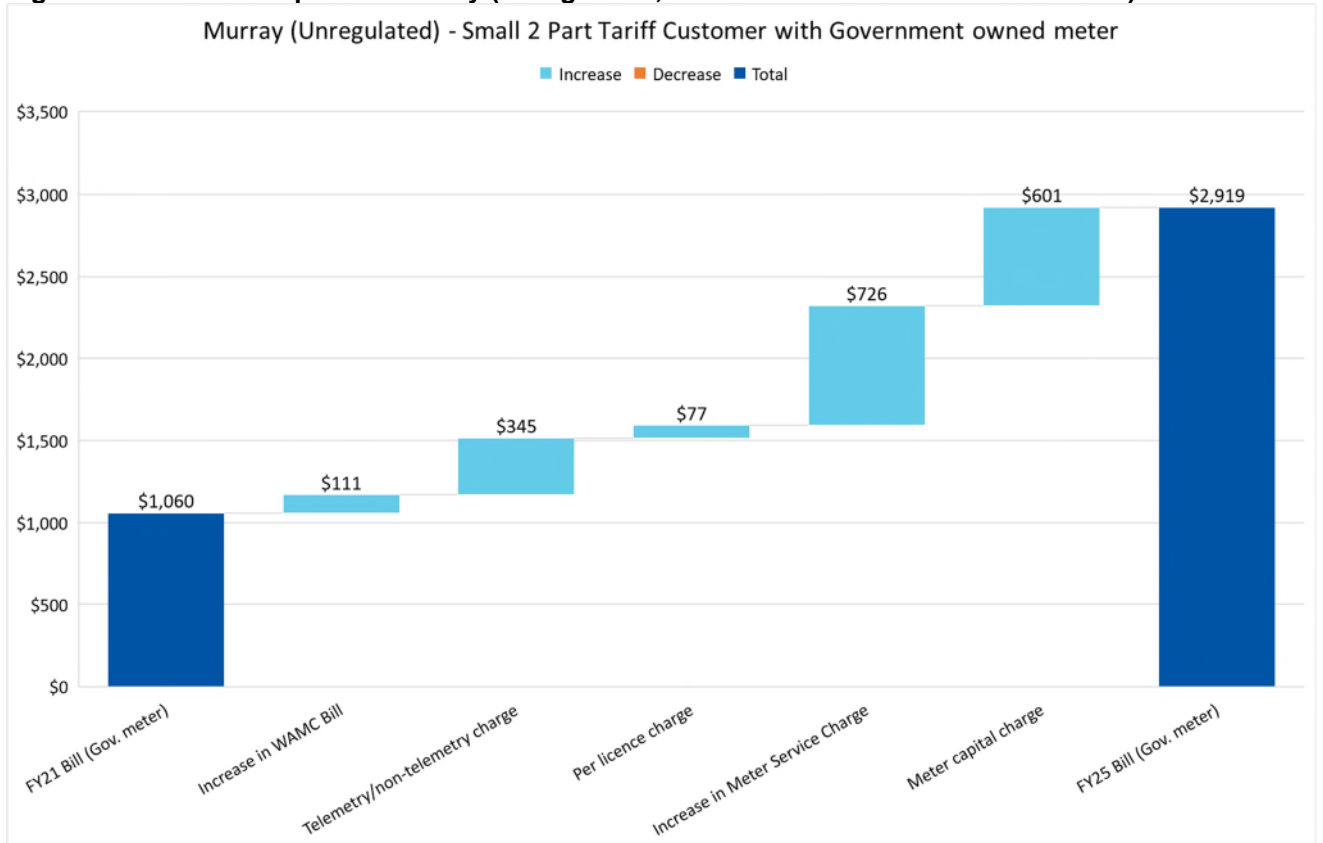


Figure C9: Total bill impacts – South Coast (Unregulated, customers without a Govt owned meter)

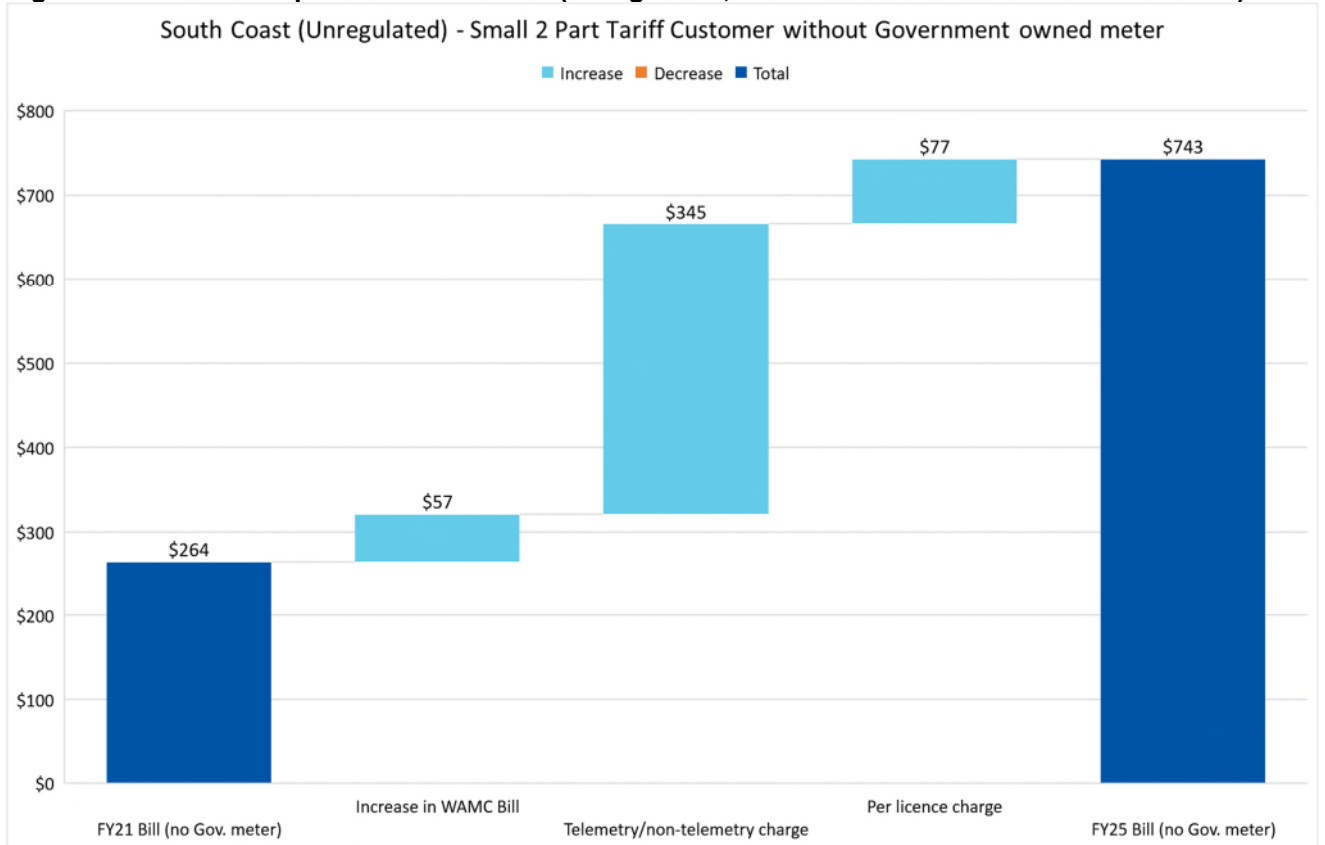


Figure C10: Total bill impacts – South Coast (Unregulated, customers with a Govt owned meter)

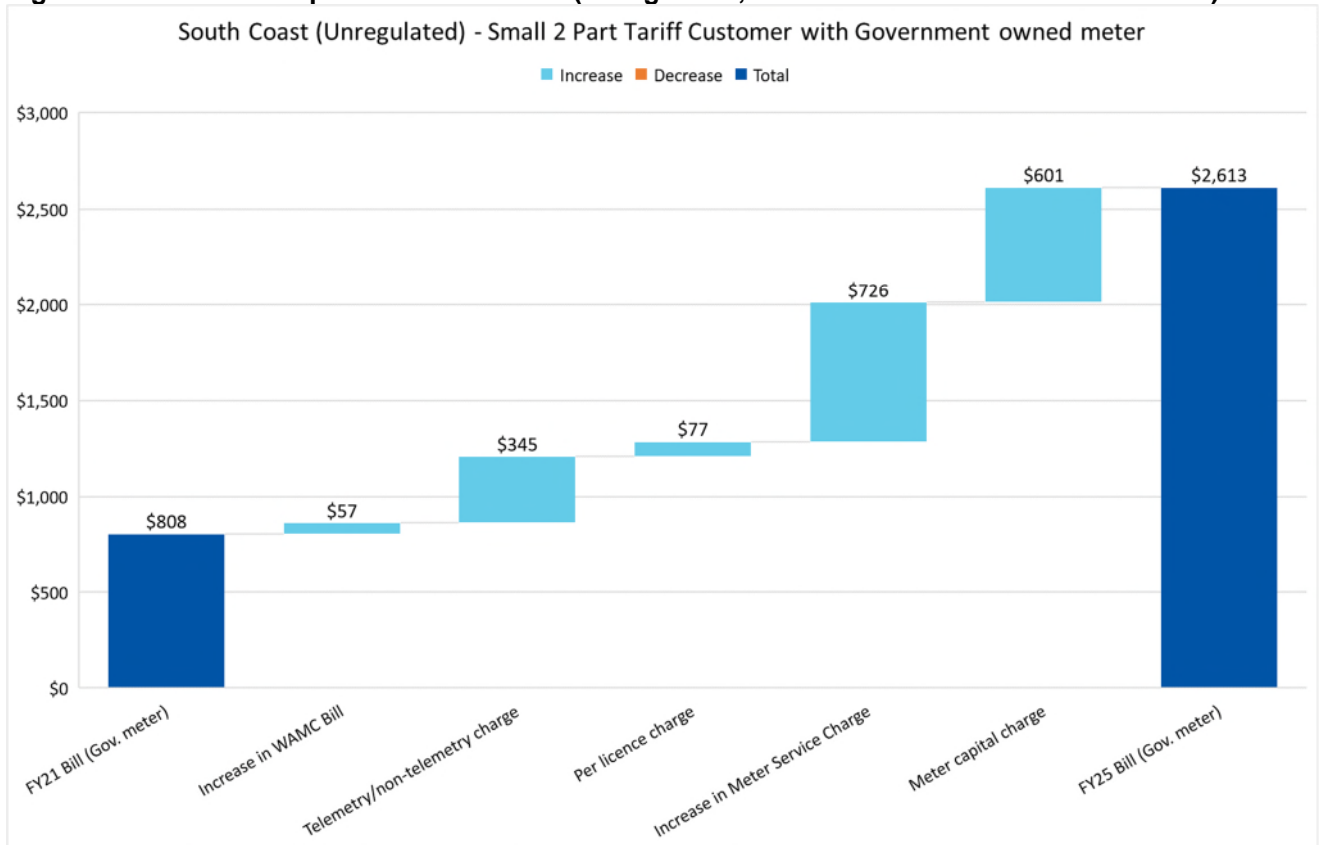


Figure C11: Total bill impacts – Inland excl. Murrumbidgee (Groundwater, customers without a Govt owned meter)

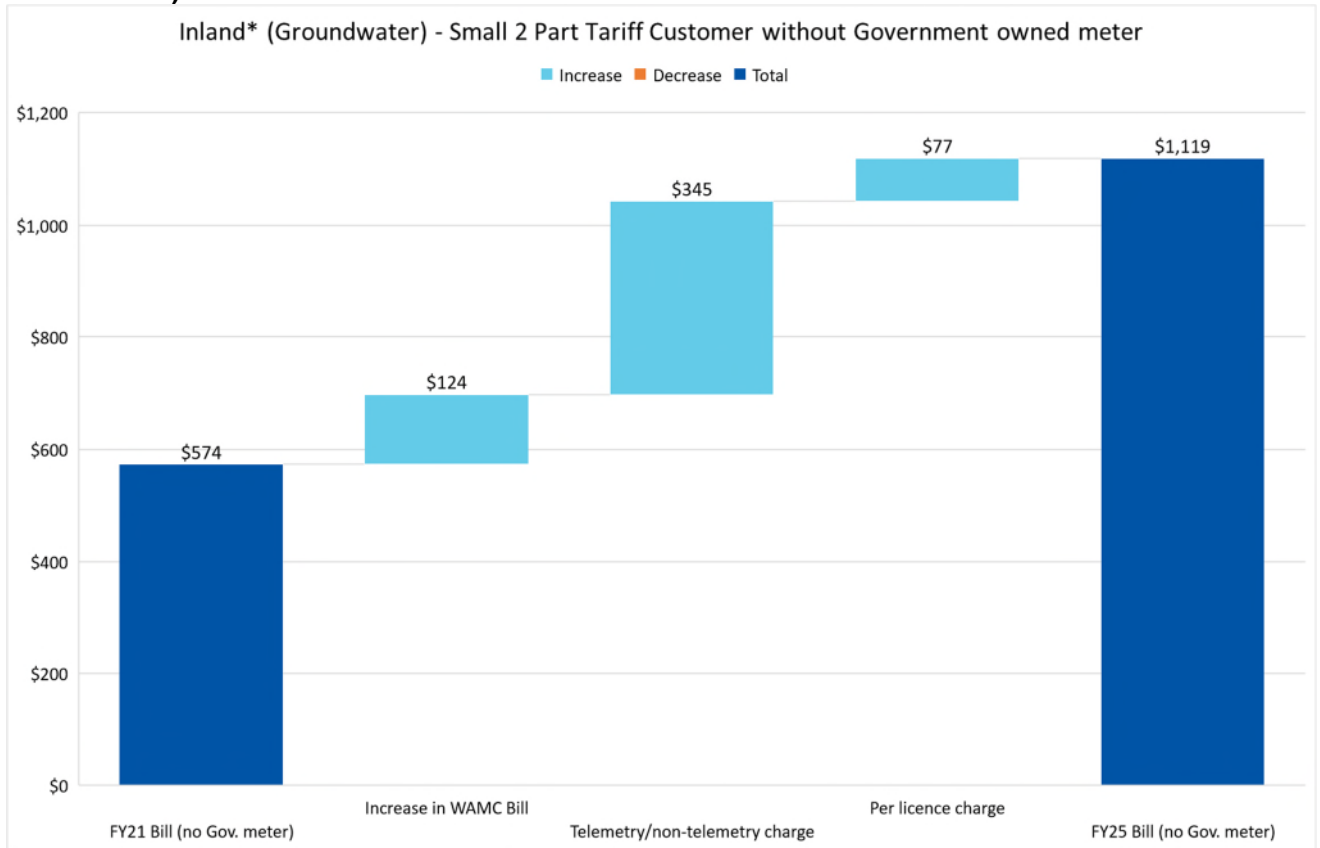


Figure C12: Total bill impacts – Inland excl. Murrumbidgee (Groundwater, customers with a Govt owned meter)

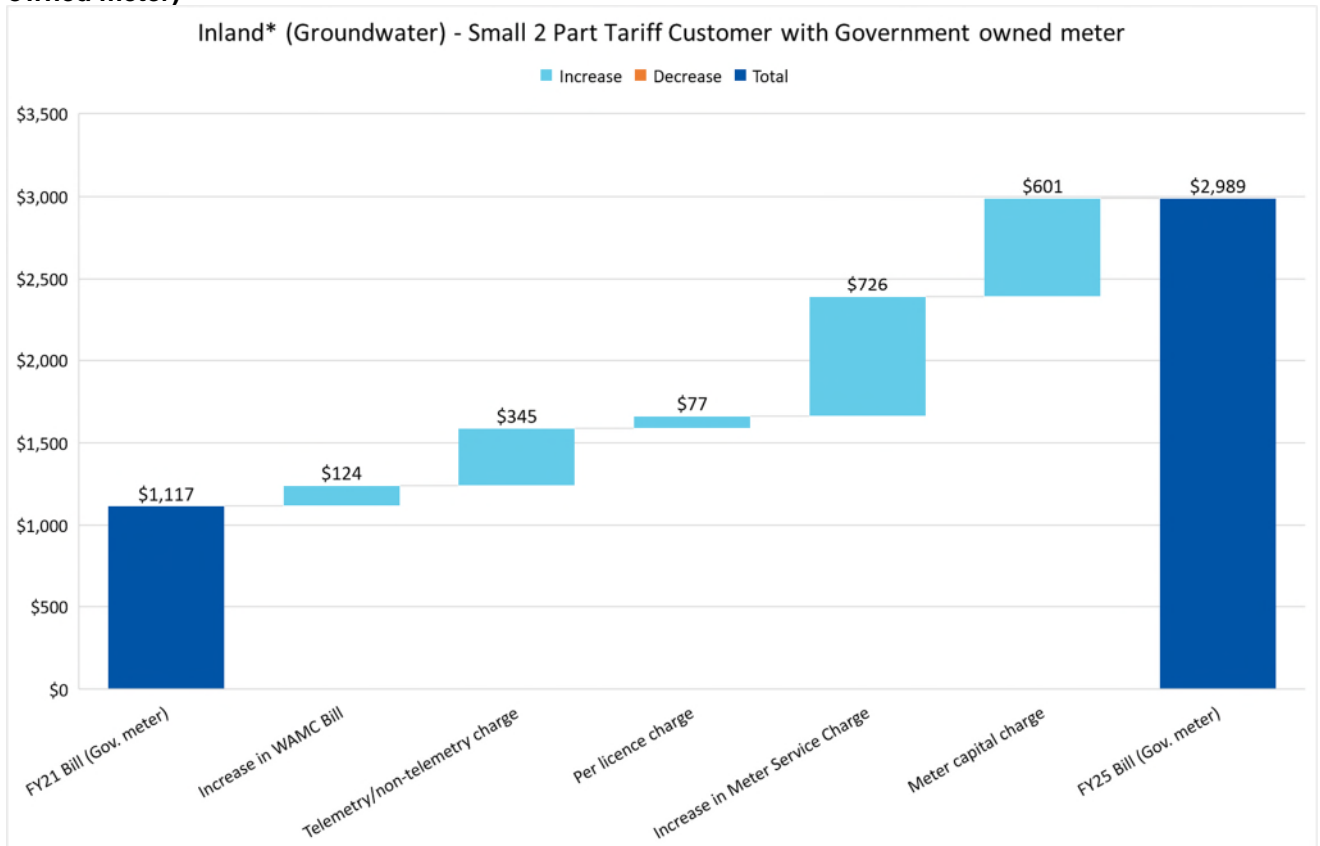


Figure C13: Total bill impacts – Minimum Annual Charge (Unregulated & Groundwater without Govt owned meter)

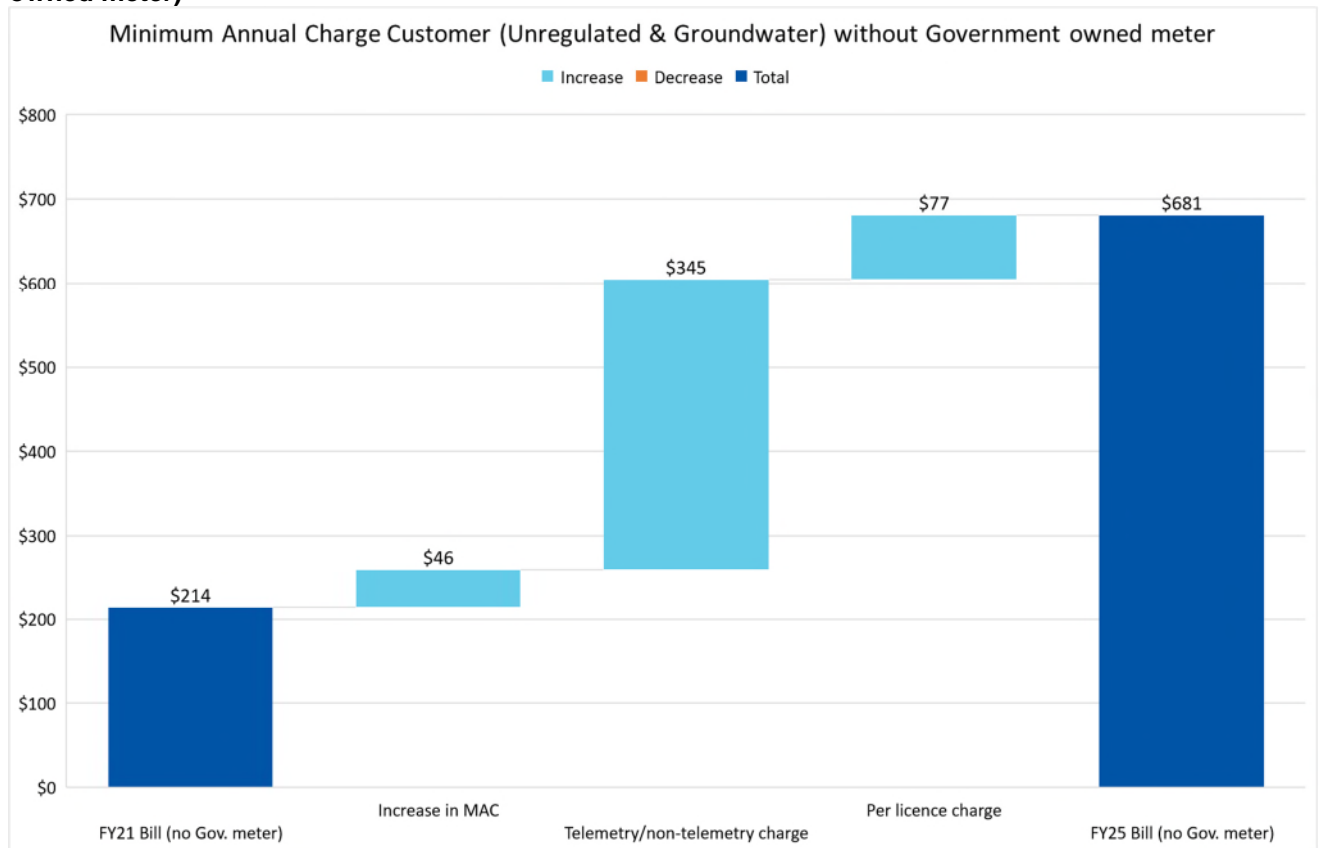


Figure C14: Total bill impacts – Minimum Annual Charge (Unregulated & Groundwater with Govt owned meter)

