Australian Government

Inspector-General of Water Compliance

Murray-Darling Basin Metering Report Card

01 July 2022 – 30 June 2023

Data as at 30 June 2023

Cataloguing data

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Inspector-General of Water Compliance
GPO Box 3090 Canberra ACT 2601

Web **www.igwc.gov.au**

Acknowledgement of all Traditional Owners

We pay our respect to the Traditional Owners and their Nations of the Murray–Darling Basin.
We acknowledge their deep cultural, social, environmental, spiritual and economic connection to their lands and waters.

Aboriginal people should be aware that this publication may contain images, names or quotations of deceased persons.

Australian Government

Inspector-General of Water Compliance

Contents

Glossary

Accurate	Up to +/-5% MPE in-situ operation as per Compliance Compact and MAF2 requirements.
All other meters	A category used in the metering accuracy and meter count metrics. This category represents non-urban meters that are not AS4747-compliant or grandfathered and includes meters that require upgrading, meters that are exempt from metering standards (such as a meters for domestic and stock use) or meters with other exemptions as defined under the relevant Basin State policy.
AS4747-compliant meter	A non-urban water meter that has met the requirements of AS4747 and has been issued with a Pattern Approval certificate.
Australian Standard 4747 (AS4747)	The Australian standard which covers meters for non-urban water supply, and by which said meters are tested and Pattern Approved.
Certified Person; Certified Meter Installer	A person certified by an accredited organisation to undertake meter installation, maintenance and validation activities in accordance with codified industry practices and Australian Standards.
Closed Conduit meters	Meters intended for the metering of water in full flowing pipes.
Entitlement	The amount of water authorised to be taken and used by an irrigator or water authority, up to a certain volume of water in a year.
Floodplain harvesting/ Overland flow take	A form of take prevalent in New South Wales and Queensland. It involves the take of water from floodplain areas, normally using purpose-built structures for capturing water. Generally, occurs after periods of heavy rain.
Grandfathered or Contemporary meter	A meter that is not pattern-approved but has been approved for continued use with compliance processes in effect to ensure ongoing accuracy. The state regulator must have an acceptable level of confidence that grandfathered meters have a ±5% accuracy range and have a manufacturer's certificate of accuracy of ±2.5% and has been installed to manufacturer's specifications. Full details may be found in chapter 11.1 of the MAF2.
Murray–Darling Basin Compliance Compact (Compliance Compact)	The 2018 agreement between the Australian Government and the Murray-Darling Basin States, setting priorities and obligations on the governments for water compliance effort and for the integrity of Murray–Darling Basin water management.
Metrological Assurance Framework 2 (MAF2)	Rules and guidance for the use and regulation of non-urban water meters **https:// https://www.dcceew.gov.au/sites/default/files/documents/metrological-assurance-framework-2-nov2022.pdf**
Meterable take	Licensed water take, as defined at clause 7 of the best practice guidelines for minimum metering thresholds as agreed by Basin States. Note – exemptions are defined in Clause 8. See: **https://www.dcceew.gov.au/sites/default/files/documents/metrological-assurance-framework-2-nov2022.pdf**
National Measurement Institute (NMI)	The National Measurement Institute (NMI) is Australia's peak measurement body responsible for biological, chemical, legal and physical measurement.
Open-Channel meters	Meters intended for the metering of water in open channels and partially filled pipes.
Pattern Approval	Evaluation of a design of a measuring instrument (such as a water meter) by an impartial body which examines the pattern of an instrument against a set of national or international metrological specifications, which determine whether an instrument manufactured in accordance with that design is capable of retaining its calibration over a range of conditions.
Pattern approval certificate	A certificate, published by the NMI, which describes the design (including type and size) of the meter, which is Pattern Approved, and any conditions for the installation, maintenance and use of the meter.
Telemetry	Involves automatically recording data and sending it electronically from the meter to another place for monitoring and analysis.

Murray-Darling Basin – Metering and Measurement Report Card

01 July 2022 – 30 June 2023

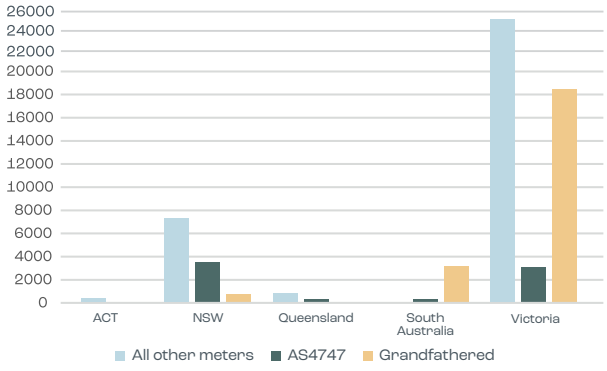
Data as at 30 June 2023. Change from 2021 – 22 metering report card indicated in brackets

Pattern Approved meters

	Pump size (mm)	
	Min	Max
ABB	40	200
ABB	40	1200
AQUAMONIX	50	1500
ARAD	80	200
ARAD	40	300
ARAD	50	300
BERMAD	50	300
ELSTER	50	200
ENDRESS+HAUSER	25	800
EUROMAG	40	1000
KROHNE	25	600
KROHNE	25	1800
RUBICON	600	600
SIEMENS	25	1200
SIEMENS	25	2000
SENSUS	40	400
ZENNER	50	300

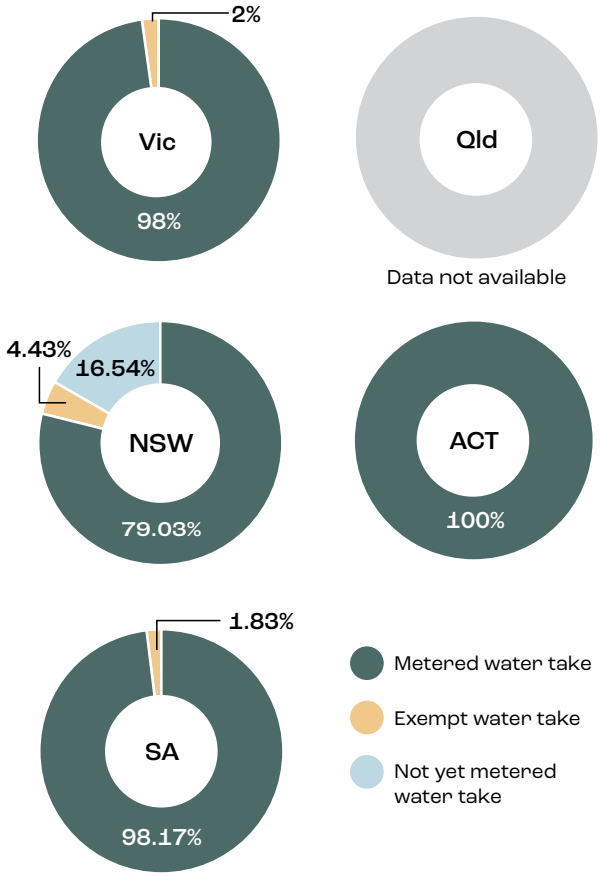
This measure is reported by the National Measurement Institute as at 30 June 2023. The objective of the measure is to identify the market availability of pattern approved meters and models by manufacturer and pump size. Please note multiple entries for the same manufacturer is used to denote different models. Data owner/sources: National Measurement Institute.

Number of non-urban meters



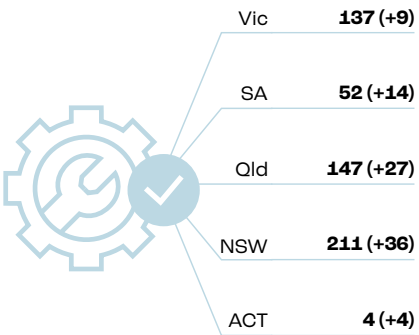
This measure is reported to identify the number of AS4747 and grandfathered meters across the Murray-Darling Basin. The objective of this measure is to give context to the scale of metering reform in each Basin State. Data owner/sources: State regulators.

Percentage of water take metered by state

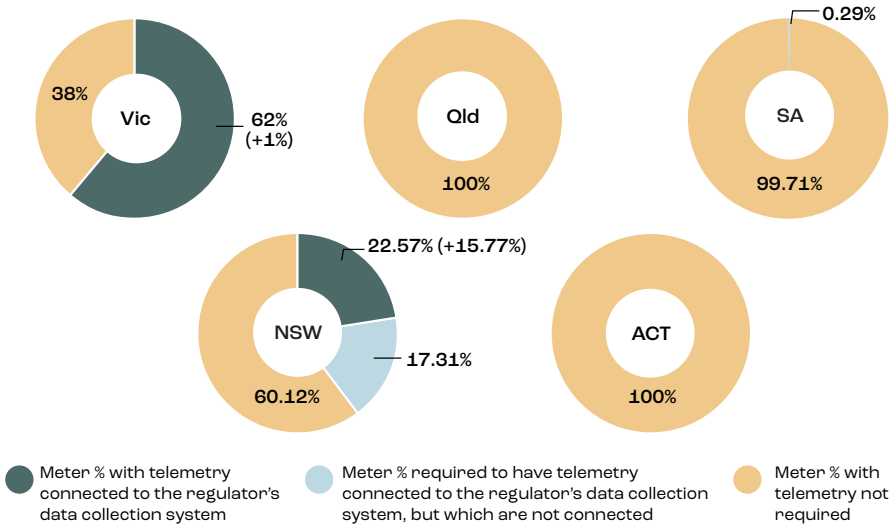


This measure is reported to highlight percentage of meterable water take across the Murray-Darling Basin by each State that is metered. As this metric is influenced by water user behaviour, year-on-year change is not displayed in brackets. Refer to individual State Report Cards for detailed explanation. Data owner/sources: State regulators.

Count of qualified meter installers



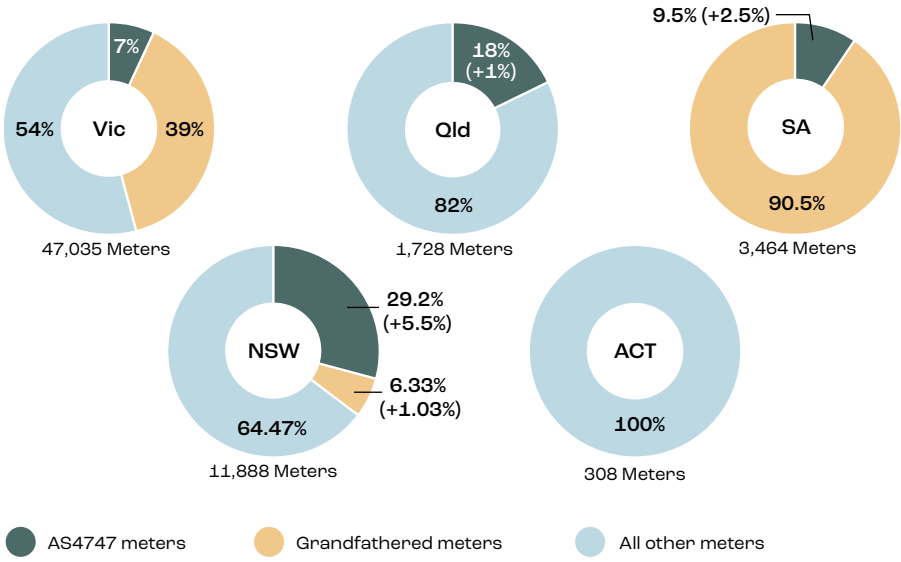
Telemetry coverage



This measure is reported to identify the percentage of meters with telemetry connected to the regulator's data system across the Murray-Darling Basin. Refer to individual State Report Cards for detailed explanation.

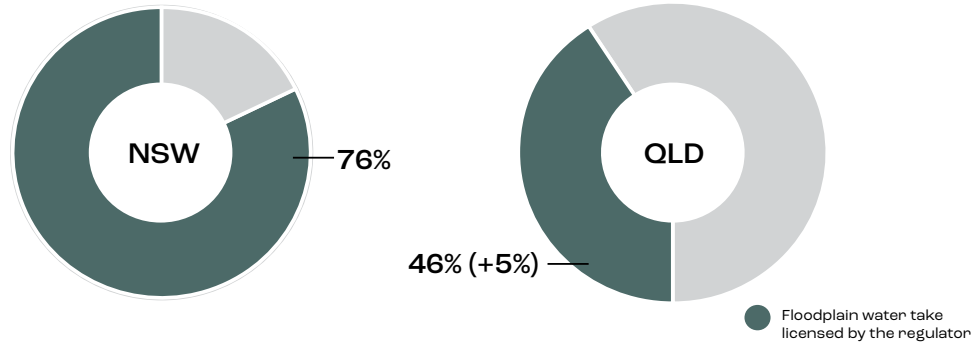
Data owner/sources: State regulators.

Metering accuracy by state



This measure is reported to identify the percentages of meters that comply with the State's metering policy and are therefore deemed accurate (including AS4747 and grandfathered meters). Please note that the 'all other meters' category may include meters that are not required to be AS4747 compliant or grandfathered. Refer to individual State Report Cards for detailed explanation. Data owner/sources: State regulators.

Licensed floodplain water take



This measure is reported to understand the volume of floodplain harvesting (called overland flow in Queensland) take and how progressed states are in licensing that volume. Detailed information on floodplain harvesting/overland flow in NSW and Queensland can be found on pages 17-19 of this report card. Data owner/sources: State regulators.

The IGWC makes no claim as to the accuracy of the data shown on this page. Data is collated and supplied directly from the states

Non-urban metering in the Murray-Darling Basin

The 2022-23 Metering and Measurement report card is the third edition of the report card released by the Inspector–General of Water Compliance (IGWC). Through the metering report card, the IGWC has identified both areas of improvement and areas of concern in non-urban metering reform across the Murray-Darling Basin. By mid-2025 every Basin State must have compliant meters based on the Australian Standard (AS4747) or have relevant exemptions or grandfathering in place. With this deadline approaching, accurate and effective non-urban metering in the Murray-Darling Basin remains a top priority for the IGWC.

With this third edition of the metering report card, there are varying results for metering reform across the Murray-Darling Basin. The Inspector–General is pleased to see the advanced state of metering reform in South Australia and Victoria, particularly in terms of meter coverage and accuracy. The frameworks for metering reform in Queensland and the ACT have been published and are in effect. Compliance dates for ACT and Queensland have also been published, with the first groups of water users required to comply with new meter installation conditions by March 2024 in both ACT and Queensland.

The Inspector–General is concerned about the progress of NSW's metering reform program, with compliance rates not where they should be in the Basin State. In October 2023 the former NSW Department of Planning and Environment released a report on the issues affecting their metering reform program and possible solutions (**Review of non-urban metering framework – Issues and options paper**).The report identified numerous issues impacting NSW's metering reform program, including a lack of available meter installers, which was an issue identified by the Inspector–General in the 2021-22 metering report card. Encouragingly, between 2021-22 and 2022-23 there was an increase in meter installer numbers in NSW, from 175 to 211. The Inspector– General welcomes this review from NSW, with the mid-2025 deadline for metering reform approaching fast it is important that the solutions implemented by NSW are swift whilst not compromising the integrity of its metering reform program.

Telemetry is a key part of non-urban metering reform as it ensures the Basin State regulators receive meter data in a timely manner and is an area that requires improvement across multiple Basin States. Victoria and NSW remain the leading states in telemetry uptake, with 62% and 22.57% of non-urban meters fitted with telemetry respectively. This represents a 15.77% increase for NSW and a 1% increase for Victoria since the last report card, with Victoria also having 76% of meterable take monitored with telemetry in 2022-23. Although not represented through the metrics in this report card, Queensland has also made positive steps in implementing telemetry by recently legislating a strengthened metering policy which includes provisions for telemetry in high-risk areas. South Australia continues their trial with meter telemetry to understand the costs and benefits of telemetry for water users and regulators. The Inspector–General is eager to see the results of the South Australian trial. Due to the small geographic size and water take of ACT, the costs of telemetry outweigh the benefits for the Territory.

Meter coverage was generally consistent with the previous metering report card (2021-22), with the ACT, South Australia and Victoria all continuing to have the vast majority of meterable take monitored with meters. As with previous report cards, Queensland have not reported on proportion of take metered. Queensland did however report on metering of entitlements, with 74% of entitlement volume metered. The Inspector–General expects that as Queensland rolls out its strengthened metering policy, data for this metric will become available in future report cards. NSW had a slight decrease in proportion of take metered compared to 2021-22. It should be noted that the decrease in water take metered in NSW is not caused by a decline in number of meters across the state, but rather annual variance in water user behaviour with water users with meters taking a lower proportion of water than the previous year.

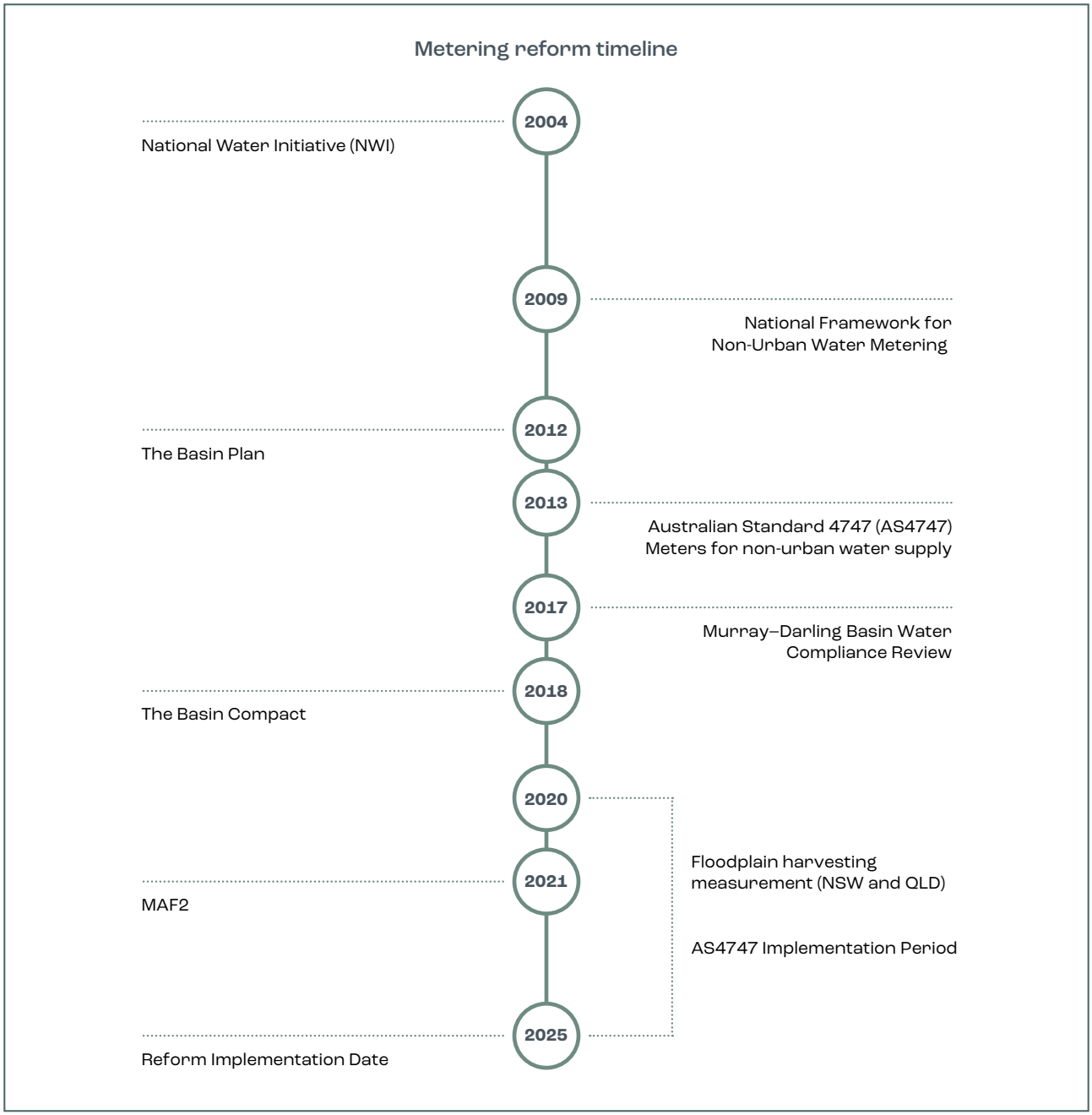
During 2022 – 2023 the rollout of AS4747 and grandfathered meters has continued across the Murray-Darling Basin. The biggest increases occurred in NSW, with a 5.5% and 1.03% increase in AS4747 and grandfathered meters respectively. NSW has the highest number of AS4747 meters of any Basin State, with 3,471 AS4747 meters in areas of NSW in the Murray-Darling Basin. No change occurred in ACT, as on-ground work had not commenced in the Territory as of June 30, 2023. ACT has had an increase in meter installer numbers (from 0 to 4) which will be important in achieving the goals of their metering reform in the coming years. Although 46% of meters in Victoria are grandfathered or AS4747, it should be noted only 4% of meters in Victoria are still required to be upgraded to AS4747 or grandfathered. Victoria also provided additional data that 89% of take during the year was monitored through meters that were AS4747 compliant or grandfathered. In Queensland there was a 1% increase in AS4747 meters. With meter installation activities due in areas of the Condamine-Balonne and Border Rivers and Moonie water management areas from 31 March 2024 onwards, the Inspector–General expects significant increases in Queensland's meter accuracy metric in the 2023-2024 metering report card. South Australia is the only Basin State to have all meters grandfathered (90.5%) or AS4747 (9.5%). There was a 2.5% increase in AS4747 meters in South Australia, which is reflective of the state's policy to have all new meters be AS4747-compliant.

For the first time the report card has included detailed information on floodplain take, with metrics on the licensing and measurement of floodplain take in NSW and Queensland. Queensland reported on both floodplain take metrics, with 46% and 32% being licensed and metered respectively. NSW have reported that 76% of floodplain take is licensed, with no data currently available for how much take is metered. It should be noted that NSW and Queensland calculated these metrics with different methods, see pages 17-19 for full details.

Consistency in non-urban metering across the Murray-Darling Basin is a top priority of the Inspector–General. With less than two years left until all Basin States are required to meet the Compliance Compact non-urban metering commitments, it is essential that there are no delays to the rollout of the state frameworks across the Basin. The Inspector–General will continue to monitor and report on the progress of non-urban metering reform across the Murray-Darling Basin, increasing transparency and accountability.

Metering and measurement in the Murray-Darling Basin and Metering reform timeline

Metering is fundamental to trust in water accounting and compliance. Metering standards need to be consistent to make sure water take is fair for everyone across the Basin. The timeline below demonstrates the commitments to better metering. Each Basin State must have compliant meters based on the AS4747 standard by July 2025, or have relevant exemptions or grandfathering in place.

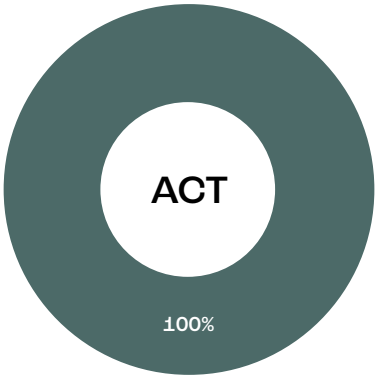


Murray-Darling Basin – Australian Capital Territory Metering Report Card

01 July 2022 – 30 June 2023

Progress from 2021 – 22 metering report card indicated in brackets

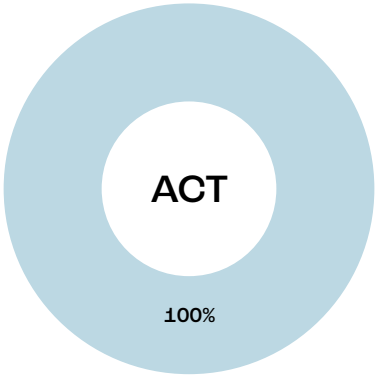
Percentage of water take metered in the ACT



- Metered water take
- Exempt water take
- Not yet metered water take

This measure is reported to highlight percentage of meterable water take across the Murray-Darling Basin by each State that is metered. As this metric is influenced by water user behaviour, year-on-year change is not displayed in brackets. Data owner/ sources: State regulators

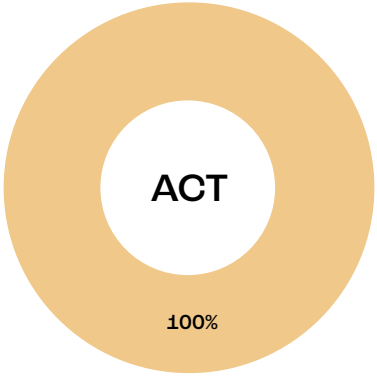
Metering accuracy in the ACT



- AS4747 meters
- Grandfathered meters
- All other meters

This measure is reported to understand the percentages of meters that comply with the Territory's metering policy and are therefore deemed accurate (including AS4747 and grandfathered meters). The percentage of AS4747 meters in the measure is intended to show progress Basin States are making in the roll-out of AS4747 metering. Please note that the 'all other meters' category may include meters that are not required to be AS4747 compliant or grandfathered. Data owner/ sources: State regulators

Telemetry coverage



- Meter % with telemetry connected to the regulator's data collection system
- Meter % required to have telemetry connected to the regulator's data collection system, but which are not connected
- Meter % with telemetry not required

This measure is reported to identify the percentage of meters with telemetry connected to the regulator's data system. Data owner/ sources: State regulators

How is meter data collected where telemetry is not used

Manual readings, submitted by licence holders upon request by the Authority and verified by the Authority though routine and proactive inspections

This measure is reported to identify how meter data is collected and how often when telemetry is not being used.

Data owner/sources:
State regulators

State Overview

The ACT is currently progressing the adoption and implementation of a new Non-Urban Metering Policy, based on the MAF2 and AS4747 compliance framework. Current projects associated with this work include the consultation and education of current licence holders, as well as the necessary Cabinet submissions, licence amendments and legal advice associated with the adoption of the new policy. The ACT is also navigating resourcing and equipment issues which have arisen due to the new compliance requirements. The ACT has a timeframe for full implementation and enforcement of the new policy, which is expected to commence by 1 December 2023. Reporting against the metrics in the Report Card will improve as the ACT implements its policy over the coming 12 months.

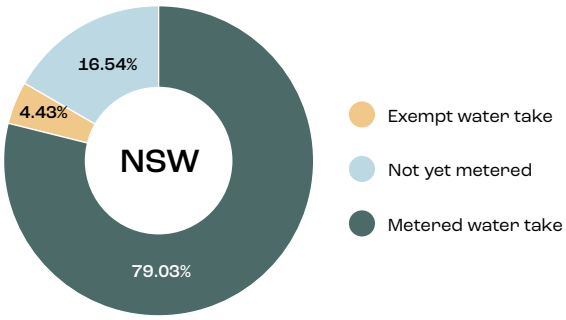
The IGWC makes no claim as to the accuracy of the data shown on this page. Data is collated and supplied directly from the states

Murray-Darling Basin – New South Wales Metering Report Card

01 July 2022 – 30 June 2023

Progress from 2021 – 22 metering report card indicated in brackets

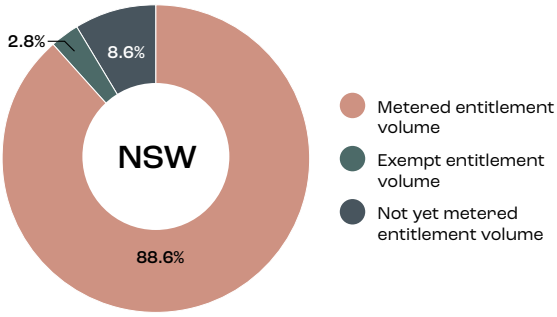
Percentage of water take metered in New South Wales



This measure is reported to highlight percentage of meterable water take across the Murray-Darling Basin by each State that is metered. As this metric is influenced by water user behaviour, year-on-year change is not displayed in brackets.

Data owner/sources: State regulators

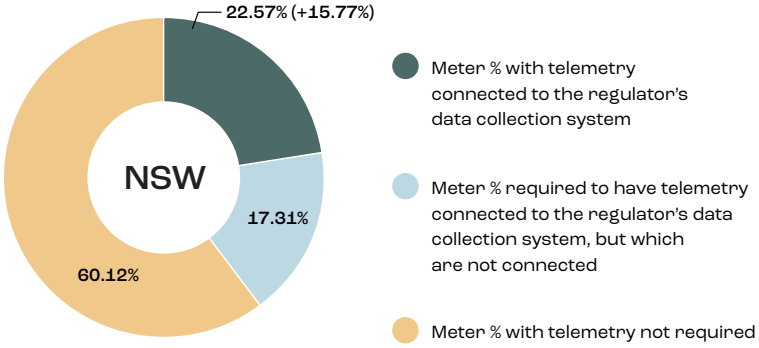
Percentage of entitlement volume metered in NSW



This measure is reported to highlight percentage of entitlement volume across the Murray-Darling Basin by each State that is metered, assuming a 100% utilisation of entitlement. Data provision for this metric was optional by States.

Data owner/sources: State regulators

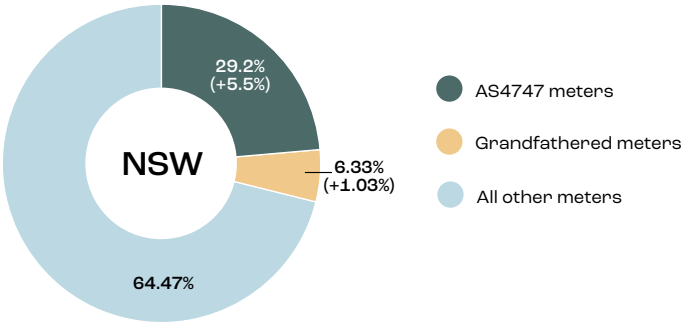
Telemetry coverage



This measure is reported to identify the percentage of meters with telemetry connected to the regulator's data system.

Data owner/sources: State regulators

Metering accuracy in New South Wales



This measure is reported to understand the percentages of meters that comply with the States's metering policy and are therefore deemed accurate (including AS4747 and grandfathered meters). The percentage of AS4747 meters in the measure is intended to show progress Basin States are making in the roll-out of AS4747 metering. Please note that the 'all other meters' category may include meters that are not required to be AS4747 compliant or grandfathered. Data owner/sources: State regulators

How is meter data collected where telemetry is not used:

Approval holders submit meter reads to WaterNSW as per the schedule below. When submitting meter reads, if no water is taken that also needs to be declared. Non-telemetered meters have their data loggers annually downloaded by WaterNSW. Logbooks with meter records must also be kept for five years.

	Recording frequency	Report monthly	Report annually
Works required to meter **before the metering reform compliance date**	The water user manually records licensed water take in a logbook each time water is taken. Some exemptions apply in some areas where an operational meter and data logger is installed.	NA	WaterNSW reads the meter at least annually (and in some cases meters are read quarterly, such as for regulated rivers)
Works required to meter **after the metering reform compliance date**	Licensed water take is automatically recorded by Local Intelligence Device (logged hourly)	Approval holder submits a meter read	WaterNSW downloads Local Intelligence Device data annually

This measure is reported to identify how meter data is collected and how often when telemetry is not being used.
Data owner/sources: State regulators

State Overview

Metering requirements were introduced in NSW in the early 1980s for regulated rivers and in 2003 for major inland alluvial groundwater sources.

In December 2018, the NSW Government introduced a new non-urban water metering framework to ensure robust and fair water management across the state. The framework requires all water supply works to have metering equipment that complies with the Australian Standard (AS4747), unless an exemption applies. Existing meters can be retained provided they are validated as accurate to AS4747 requirements (+/-5% field accuracy).

The new water metering framework is being rolled out in 4 stages between 2020 and 2024. The purpose of the staged approach is to ensure all water users have enough time to comply with the new rules and the focus is on the highest risk categories first.

For this report period, the new water metering framework has commenced for all areas in the Murray-Darling Basin.

For the volume of water take, metered usage data was used where available, and entitlement was used where metered usage data was not available. The volume of metered water take has fallen slightly over the reporting period, due to a reduction in water take rather than a reduction in meter coverage.

The count of AS4747 meters has more than doubled over the reporting period as NSW has continued the roll out of our metering reform program. Encouragingly, use of telemetry has tripled over the reporting period, including water users who have voluntarily opted in. This uptake in telemetry has been supported by a $975 Commonwealth and NSW Government rebate on water users' bills. NSW is keen to work with the Commonwealth under the Murray-Darling Basin telemetry uplift program to increase the reach of telemetry even further.

While the meter and telemetry rate has significantly increased, rates are still too low. The NSW Government has been investigating reasons for this, which include limited DQP availability, supply chain issues from Covid, and severe weather events such as fires then flooding.

The NSW Government is currently undertaking a review of the Non-urban metering rules to make it easier for water users across the state to become compliant.

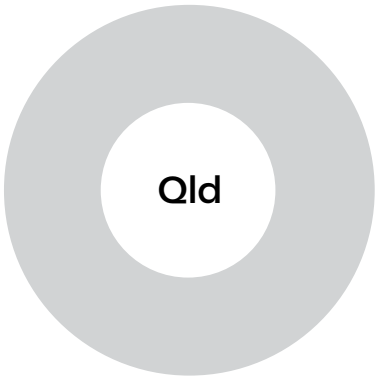
The IGWC makes no claim as to the accuracy of the data shown on this page. Data is collated and supplied directly from the states

Murray-Darling Basin – Queensland Metering Report Card

01 July 2022 – 30 June 2023

Progress from 2021 – 22 metering report card indicated in brackets

Percentage of water take metered in Queensland

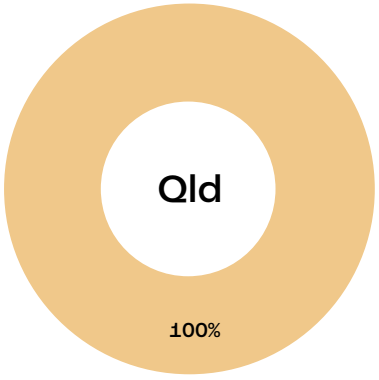


Data not available

- Metered water take
  Data not available
- Exempt water take
  Data not available
- Not yet metered water take
  Data not available

This measure is reported to highlight percentage of meterable water take across the Murray-Darling Basin by each State that is metered. As this metric is influenced by water user behaviour, year-on-year change is not displayed in brackets. Data owner/sources: State regulators

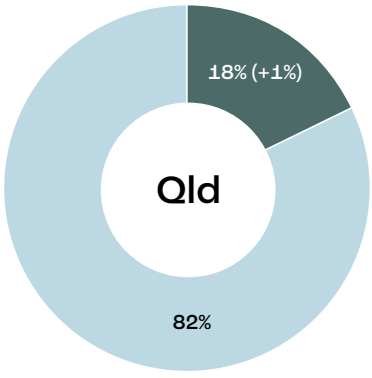
Telemetry coverage



- Meter % with telemetry connected to the regulator's data collection system
- Meter % required to have telemetry connected to the regulator's data collection system, but which are not connected
- Meter % with telemetry not required

This measure is reported to identify the percentage of meters with telemetry connected to the regulator's data system. Data owner/sources: State regulators

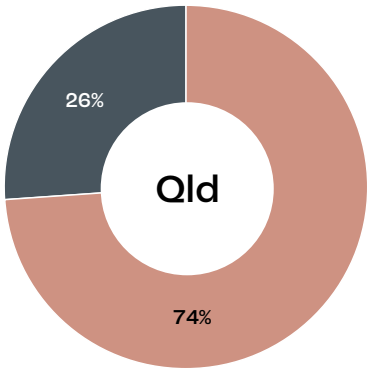
Metering accuracy in Queensland



- AS4747 meters
- Grandfathered meters
- All other meters

This measure is reported to understand the percentages of meters that comply with the States's metering policy and are therefore deemed accurate (including AS4747 and grandfathered meters). The percentage of AS4747 meters in the measure is intended to show progress Basin States are making in the roll-out of AS4747 metering. Please note that the 'all other meters' category may include meters that are not required to be AS4747 compliant or grandfathered. Data owner/sources: State regulators

Percentage of entitlement volume metered



This measure is reported to highlight percentage of entitlement volume across the Murray-Darling Basin by each State that is metered, assuming a 100% utilisation of entitlement. Data provision for this metric was optional by States.

Data owner/sources: State regulators

How is meter data collected where telemetry is not used

- Self-meter reads provided to the department at the following intervals for identified take:
- Groundwater (21% of meters/14% of volume) read six monthly;
- Supplemented water meters (36% of meters/ 18% of volume) read monthly or quarterly
- Unsupplemented water meters (22% of meters/12% of volume read annually
- Overland flow and water harvesting (21%/57% of volume) measured throughout take events

This measure is reported to identify how meter data is collected and how often when telemetry is not being used.

Data owner/sources: State regulators

State Overview

In 2022-23, Queensland (QLD) continued to make progress to strengthen water measurement in the Queensland Murray-Darling Basin (QMDB). Meter revalidation activities in accordance with Queensland s strengthened water metering standards are ongoing across the QMDB. Meter revalidations concluded in the Lower Balonne Water Management Area at the end of November 2022. The next phase of revalidations commenced across seven water management areas in the Water Plan (Condamine and Balonne) 2019 and Water Plan (Border Rivers and Moonie) 2019 areas in December 2022 with these revalidations due to be completed by end of November 2023. New metering activities also commenced in late 2022 in three water management areas, with meters required to be installed by the end of November 2023.

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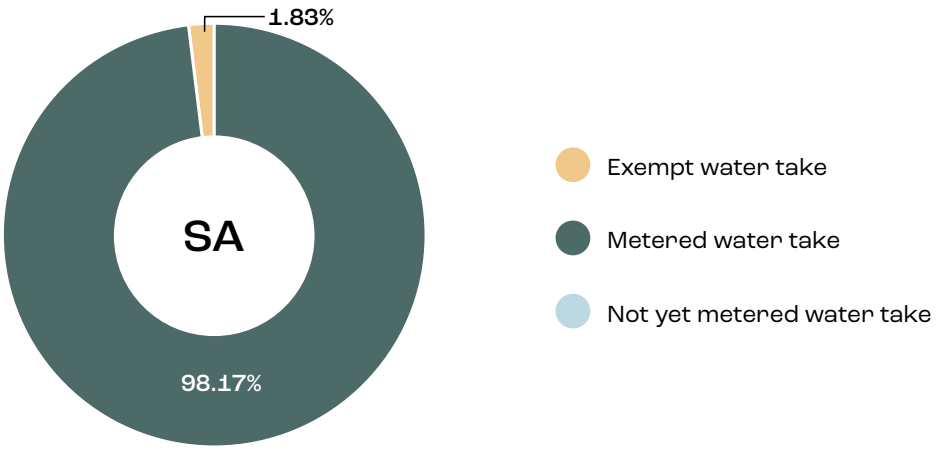
Murray-Darling Basin – South Australia Metering Report Card

01 July 2022 – 30 June 2023

Progress from 2021 – 22 metering report card indicated in brackets

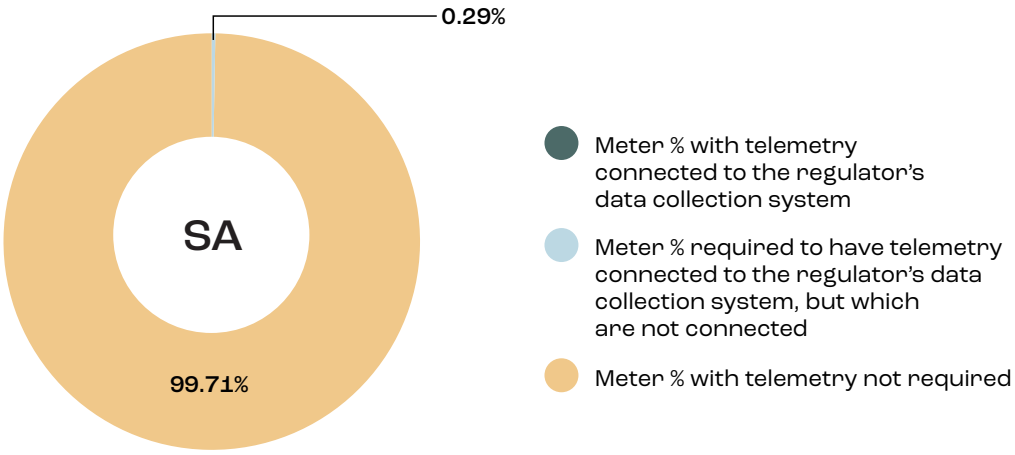
Percentage of water take metered in South Australia



This measure is reported to highlight percentage of meterable water take across the Murray-Darling Basin by each State that is metered. As this metric is influenced by water user behaviour, year-on-year change is not displayed in brackets.

Data owner/sources: State regulators

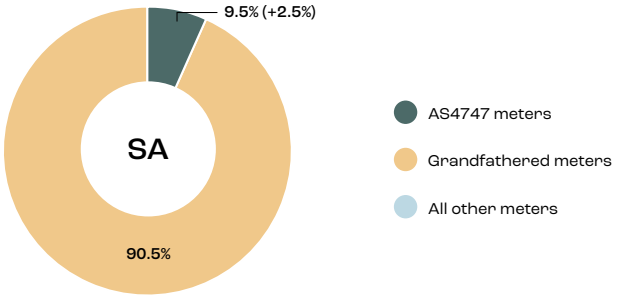
Telemetry coverage



This measure is reported to identify the percentage of meters with telemetry connected to the regulator's data system.

Data owner/sources: State regulators

Metering accuracy in South Australia



This measure is reported to understand the percentages of meters that comply with the States's metering policy and are therefore deemed accurate (including AS4747 and grandfathered meters). The percentage of AS4747 meters in the measure is intended to show progress Basin Sates are making in the roll-out of AS4747 metering. Please note that the 'all other meters' category may include meters that are not required to be AS4747 compliant or grandfathered. Data owner/ sources: State regulators

How is meter data collected where telemetry is not used

AREA	DATA COLLECTION FREQUENCY
Angas Bremer	Annually
Eastern Mount Lofty Ranges	Annually
Marne Saunders	Annually
Mallee	Annually
Peake Roby Sherlock	Annually
River Murray	Quarterly

This measure is reported to identify how meter data is collected and how often when telemetry is not being used. Data owner/ sources: State regulators

State overview

South Australia was an early adopter of metering approximately 50 years ago, which has since been expanded to all prescribed resources in the State.

Mandatory metering of all licensed water take is required in South Australia, with the exception of low risk water use (e.g. stock and domestic and as outlined in regional Metering Implementation Plans). Metered water take accounts for 98.2% of the volume of water taken from the South Australian portion of the Murray-Darling Basin.

In response to the obligations in the Murray-Darling Basin Compliance Compact, South Australia introduced legislation in 2019 to require that all replacement meters are compliant with AS4747. Given meters were already in place prior to this time, a large proportion of South Australia s meter fleet is grandfathered. The percentage of AS4747 compliant meters increased by 2.6% in 2022-23 to 9.5%. This will continue to grow as meters are replaced. All meters in South Australia are compliant with the State s metering policy (being either grandfathered or AS4747 compliant).

South Australia continues to review its metering policies to achieve alignment with the Metrological Assurance Framework 2's (MAF2) national requirements, on track to be completed in 2024.

SA acknowledges that telemetry will play a supporting role in compliance.

During 2022-23, SA conducted telemetry trials on a range of meter types across the State to assess the suitability of retrofitting telemetry technologies and on-farm water usage analytics. The results of these trials will be used to inform future policy decisions in relation to telemetry in South Australia. In 2023-24 SA proposes to gather further information on meters in the Murray-Darling Basin to help inform how many meters would require upgrade to accommodate a telemetry device.

The volume of water used by each licence holder is accounted for quarterly in the River Murray (annually for other areas of the Basin) and if any water is used in excess of, or without, allocation, mandatory financial penalties apply for each kilolitre of water taken unauthorised. In addition, as part of South Australia s compliance program, a minimum of 10% of licensed sites are visited each year which includes meter inspections. The effectiveness of SA s compliance strategies is demonstrated through high compliance rates, which reach 98–99% across the State.

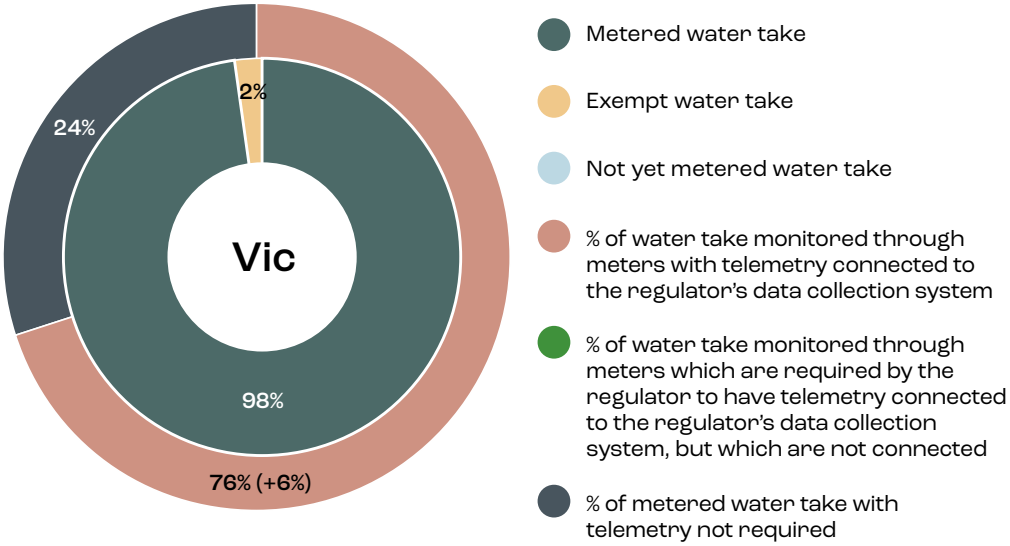
The IGWC makes no claim as to the accuracy of the data shown on this page. Data is collated and supplied directly from the states

Murray-Darling Basin – Victoria Metering Report Card

01 July 2022 – 30 June 2023

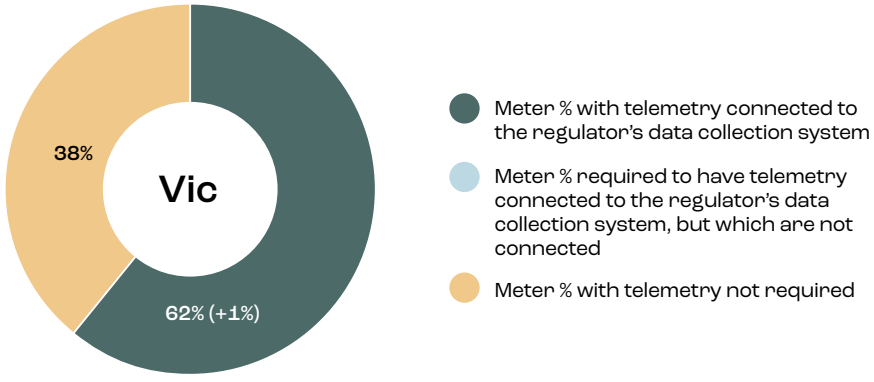
Progress from 2021 – 22 metering report card indicated in brackets

Percentage of water take metered and telemetered in Victoria



The inner graph highlights percentage of meterable water take across the Murray-Darling Basin by each State that is metered. As this metric is influenced by water user behaviour, year-on-year change is not displayed in brackets. The outer graph represents percentage of water take monitored through meters equipped with telemetry.

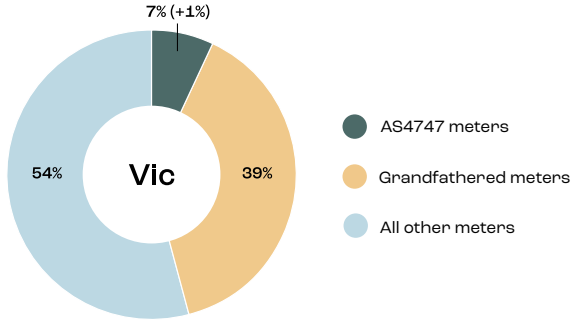
Telemetry coverage



This measure is reported to identify the percentage of meters with telemetry connected to the regulator's data system.

Data owner/sources: State regulators

Metering accuracy in Victoria



This measure is reported to understand the percentages of meters that comply with the States's metering policy and are therefore deemed accurate (including AS4747 and grandfathered meters). The percentage of AS4747 meters in the measure is intended to show progress Basin States are making in the roll-out of AS4747 metering. Please note that the 'all other meters' category may include meters that are not required to be AS4747 compliant or grandfathered.
Data owner/sources: State regulators

How is meter data collected where telemetry is not used

The Victorian Government's Non-urban Water Metering Policy (2020) requires water corporations to read meters at least once a year for low volume low-risk meters, more frequently for higher-risk volumes, and at least twice a year for surface water winter-fill licences or where there is a history of usage breaches. Victoria's Rural Water Corporations (RWCs) own meter assets and are responsible for manually reading meters where telemetry is not available.

Under Victoria's Policy RWCs determine the most appropriate meter read frequencies within their service areas based on risk, provided they meet minimum standards set by the Policy. Minimum standards are meter read frequencies of at least once a year on low volume or low risk customers, and at least two times per year for surface water winter-fill licences. High-risk meters are read automatically through telemetry.

As of 30 June 2023, Northern Victorian RWCs have more than 47,035 meters installed, approximately 29,013 of which have telemetry. 38,001 meter reads were conducted in Northern Victoria in 2022-23, as reported by the four Northern Victorian RWCs. 19,190 additional inspections were conducted, to ensure that meters were maintained and functioning efficiently.

This measure is reported to identify how meter data is collected and how often when telemetry is not being used.
Data owner/sources: State regulators

State overview

In 2022-23, 98 per cent of water taken in the Victorian part of the Murray-Darling Basin was metered and 89 per cent of total take was through AS4747 compliant meters and contemporary (grandfathered) meters accurate to +/-5% in accordance with Victorian policy.

Victoria has been an early adopter of telemetry and automated control systems. 85 per cent of meters in Victoria were installed prior to 2013 when the Australian Standard for non-urban Water Metering (AS4747) were introduced. In 2022-23, 76 per cent of total water take in northern Victoria was telemetered, up from 69 per cent in 2021-22. Victoria is further uplifting telemetry to target highest compliance risks. This includes more telemetry in the Victorian Murray trading zone 7 - one of Victoria s most active trading zones.

In 2022–23, RWCs continued to invest in installing new meters, telemetry on meters and database management systems to enable better monitoring of water take, increase greater scrutiny of potential breaches, and more comprehensive compliance reporting.

The Victorian Government s Non-Urban Water Metering Policy (2020) is consistent with the Compliance Compact. The policy has been reviewed against MAF2 (2021) requirements and found to broadly align with these. In 2023-24 the policy will be updated to strengthen alignment with MAF2 requirements.

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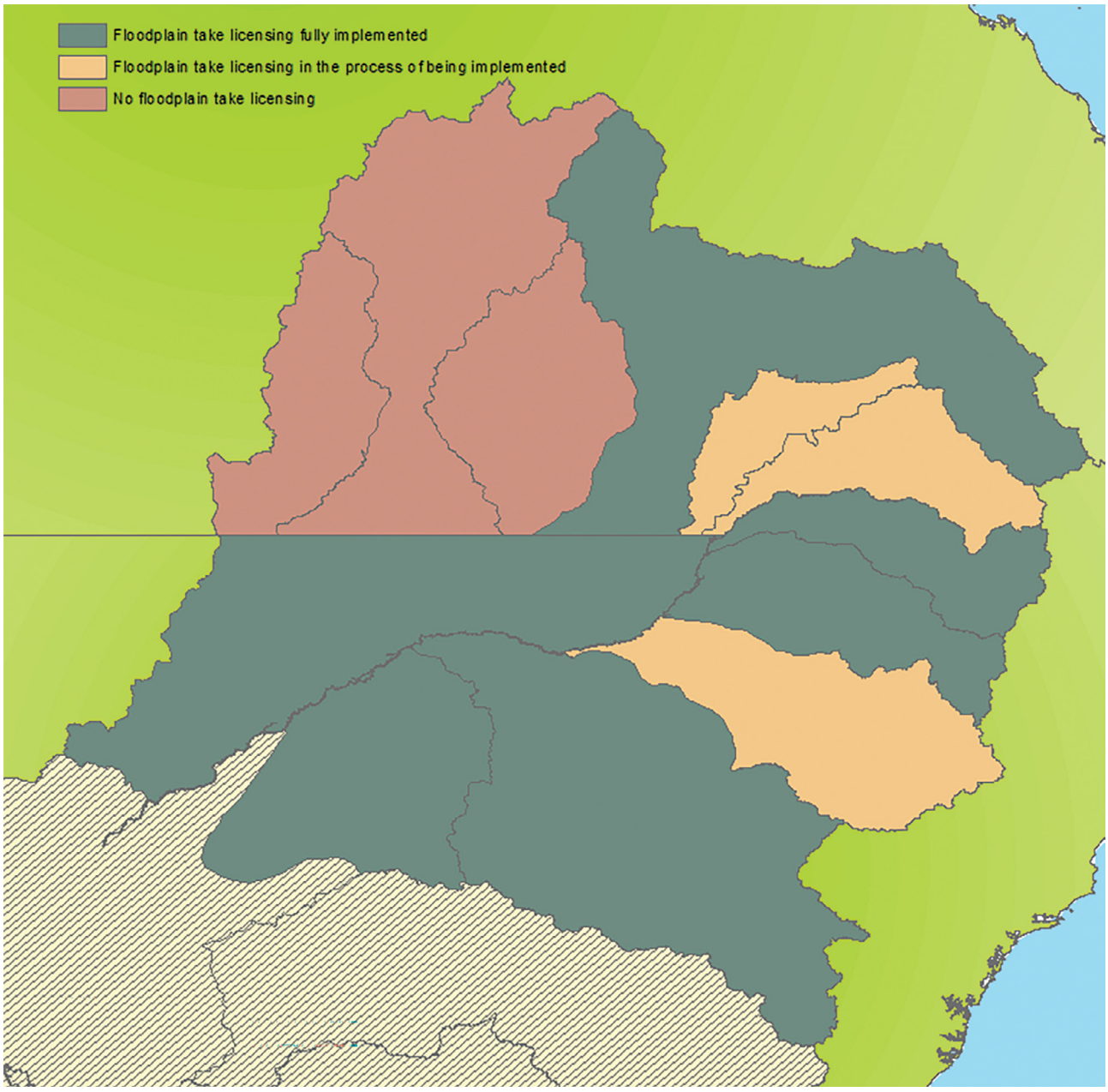
Floodplain take metering and licensing

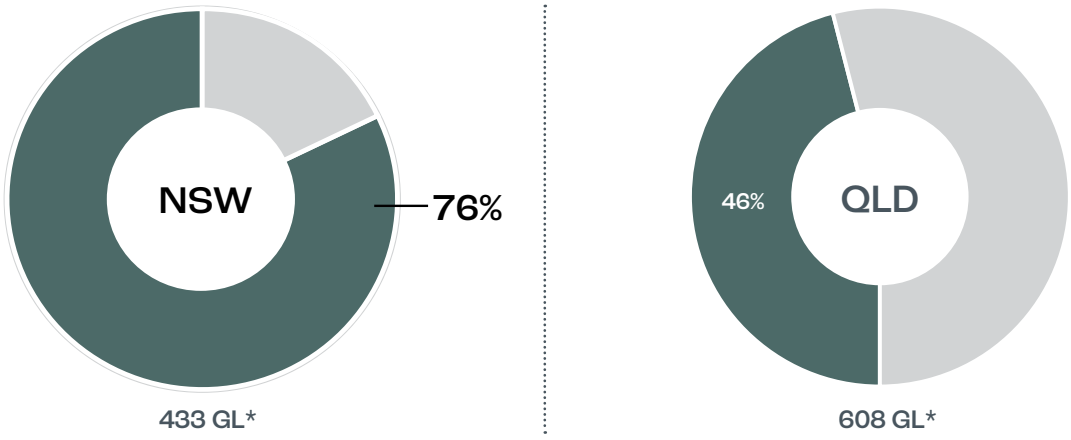


Floodplain take licensing by Water Resource Plan area

Map is indicative only. Areas in NSW where licensing is fully in place: Barwon-Darling watercourse, Gwydir, NSW Border Rivers and Macquarie-Castlereagh. Area in NSW where licensing is in the process of being implemented: Namoi. Preliminary investigations into floodplain take licensing in southern NSW has commenced.

Area in Queensland where licensing is fully in place: Lower Balonne. Areas in Queensland where licensing is in the process of being implemented: Moonie and Queensland Border Rivers. Areas in Queensland with no licensing: Nebine, Warrego and Paroo which has been reported as a low-risk area by the Queensland regulator.

Percentage of floodplain take that is licensed



This measure is reported to highlight the proportion of floodplain take that is licensed as of 30 June 2023. Both NSW and Queensland are in the process of implementing frameworks for licensing of floodplain take. Due to data availability the method of calculation was different in each Basin State, with the NSW's calculation based off 2022-23 SDL accounting and Queensland's based off long-term averages.

*Queensland's figure of 608 GL was calculated as the total of the long-term average volumes established as the baseline diversion limits for Queensland water resource plan areas. Although 608 GL is not reflective of floodplain take in Queensland during 2022-23, the metric represents the relative proportion of floodplain take that is licensed in the Basin State.

Data source/owners: State Regulators

Percentage of floodplain take that is metered

This measure is reported to highlight the proportion of floodplain take that is metered as of 30 June 2023. This measure does not include secondary measurement devices such as gauge boards.

*Queensland's figure of 608 GL was calculated as the total of the long-term average volumes established as the baseline diversion limits for Queensland water resource plan areas. Although 608 GL is not reflective of floodplain take in Queensland during 2022-23, the metric represents the relative proportion of floodplain take that is metered in the Basin State.

Data source/owners: State Regulators

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NSW narrative

Floodplain harvesting measurement rules became law on 1 July 2022. These rules are being rolled out in stages as floodplain harvesting access licences are granted. The floodplain harvesting measurement rules apply to water supply work approvals nominated by a floodplain harvesting access licence, and require all water take to be measured using accurate, auditable and tamper proof metering equipment.

Floodplain harvesting water users have 12 months from water being credited to their floodplain harvesting access licence account to have primary measurement equipment installed. During that first 12 months, water can only be taken if either primary or secondary measurement equipment is installed.

Primary measurement equipment can be either point-of-intake or storage measurement equipment and must be telemetered to be compliant. Secondary measurement equipment must be approved by the Minister and is not required to be telemetered, for example, a gauge board.

Floodplain harvesting access licences have now been granted for the NSW Border Rivers, Gwydir, Macquarie, and Barwon-Darling valleys, which means measurement rules are now in place for these valleys. The compliance dates for primary measurement equipment are 15 August 2023 for NSW Border Rivers and Gwydir, 1 March 2024 for Macquarie and 1 April 2024 for Barwon-Darling. The process for determining floodplain harvesting access licences to be issued in the Namoi valley is ongoing and expected to be completed in 2024. Until these licences are issued, NSW is managing to Water Sharing Plan extraction limits, and has significantly reduced water allocations to account for growth in use.

This means no water supply works were required to have primary metering equipment installed during the 2022/2023 reporting year.

Queensland narrative

Overland flow water taking is highly developed in the floodplain areas within the Queensland portion of the MDB. Less well developed in parts of the area where overland flow water is taken by runoff processes rather than flood breakouts. Water resource plans identify the floodplain areas as high risk and include stringent controls on activities that could lead to growth in take. One of these controls is the replacement of overland flow notifications with more detailed water licences where a risk of growth in take is identified on a case-by-case basis. Though both the licence and notification effectively authorise the same limited activity, the process of granting a licence includes a comprehensive verification of capacity to take prior to the moratorium on development of infrastructure (2000/2001) and, once granted, the licence provides rate or volume benchmarks for testing compliance against what is effectively the pre-moratorium level of take. A water licencing process (replacement of notifications with licences) is currently being undertaken in the Border Rivers and Moonie floodplain areas. Though the risk of growth in take trigger may not have been identified in relation to all overland flow user, all notifications are being replaced with licences to allow for the implementation of phase 1 (water level) measurement across the floodplain. The finalisation of the future overland flow measurement framework (which will apply State-wide) is underway and forms phase 2 of the current measurement program. This framework provides requirements and process for the determination of volumes taken over a period of time based on collection of data relating to changes in on-farm water levels. The phase 2 framework is anticipated to be implemented from late 2025. Once implemented, the framework requirements will immediately apply to any water users who don t already have a certified measurement method in place (such as phase 1 water level measurement). For those that already comply with the phase 1 measurement requirements, they will be required to comply with the phase 2 measurement requirements when they are due for measurement re-certification 5 years after their initial certification). It is expected that the majority of water users will have phase 1 measurement arrangements in place by the time the new framework commences. Stakeholders are generally supportive of the Queensland Government s approach. They have been engaged relatively frequently over the past 4 years in relation to the development of the new framework and the two phased implementation.

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