



Urban National Performance Report Framework Review

In July 2018 the Bureau of Meteorology, Department of Agriculture, Water and the Environment, Water Services Association of Australia and jurisdictional members of the NPR Roundtable Group signed an agreement to undertake a review of the National Performance Reporting framework.

Objectives of the review were:

1. Set up an enduring capability for the Framework and the national performance reporting data set.
2. Improve the availability of performance reporting and benchmarking data to support the efficient, effective operation of the water sector.
3. Broaden the value of urban water performance reporting, benchmarking, and shared ownership for the urban water sector.
4. Ensure that the set of data collected through the Framework meets the current and future needs of the urban water sector for regulation, benchmarking, planning, and policy development.
5. Deliver on relevant recommendations of the Productivity Commission's Inquiry Report on National Water Reform.
6. Refresh the form and format of reporting carried out under the Framework, utilising online reporting and dashboards to meet the needs of key users and stakeholders.

The review was overseen by a steering committee co-chaired by The Bureau of Meteorology and the Department of Agriculture, Water and the Environment and included representatives from policy and regulator sectors as well as the Water Services Association of Australia. The Bureau of Meteorology engaged Aither and HARC Consulting to undertake the review (report attached).

Widespread stakeholder consultation, covering many parts of the water sector, informed a set of eighteen recommendations encompassing six domains of the NPR framework: Services; Governance; Framework Design and Function; Operational tasks and infrastructure; Resource and cost sharing; Vision, Objectives and Users. The NPR Roundtable group have considered the recommendations that will be implemented by the Bureau and Department of Agriculture, Water and the Environment by 2021.

Please email water@bom.gov.au, if you would like any further information on the National Performance Reporting framework review.

National Performance Reporting Framework for Urban Water Utilities

A review of the NPR Framework

1 July 2019

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Abbreviations

ANCID	Australian National Committee on Irrigation and Drainage
ABS	Australian Bureau of Statistics
the Act	Commonwealth Water Act 2007
AWA	Australian Water Association
BoM	Bureau of Meteorology
COAG	Council of Australian Governments
DA	Commonwealth Department of Agriculture
the Deed	National Framework for Reporting on Performance of Urban Water Utilities Deed
DOI	NSW Department of Industry
ERAWA	Essential Regulation Authority Western Australia
ESC	Essential Services Commission of Victoria
ESCOSA	Essential Services Commission of South Australia
the Framework	National Urban Water Utility Performance Reporting Framework
Framework partners	Current signatories to the Framework
ICT	Information and Communication Technology
IPART	Independent Pricing and Regulatory Tribunal
LWU	Local water utility
MoU	Memorandum of Understanding
NCP	National Competition Policy
NWI	National Water Initiative
NWRC	National Water Reform Committee
OTTER	Office of the Tasmanian Economic Regulator
PC	Productivity Commission
QA / QC	Quality assurance and quality control
RTG	Roundtable Group
SWIM	Statewide Water Information Management (program of Queensland Water Directorate)
UWRC	Urban Water Reform Committee, sub-committee of the NWRC
Urban NPR	National Urban Water Utility Performance Report
W indicators	Water resources indicators
WSAA	Water Services Association of Australia

Executive summary

Aither and HARC were engaged by the Bureau of Meteorology (BoM) to undertake an independent Review of the *National Urban Water Utility Performance Reporting Framework* (the Framework). The Review has been governed by a Review Steering Committee (RSC)¹, which is co-chaired by the BoM and the Commonwealth Department of Agriculture (DA). The Framework involves the collection and reporting of data and information about the performance of urban water utilities across various reporting themes and indicators. This report sets out the findings and recommendations of the independent Review, which was undertaken from late 2018 to mid-2019.

In recent years questions have been raised about the Framework's utility and value to stakeholders and users. A key aim of the Review was to determine what should be done to secure its legacy and value into the future. This report sets out proposed changes that respond directly to stakeholder feedback and reflect other evidence and analysis. Changes are proposed in various areas, which in combination should ensure the Framework remains relevant and of value to its users into the future.

Background

The Framework was established in response to commitments made through the 2004 National Water Initiative (NWI). Under NWI clause 75, state and territory governments and the Commonwealth agreed to report on 'benchmarking of pricing and service quality' for urban water utilities. In response, a steering committee – the Roundtable Group (RTG) – was formed in 2005. The RTG led development of the performance indicators and definitions, and data collection, collation, auditing, and reporting processes and practices. Under the Framework, utilities report on a broad set of indicators, data for which is reflected in annual performance reports (Urban NPRs) and is part of a national dataset. These are now in their 14th year of production, and are thought to support economic regulation, policy development and industry innovation and efficiency.

Key messages

- The Framework is generally highly regarded and there is support for its retention, albeit with modification and refocus. If it did not exist, current users would need to replicate something similar to meet genuine needs.
- The Framework has suffered over recent years from organic rather than strategic evolution, such that its core rationale and value are sometimes obscure; and indicators have been added, modified or retained without sufficient moderation or discipline to ensure the right balance and focus.
- Structural and institutional changes in the sector have resulted in a decreased clarity about ownership of the Framework and the lack of a clearly identified champion with a longer-term view. This has had consequences for the Framework's operation and implementation.

¹ The RSC is co-chaired by the Bureau of Meteorology (BoM) and the Commonwealth Department of Agriculture and Water Resources (DAWR) with support from the Water Services Association of Australia (WSAA), the NSW Independent Pricing and Regulatory Tribunal (IPART), and the Queensland Department of Natural Resources, Mines and Energy (DNRME).

- Changes are required that, if implemented, will help to secure the Framework's legacy and ensure the benefits of existing investments are not lost, while also helping ensure the Framework remains relevant and beneficial to users and the sector more broadly, into the future.
- The recommended changes to secure the future of the Framework are not insignificant. They will require concerted effort by the Framework partners to make improvements to the Framework services, function, operation and governance.

The case for change

The Framework is valued by stakeholders but its use currently varies markedly within and between stakeholder groups. However, there is consensus that the Framework meets a genuine need for data and information that informs regulatory processes, policy development and decision-making, and it should continue. Users believe something else would have to be created in its place if the Framework ceased altogether. Deciding not to maintain it would also mean losing an important dataset, and the benefits of significant past investment.

While the Framework is seen to be meeting a genuine need, there are key issues and challenges that are impacting on, and limiting, the value that users derive from it. It was the view of many respondents that, if left unchecked, these issues and challenges will continue to diminish the value of the Framework over time and present a major risk to its future relevance and urban water sector participation. Stakeholders generally have a very positive disposition towards the NPR Framework, but their interest is waning and criticisms are growing.

Issues with the Framework are varied, spanning design and implementation, and products and services. A key, underlying driver of these issues is the lack of well-defined and understood purpose and objectives. The scope and relevance of indicators, along with the accuracy and robustness of data and its ability to support meaningful comparisons, were recurrent themes through consultation. So too was the timing and general utility of the Framework's outputs. While these are important issues in their own right, in combination they significantly weaken the Framework's value proposition.

The status quo – that is to continue with the Framework unchanged – is not a viable option. Stakeholders see value in the Framework continuing, but only if it is updated and refreshed in a way that better meets their needs. To deliver on this requires better understanding and addressing a realistic subset of the needs of the core users of the Framework. It also requires improving governance arrangements, which have not proved adequate in recent times, and are not sufficient to successfully drive and implement the changes required.

A comprehensive program of change is recommended by the Review. If adopted, greater utilisation of the Framework should occur, which in turn should contribute to more informed decision-making and better support achievement of outcomes. Revising the Framework in line with a new vision and objectives will help ensure it is robust and enduring, and better able to contribute to improving sector performance and policy outcomes over time.

Changes proposed are not just about seizing opportunities, but about preventing a more significant overall failure. With existing agreements underpinning the Framework coming to an end soon, now is the time to act – if action is not taken now, the Framework will likely fall into disrepair. The Framework is at an important moment in its existence, where there is a pressing need to pursue a clear roadmap for its future if the support of existing stakeholders is to be secured.

Review scope, approach and methods

Review purpose and scope

The Review was required to develop a set of evidence-based, actionable recommendations that support the Framework's enduring legacy and secure its relevance and value into the future. The outcome sought from the Review was to identify an approach or pathway to implementing a refreshed fit-for-purpose Framework that meets the needs of all stakeholders now and into the foreseeable future, and has the ongoing support of all jurisdictions and the urban water sector.

The BoM set out six specific objectives for the Review (Section 1.2.1) including in relation to its ability to endure into the future, securing its value, addressing recommendations of other reviews, ensuring availability of data to support effective operation of the sector, ensuring data meets future needs, and refreshing the form and format of reporting or accessibility of data. The BoM also set out twelve specific areas in which it requested the Review make recommendations. These are listed at Section 1.2.2, and are answered as part of the overarching conclusions of the Review at Section 5.1.

Assessment Framework

The Review Team developed an assessment framework that has guided all aspects of the Review, including consultation, evidence gathering, analysis, and development of findings and recommendations. The assessment framework was deemed necessary to organise the Review in a way that ensured coverage of all issues and needs, as well as providing coherence and structure. It also provided an opportunity to organise the more detailed requirements and questions of the Review in a way that made sense to all stakeholders. The assessment framework covers the functional form and business model aspects of the Framework, and includes eight elements, as outlined in Figure ES1.

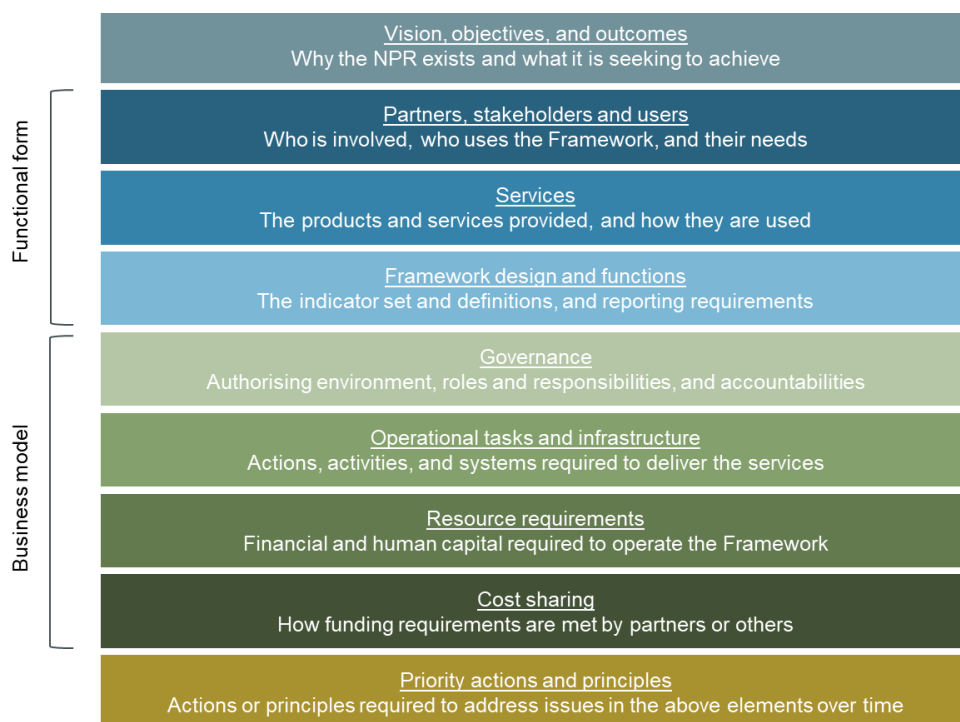


Figure ES1 Assessment Framework

Consultation, evidence and analysis

The Review was informed by extensive stakeholder consultation, and stakeholder input has provided the majority of the evidence to support the Review findings and recommendations. This has been supported by additional evidence and analysis undertaken by the Review Team. Appendices to this report contain the results of consultations and further analysis, and should be considered the evidence base. In summary, stakeholder consultation involved:

- Developing and issuing a discussion paper to guide interviews and written submission processes
- A written submission process available to any stakeholder
- Targeted telephone and face-to-face meetings or interviews
- Project workshops in four capital cities.

Analysis to support the development of Review findings and recommendations included:

- Reviewing and documenting the Framework itself, including its basis, history, and operation
- Considering previous reviews of the urban water sector that contained recommendations pertinent to the Framework
- Considering international performance reporting and benchmarking examples
- Detailed analysis of the views of stakeholders, including as expressed and documented through written submissions, targeted interviews, and workshops
- A user needs analysis which considered the information needs of the different stakeholder groups.

Summary of findings and recommendations

Findings and recommendations are presented throughout the report according to the Review elements. Section 4 provides a discussion of key issues under each framework element, and presents 25 specific findings that were drawn in relation to those issues (a full list of findings can be found at Section 4.9). Section 5 provides 14 recommendations designed to address identified problems, or otherwise deliver on the objectives and requirements of the Review (a full list of recommendations can be found at Section 5.3). Findings and recommendations are summarised in Table ES1 below.

Table ES1 Findings and recommendations

Element	Findings and recommendations
Vision, objectives, and outcomes	<ul style="list-style-type: none"> • Finding 1: The vision and objectives of the Framework, and outcomes it is seeking to achieve, are not sufficiently clear and defined, or articulated or documented. Where relevant statements are provided, they are out of date and may not reflect user needs. • Finding 2: There is general awareness among stakeholders that the Framework is aligned with or designed to meet NWI commitments, but there is a range of views among stakeholders on, and hence not a consistent understanding of, its specific purposes beyond this. There is also not consensus among stakeholders on the outcomes the Framework should be seeking to support or deliver against. • Finding 3: There is evidence to suggest that the Framework is not adequately evolving to reflect changing drivers in the water sector, and this is likely to be causing the Framework to lose relevance and thus, value, for users.
	<ul style="list-style-type: none"> • Recommendation 1.1: A revised vision and objectives statements should be developed by the current RTG, in collaboration with and subject to the approval of the NWRC, based on the guidance provided by the Review Team.
Partners, stakeholders, and users	<ul style="list-style-type: none"> • Finding 4: There is a need to more clearly articulate the core stakeholders the Framework is for and identify and define a realistic and high value sub set of their overall needs that it should seek to address. • Finding 5: It is clear that the majority of stakeholders value the Framework, and wish to see it continue. However, the value proposition to stakeholders has significantly diminished, and all agree on the need for substantive improvements to ensure it provides value now and into the future. • Finding 6: In order to increase its value proposition, the Framework should focus on meeting the needs of its core users (which are not currently being adequately met), rather than expanding its user base. Expansion risks further diminishing the value to core users, and is unlikely to increase value for the broader user base, as there does not appear to be a clear and identified need to address.
	<ul style="list-style-type: none"> • Recommendation 1.2: The core users and indirect beneficiaries of the Framework should be clarified in the revised vision, objective and outcome statements, based on guidance provided by the Review Team.
Services	<ul style="list-style-type: none"> • Finding 7: The Part A report is not providing value to stakeholders as a result of its current format, content, length, and timing of release. • Finding 8: Users tend to obtain a high degree of value from the dataset (and more so than the report) but there are still opportunities to improve it, including in relation to accessibility, timing of release or updating, and interrogation of data.

	<ul style="list-style-type: none"> • Finding 9: There are approaches or tools that stakeholders agree could improve Part A and Part B outputs, but funding the implementation of such changes should be met by cost savings or be based on stakeholder willingness to pay. • Recommendation 2: The BoM should transition the written report (Part A) to a substantially more concise format and with substantially reduced content, focusing on targeted performance outcomes or performance metrics and sector/service provider outcomes agreed to by core users. • Recommendation 3: The BoM should make the complete dataset for all water service providers for all years publicly available, including intermediate indicators used in the calculation of normalised performance metrics. • Recommendation 4: The BoM and the RTG should identify, and subsequently implement, changes that will facilitate the updating and public release of the Framework dataset as soon as QA/QC processes have been completed following data provision. If further reductions in timing of release are required, the BoM should consider testing the value of an 'as-received' dataset with stakeholders. The dataset should continue to be available as a downloadable excel file(s). • Recommendation 5: The BoM should develop a digital interface (web service) that allows any user to access the data in a format that enables them (at their behest and expense) to use third-party tools to provide bespoke interrogation and analysis of the data (but the BoM should not invest in those tools). This should be in addition to ongoing provision of excel files, and new data should also be made available via this method.
Framework design and function	<ul style="list-style-type: none"> • Finding 10: There is a general view that there may still be too many indicators, and the large number could be leading to negative consequences for other aspects of Framework operation, however it is not clear what an optimal number might be. • Finding 11: There are still issues around indicator definitions and understanding or interpretation (noting that improvements and changes have been made), which are likely contributing to ongoing problems with data accuracy and quality (and therefore reliability and trust). • Finding 12: There is confusion about whether and to what extent the Framework should be trying to provide 'true' benchmarking, in the sense that indicators are directly comparable without contextual information or re interpretation to account for underlying differences in utilities. • Finding 13: There are opportunities to remove, modify, and add individual indicators and potentially also indicator themes, including to respond to changes in the sector, and ensure that indicators remain current, relevant, and useful. Further investigation and action into this is warranted, as well as how to best to ensure indicators more reliably adapt over time. • Finding 14: The challenge regarding mis-alignment of reporting requirements may be more perceived than real, with inaccurate indicator definition interpretation (Finding 11) being the underlying contributing factor leading to misunderstanding of actual reporting requirements. • Finding 15: There is a sound rationale for including as many smaller water service providers in the Framework as is feasible and cost effective, while recognising the potential need for differential reporting requirements and staged implementation. • Finding 16: The audit framework appears to be ineffective in achieving its objectives, and the current (or intended) approach is likely inefficient. However,

	<p>it is also apparent that there are a range of factors contributing to poor data quality and assurance outcomes that need to be addressed, in addition to audits.</p> <ul style="list-style-type: none"> • Recommendation 6.1: A thorough, detailed, and independent review of the reporting themes, indicators and indicator definitions, should be undertaken independent of, but report to, Framework governing and owner/administrator bodies. This should occur following agreement on, and be undertaken with reference to, the revised vision and objectives, and should also follow the guidance provided by the Review Team, including indicator principles. • Recommendation 6.2: Indicator themes and individual indicators should be subject to regular periodic independent review every five years, with reference to the revised objectives and indicator principles. • Recommendation 7: A QA/QC strategy should be developed by the RTG, including a revised audit framework, based on independent advice and in collaboration with water service providers or their representatives and state government entities responsible for state-based audits, and reflect guidance provided by the Review Team. • Recommendation 8.1: Coverage of the Framework should be extended to include water service providers with less than 10,000 connected properties. • Recommendation 8.2: The threshold for reporting (i.e. entity size), and their reporting requirements, should be determined by the RTG in collaboration with and subject to agreement by other stakeholders, based on the guidance provided by the Review Team.
Governance	<ul style="list-style-type: none"> • Finding 17: The lack of a formal, long-term mandate to the Framework is a critical issue, and is holding the Framework back in various ways, not least of which is governance. The Framework cannot be expected to be durable and lasting in the absence of a formal and long-term commitment to it by its partners and stakeholders. • Finding 18: It is clear that the decision-making and accountability arrangements for the Framework are lacking, and in need of improvement. A range of criticisms are made of the RTG, but the problems may be broader and not specifically the fault of that group, such as the lack of appropriate governance arrangements more broadly • Finding 19: Ownership of the Framework is not clearly defined or designated to one entity which is impeding its successful operation. <ul style="list-style-type: none"> • Recommendation 9.1: The Commonwealth Department or agency with responsibility for water policy should be established as the formal owner and champion of the Framework, and the NWRC should consider and determine how this should be given ongoing and practical effect. This recommendation is contingent on the Commonwealth agreeing to fund the core functions of the Framework into the future (Recommendation 14). • Recommendation 9.2: The BoM should be formally established as the operator of the Framework, with responsibility for its operation, maintenance and support, and the authority to make operational decisions subject to input from and agreement with the proposed steering committee. • Recommendation 10: Two new separate committees should be formed – a technical reference committee, and a steering committee – each with distinct roles and membership. Together they should replace the RTG. Design and mechanisms for establishment and authority should be determined by the

	<p>Commonwealth Department responsible for water policy based on guidance provided by the Review Team.</p> <ul style="list-style-type: none"> • Recommendation 11: The role of the BoM, obligations to provide Framework data, updated governance arrangements and key framework design aspects should be reflected in amendments to the Commonwealth Water Act 2007 and/or Water Regulations 2008 (as appropriate). The Commonwealth Department responsible for water policy and the BoM should determine the feasibility of and approach to this. If it is not feasible, they should lead development of and ensure agreement to a new long-term MoU with partners prior to end of the current agreement in 2021.
Operational tasks and infrastructure	<ul style="list-style-type: none"> • Finding 20: There is variable understanding of the Framework among its users, including how it operates. This is likely a result of jurisdictional coordinators creating a disconnect between the Framework's administrator (the BoM) and reporting entities, the absence of a point of truth for current documents, and the lack of a clear communication strategy. • Finding 21: Lack of understanding of the Framework and its operation has had a significant impact on the efficiency and effectiveness of data provision and validation processes in particular. Despite this, single point of data entry arrangements at the state-level have been successful at improving these processes by reducing the number of indicators that need to be interpreted or calculated, and minimising duplication of reporting requirements. • Recommendation 12: The Framework owner and administrator (as established through Recommendation 9), with RTG support, should develop and implement a strategy and plan for ongoing communication with the Framework's partners and users. Objectives should include ensuring all users are properly informed about and fully understand the operation and use of the framework (including specifically ensuring consistent understanding of indicator definitions) and are provided with timely updates regarding any changes. This should include providing indicator definitions, audit guidelines and other operation documents, as well as making all historic Framework publications publicly available, as a short-term priority. • Recommendation 13: Where they do not already exist (e.g. SWIM in Queensland), State and Territory governments and industry should investigate opportunities for, and the feasibility of, single source of data entry for reporting entities in their jurisdictions to improve the effectiveness and efficiency of data provision and validation processes. If they determine that single source of data entry is cost-effective and desired, then the State or Territory and respective subset of industry should implement it.
Resourcing	<ul style="list-style-type: none"> • Finding 22: The Framework appears to lack a robust budgeting arrangement. Past costs of Framework delivery are not the most appropriate way to budget for future needs of the Framework, including because they do not reflect the current or future needs of users, and exclude resources required for periodic review or capital investments. • Finding 23: There is a lack of clarity associated with activities resourced through in-kind contributions, which makes it difficult to understand the true cost of the Framework and identify opportunities to optimise its delivery. There is also a lack of clarity and transparency about how financial contributions are spent. • Finding 24: The audit framework, as currently designed, presents a material resourcing issue to many stakeholders, and appears to be preventing achievement of data quality and assurance outcomes.

	<ul style="list-style-type: none"> • Recommendation 14: The current approach to resourcing the Framework's operation and sharing financial costs should be replaced in favour of a new, single Commonwealth funding approach for core Framework functions, supported by in-kind and other contributions, as described in the new resourcing model developed by the Review Team.
Cost sharing	<ul style="list-style-type: none"> • Finding 25: The current cost-sharing model is not broken. However, there is merit in considering if a cost-sharing approach continues to be appropriate or warranted, especially given any reductions in total funding required resulting from changes to the services provided.
	<ul style="list-style-type: none"> • Recommendation 14: See above.

Roles and responsibilities for recommendations

Table ES1 below indicates which stakeholders have a defined role in or responsibility for different recommendations. This is reflected and further detailed in the workplan provided in Section 6.

Table ES1 Roles or responsibilities for recommendations

DA (or Commonwealth entity responsible for water policy)	NWRC	BoM	RTG (or revised committees as recommended)	State Governments / utilities / industry representatives
Recs: 9.1, 9.2, 10, 11, 12, 14	Recs: 1.1, 1.2, 9.1, 10	Recs: 2, 3, 4, 5, 9.2, 11, 12	Recs: 1.1, 1.2, 4, 6.1, 6.2, 7, 8.1, 8.2, 12	Recs: 7, 8.1, 8.2, 13

Proposed implementation pathway

No distinction is made between the significance of each recommendation – that is, they are all viewed as essential to ensuring the Framework succeeds in the future. However, staged implementation is proposed, including an emphasis on investigation, development and design tasks in 2019-20, with implementation largely in or from 2020-21 (the detail of which is further outlined in Section 6). The implementation pathway proposed reflects that some matters (particularly vision and objectives) will need to be resolved before other recommendations can be implemented. Key factors in regard to timing and dependencies include:

- The vision, objectives and outcome statements will support many other recommendations, so recommendations in this area should occur in the early stages of 2019-20, but will be given formal effect in new governance arrangements, which should take effect when the current agreement ends.
- Changes to services (outputs) should be further investigated and designed in 2019-20, but changes are largely suggested to be implemented in 2020-21.
- An independent indicator review should occur in 2019-20, but given the potential significance of changing indicators, implementation of its recommendations may only start in 2020-21 and may need to be staged further thereafter. A revised audit framework should be developed in 2019-20 in time to be embedded into new governance arrangements that are formalised at the end of the current agreement.

- Design of the new governance arrangements should occur in 2019-20 and be implemented at the end of the current agreement period. Whether a legislative and regulatory approach can be implemented, or a new MoU arrangement is required, should be resolved in 2019-20, and implemented at the end of the current agreement.
- The communications strategy should be developed in 2019-20, but implemented from 2020-21, although some straightforward information provision tasks are suggested to occur in 2019-20.
- A new budget should be drafted in 2019-20, but implemented at the same time as the new governance arrangements (at end of current agreement).

The Review recommendations represent a significant scope of work, but with renewed commitment should be readily achievable, with many changes possible through administrative or cooperative arrangements. Timeframes may seem ambitious, but the staged approach proposed should ease implementation. Stakeholders should also be aware that if implemented, recommendations should deliver financial savings to some entities and be cost neutral or deliver cost savings overall.

Early action is important to ensure continuity and certainty as existing arrangements underpinning the Framework come to an imminent end. Achieving the timeframes recommended is also desirable in the context of maintaining momentum and stakeholder engagement, while demonstrating that there is genuine commitment to implementing the changes required to secure the Framework's legacy and value into the future. Success will be dependent on the commitment of partners and users, including in providing ongoing support, and helping to shape the enhancements required.

1. Background and scope

This section provides background context to the Review, including the rationale for undertaking it, its scope and objectives, and outlines how this Review report is structured.

1.1. Background and context

The Intergovernmental Agreement on a National Water Initiative (NWI) was signed by the Commonwealth of Australia, and state and territory governments in June 2004². Under clauses 75 and 76 of the NWI the parties agreed to report on benchmarking of pricing and service quality for urban and rural water utilities.

In response to this commitment, the National Water Commission (NWC), state and territory governments and the Water Services Association of Australia (WSAA) led the formation of a performance reporting and benchmarking steering committee in 2005 — the Roundtable Group (RTG). The RTG led the development of a national performance reporting framework (the Framework), including a set of urban water utility performance indicators and definitions, as well as data collection, collation, auditing, and reporting processes and practices.

Under the Framework, urban water utilities report on a broad-ranging set of indicators, data for which is reflected in annual performance reports and a dataset, which are now in their 14th year of production. Framework outputs have sought to support economic regulation, policy development and industry innovation and efficiency. However, the operating environment, and needs and requirements of users have changed over time, pointing to the likelihood that opportunities for improvement exist.

Given this, as well as the time that has elapsed since the Framework's inception, the lack of previous specific reviews of the Framework, and feedback provided by customers and the RTG, the need was identified to engage with stakeholders and users to ensure that the Framework meets their needs now and into the future.

1.2. Review purpose and scope

In support of the above, the Bureau of Meteorology (BoM) sought the assistance of an external consulting team to undertake an independent Review of *National Urban Water Utility Performance Reporting Framework* (the Framework) including development of a set of evidence-based, actionable recommendations that support its enduring legacy and secure its relevance and value into the future.

1.2.1. Review objectives

The objectives of the Review, as set out by the BoM were to:

- Set up an enduring capability for the Framework and the national performance reporting data set.

² The State of Tasmania became a signatory to the NWI Agreement on 2 June 2005 and Western Australia became a signatory on 6 April 2006.

- Broaden the value of urban water performance reporting, benchmarking, and shared ownership for the urban water sector.
- Deliver on recommendations of the Productivity Commission's Inquiry into National Water Reform relating to performance reporting, independent scrutiny and changes to reporting metrics.
- Improve the availability of performance reporting and benchmarking data to support the efficient, effective operation of the water sector.
- Ensure that the set of data collected through the Framework meets the current and future needs of the urban water sector for regulation, benchmarking, planning, and policy development.
- Refresh the form and format of reporting carried out under the Framework, utilising online reporting and dashboards to meet the needs of key users and stakeholders.

1.2.2. Scope

The outcome sought from the Review was to identify an approach or pathway to implementing a refreshed, fit-for-purpose National Performance Reporting Framework that meets the needs of all stakeholders now and into the foreseeable future, and has ongoing support of all jurisdictions and the urban water sector.

It was requested that the Review make prioritised recommendations on actions that the urban water sector might take to increase the value of the Framework in the short and long-term. Actions were requested to reflect the Review outcomes on the areas where changes will increase the value of the framework for all stakeholders (such as customers, utilities, councils, bulk water authorities, state agencies, regulators, and the broader water sector).

It was requested that the Review make recommendations on:

1. The users and stakeholders for whom the Framework should operate
2. The value of the Framework and how that value is realised
3. Performance reporting, benchmarking data and information needs of the urban water sector
4. The audit and QA practices required to ensure the integrity of the data set, including consideration of the NPR audit framework, state and territory audit practices, and the cost vs value of auditing
5. The current and future scope of reporting and the reporting mechanism/s
6. The cost of the Framework, including practices, mechanisms, and technologies available to reduce costs associated with audits
7. The funding model for future National Performance Reporting
8. Opportunities for aligning state/territory and commonwealth reporting frameworks supporting single point of data entry in each jurisdiction
9. Governance of the Framework
10. Coverage of the Framework and the threshold for reporting
11. The form and format of the reporting and analysis to be carried out under the framework
12. Data management and system processes and associated IT infrastructure.

1.3. Approach and methods

The Review was undertaken over late 2018 and early to mid-2019. It involved substantive stakeholder consultation of various forms, and was supported by different components of analysis. The Review was guided by an assessment framework, which included two key components of the Framework: the functional form; and the business model. Several elements are defined within each of these components, and form the basis for organising and discussing issues or matters related to the Framework. The assessment framework is further described in Section 3.

Stakeholder consultation involved (detailed further in Appendix A – Stakeholder consultation):

- Developing and issuing a discussion paper to guide interviews and written submission processes
- A written submission process available to any stakeholder
- Targeted telephone and face to face meetings or interviews
- Project workshops in four capital cities.

Analysis to support development of Review findings and recommendations included:

- Reviewing and documenting the Framework itself, including its basis, history, and operation
- Considering previous reviews of the urban water sector which contained recommendations pertinent to the Framework
- Considering international performance reporting and benchmarking examples
- Detailed analysis of the views of stakeholders, including as expressed and documented through written submissions, targeted interviews, and workshops
- A user needs analysis, which considered the information needs of the different stakeholder groups.

1.4. Report structure

The report is structured as follows:

- This Section 1 provides background to, and describes the scope of, the Review
- Section 2 outlines the Framework itself, including key elements, its history, and operation and administration
- Section 3 presents and describes the assessment framework that was used to structure and guide the Review
- Section 4 provides the bulk of the Review, including key findings, aligned with the elements established by the assessment framework
- Section 5 outlines the Review Team's conclusions and recommended actions
- Section 6 articulates the Review Team's proposed pathway for implementing the recommended actions

Several appendices are provided in support of the above sections:

- Appendix A – **Stakeholder consultation**, presents summary of all consultation undertaken throughout the Review, including interviews, written submissions and workshops.

- Appendix B – **Consultation questions**, provides the list of questions used to guide written submissions and targeted interviews.
- Appendix C – **Current Framework indicators**, presents the current list of NPR indicators.
- Appendix D – **Synthesis of written submissions**, includes a synthesis and summary of responses received in written submissions, following the template submissions were provided in.
- Appendix E – **Synthesis of interview results**, provides a synthesis and summary of key messages or results from targeted interviews undertaken, under each area of the assessment framework.
- Appendix F – **Summary of past reviews**, synthesises relevant reviews or inquiries that have been undertaken in the past related to urban water reform and specifically, urban water utility performance reporting.
- Appendix G – **Summaries of international approaches to performance reporting**, summarises approaches to urban water performance reporting in other international jurisdictions.
- Appendix H – **User needs analysis**, includes an analysis of the needs of users, in order to inform questions around value of the Framework and how its value may be enhanced in the Future.
- Appendix I – **Analysis of Framework funding arrangements**, includes an analysis of the nature of costs involved in the Framework and reporting for different entities or jurisdictions, including key observations and implications for potential options for change.
- Appendix J – **Workshop outcomes summary**, includes stakeholder input on options for change provided during the workshops in accordance with a worksheet that was developed and used to facilitate this input.
- Appendix K – **Guidance and draft content for vision, objective and outcome statements**, includes draft examples of these statements informed by stakeholder consultation and consistent with the Review findings.

2. About the Framework

This section provides an overview of the Framework, including a description of it and its core elements, its policy basis and rationale, aims and objectives, key elements and administrative or operational aspects. This provides context for how the Framework operates or is governed, which is important to understand the issues or matters presented or discussed later in the report.

2.1. What is the Framework?

The Framework is an urban water utility performance data collection, analysis and reporting framework developed in response to the National Water Initiative (NWI).³ The framework is comprised of:

- i. governance arrangements;
- ii. a set of performance indicators and their definitions;⁴
- iii. an annual data collection, validation and reporting process;
- iv. an audit framework;⁵
- v. a web-based data entry application and database; and
- vi. historical data collection handbooks, annual reports and data sets.

The Framework is overseen by a steering committee (the RTG)⁴, which is comprised of representatives from economic regulators and lead water agencies in each state jurisdiction. Annual data collection is currently carried out by the BoM with support from data coordinators in each jurisdiction.⁶ The annual national urban water utility performance report (Urban NPR) is also produced by the BoM, in conjunction with state and territory governments and the Water Services Association of Australia (WSAA).⁷ The BoM undertakes these activities under a service agreement with RTG members.

2.2. Policy basis and rationale

At the 25 February 1994 meeting of the Council of Australian Governments (COAG), the Council considered and endorsed a strategic framework for the efficient and sustainable reform of the

³ Council of Australian Governments (COAG), 2004. *Intergovernmental Agreement on a National Water Initiative*. <http://www.agriculture.gov.au/SiteCollectionDocuments/water/Intergovernmental-Agreement-on-a-national-water-initiative.pdf> – accessed 02/01/2019.

⁴ Bureau of Meteorology (BoM), 2018. *National urban water utility performance reporting framework: Indicators and definitions handbook*. Bureau of Meteorology, Melbourne.

⁵ National Water Commission (NWC), 2012. *2012–13 Urban National Performance Framework – Urban Auditing Requirements*. National Water Commission, Canberra.

⁶ Bureau of Meteorology (BoM), 2017. *National performance report 2017–18: urban water utilities—reporting guidance memo*. Bureau of Meteorology, Melbourne.

⁷ Bureau of Meteorology (BoM), 2018. *National performance report 2016–17: urban water utilities, part A*. Bureau of Meteorology, Melbourne.

Australian water industry.^{8, 9} This agreement to implement reform was one of the key agreements underpinning the National Competition Policy (NCP). The framework, developed by the Council's Working Group on Water Resource Policy, set out a broad range of principles in relation to institutional reform. With respect to nationally consistent performance reporting, the framework adopted two key reforms or actions with respect to independent benchmarking of water utilities.⁸

6(e) the need for water services to be delivered as efficiently as possible and that ARMCANZ, in conjunction with the Steering Committee on National Performance Monitoring of Government Trading Enterprises, further develop its comparisons of inter-agency performance, with service providers seeking to achieve international best practice;

....

7(e) that water agencies should develop individually and jointly public education programs illustrating the cause and effect relationship between infrastructure performance, standards of service and related costs, with a view to promoting levels of service that represent the best value for money to the community;

The Intergovernmental Agreement on the NWI, reached by the Council of Australian Governments (COAG) on 25 June 2004¹⁰, augmented the NCP's water reform program.¹¹ The NWI reaffirmed the importance of performance reporting and benchmarking (specifically clauses 75 and 76):

75. The States and Territories will be required to report independently, publicly, and on an annual basis, benchmarking of pricing and service quality for metropolitan, non-metropolitan and rural water delivery agencies. Such reports will be made on the basis of a nationally consistent framework to be developed by the Parties by 2005, taking account of existing information collection including:

i) the major metropolitan inter-agency performance and benchmarking system managed by the Water Services Association of Australia;

ii) the non-major metropolitan inter-agency performance and benchmarking system managed by the Australian Water Association; and

iii) the irrigation industry performance monitoring and benchmarking system, currently being managed by the Australian National Committee on Irrigation and Drainage.

76. Costs of operating the above performance and benchmarking systems are to be met by jurisdictions through recovery of water management costs.

⁸ National Competition Council (NCC) 1998. Compendium of National Competition Policy Agreements Second Edition. AGPS, Canberra.

⁹ Queensland, South Australia and Tasmania agreed to the broad principles but had concerns on the detail of the recommendations.

¹⁰ The NWI was an Intergovernmental Agreement signed on 25 June 2004 by the Commonwealth of Australia, the States of New South Wales, Victoria, Queensland and South Australia, the Australian Capital Territory and the Northern Territory. Tasmania and Western Australia became signatories to the NWI Agreement on 2 June 2005 and 6 April 2006 respectively.

¹¹ <http://ncp.ncc.gov.au/pages/about>

2.3. Aims and objectives

Clause 75 of the NWI set a clear vision for the Framework but provided no detail on its specific objectives or its anticipated outcomes. The earliest publicly documented statements of objectives and outcomes of the Framework are those contained in the inaugural indicator definition handbook¹² and performance report.¹³ These were:

- to collate, at the national level, information on urban water and the performance of the urban water industry;
- present a consistent and informative overview of the performance of the urban water utilities and the essential services they provide;
- to build community confidence and improve the water literacy of the community, enabling people to participate in informed discussions on water;
- identify baseline performance of urban water utilities to provide a strong incentive for improvement in the performance over time;
- provide a picture of the relative performance of water utilities and jurisdictions;
- inform customers about the level of service they are receiving; and
- encourage greater transparency around pricing and price setting processes.

The most contemporary statements on the Framework's vision and objectives are those made in the 2018 update of the indicator definition handbook:

“National performance reporting provides an annual benchmarking of utilities across a range of parameters that influence the cost and quality of urban water supply and wastewater service across Australia.

The independent and public nature of the report helps consumers and governments determine whether the urban water sector is operating in an efficient and cost-effective manner. Benchmarking informs customers, and provides a catalyst to support industry innovation, improved service delivery and efficiency gains.”²

2.4. History of the Framework

2.4.1. The National Water Initiative

The NWI was an Intergovernmental Agreement signed on 25 June 2004 by the Commonwealth of Australia, the States of New South Wales, Victoria, Queensland and South Australia, the Australian Capital Territory and the Northern Territory.⁴ Tasmania and Western Australia became signatory to the NWI Agreement on 2 June 2005 and 6 April 2006 respectively. Under clauses 75 and 76 of the NWI³, the parties agreed to benchmarking efficient performance (clauses 75 and 76).

¹² National Water Commission, 2006. *National Performance Framework 2006 urban performance reporting indicators and definitions*. National Water Commission, Canberra.

¹³ National Water Commission (NWC), 2007. *National performance report 2005–06: urban water utilities, part A*. National Water Commission, Canberra.

2.4.2. A National Performance Reporting Framework

The RTG, with input from the urban water sector, developed a National Performance Framework (the Framework) to enable nationally consistent reporting based on agreed performance indicators and definitions. The Framework built on the experience gained from WSAA facts¹⁴, State and Territory-based regulator reporting, and Australian Water Association (AWA) reporting¹⁵. The current partners of the Framework include representatives from, and regulators of water service providers within, all State, Territory and Commonwealth governments.

The Framework developed included performance indicators and definitions, and data collection, collation, auditing, and reporting processes and practices for urban water service providers. The 2005–06 Urban National Performance Report¹⁶ was the first publication under the Framework and across its two volumes reported on over 60 urban water utilities across Australia and New Zealand.

In addition to the development of urban performance metrics, the NWC in conjunction with the Australian National Committee on Irrigation and Drainage (ANCID), rural water service provider representatives and specialist consultants, developed a set of performance indicators and definitions that could be applied uniformly across the rural water sector.

The National Performance Report 2006–07 Rural Water Service Providers¹⁷ was the first National Rural Water service to provide benchmarking report in Australia. The report was published up until 2010–11, but the challenges of defining a set of nationally comparable indicators and limited support led to the cessation of rural performance reporting in 2012.

2.5. Key elements of the Framework

2.5.1. Roundtable Group

The RTG is the Framework's steering committee and governing body. The group is comprised of members from State and Territory economic regulators and lead water agencies. At the time of this report, the agencies represented on the RTG were:

- ACT – Environment, Planning, and Sustainable Directorate
- SA – Essential Services Commission of South Australia
- Tas – Department of Primary Industries, Parks, Water and Environment
- Tas – Office of the Tasmanian Economic Regulator
- Vic – Department of Environment, Land, Water and Planning
- Vic – Essential Services Commission of Victoria
- Qld – Department of Natural Resources, Mines and Energy

¹⁴ Water Services Association of Australia (WSAA) 1996–2005, *WSAAfacts 1996–2005*. WSSA, Melbourne.

¹⁵ National Water Commission, 2007. *National Framework for Reporting on Performance of Urban Water Utilities Deed*. NWC, Canberra.

¹⁶ National Water Commission (NWC), 2007. *National performance report 2005–06: urban water utilities, part A*. National Water Commission, Canberra.

¹⁷ National Water Commission, 2008. *National Performance Report 2006–07 Rural Water Service Providers*. National Water Commission, Canberra.

- NSW – Department of Industry – Water
- NSW – Independent Pricing and Regulatory Tribunal
- WA – Department of Water and Environmental Regulation
- WA – Economic Regulation Authority Western Australia
- NT – Department of Treasury and Finance
- Cwllth – Bureau of Meteorology¹⁸

In addition to its voting members, the RTG has a number of observer members who periodically attend RTG meetings. Observer members are the WSAA, DA, the Productivity Commission (PC) and the Australian Bureau of Statistics (ABS).

The role of the RTG in the Framework’s governance and operation is discussed in Section 2.7.1.

2.5.2. Performance indicators

Developed by the RTG in conjunction with WSAA and water utilities, the Framework’s indicators drew on the experiences and indicators from WSAA facts, State and Territory based regulatory reporting and AWA reporting.^{4, 13, 19} The indicator set has evolved and been refined over the life of the Framework. Indicator definitions have been clarified and adapted and redundant indicators deprecated.

The *National urban water utility performance reporting framework: Indicators and definitions handbook – Release notes*²⁰ details a full history of changes to the Framework’s indicators between 2013–14 and 2017–18. Changes prior to this period have not been explicitly documented but can be garnered through comparison of annual reporting handbooks published for each year between 2005–06 and 2013–14.

For the 2017–18 reporting year, the indicator set was comprised of 156 performance measures, 56 of which were derived from the 100 “reportable” indicators defined by the Framework. Derived indicators are indicators that are calculated solely from other component indicators. Service providers are not required to enter values for derived indicators, as these are calculated automatically by the database application used to support data collection⁴ (Section 2.7.4).

The current set of Framework performance indicators are defined in the recently updated *National urban water utility performance reporting framework: Indicators and definitions handbook*.⁴ The handbook is regularly reviewed to ensure consistent interpretation and application of definitions and calculations²¹. Indicators are thematically grouped into seven major categories, which include:

- Water resources

¹⁸ The Bureau of Meteorology became a full member of the RoundTable Group in 2017. Its move from an observer and administration role recognised its shared stake in the NPR Framework through the alignment of the Water Regulations 2008 Category 7 information requirements with the Framework’s W indicators and its investment in NPR database application.

¹⁹ National Water Commission, 2007. National Framework for Reporting on Performance of Urban Water Utilities Deed. NWC, Canberra.

²⁰ Bureau of Meteorology (BoM), 2018. National urban water utility performance reporting framework: Indicators and definitions handbook – Release notes. Bureau of Meteorology, Melbourne.

²¹ Ibid.

- sub themes: sewage collected, source of water, transfers, uses of recycled water and stormwater, uses of water supplied (8 reportable indicators and 11 derived indicators)
- Utility assets
 - sub themes: other water assets, sewerage assets, sewerage breaks and chokes, water losses, water main breaks, water treatment plants (10 reportable indicators and 3 derived indicators)
- Customers
 - sub themes: connected properties and population, water service complaints, sewerage service complaints, billing and account complaints, total water and sewerage complaints, connect time to a telephone operator, average duration of unplanned water supply interruptions, average sewerage interruption, water interruption frequency, restrictions or legal action for non-payment of water bill, water quality complaints (15 reportable indicators and 10 derived indicators)
- Environment
 - sub themes: comparative sewage treatment levels, net greenhouse gas emissions, sewer overflows, biosolids reuse (8 reportable indicators and 11 derived indicators)
- Pricing
 - sub themes: residential tariff structure (15 reportable indicators and 2 derived indicators)
- Finance
 - sub themes: revenue, written down replacement costs of fixed assets, costs, capital expenditure, economic real rate of return – water and sewerage, dividends, net debt to equity, interest cover, net profit after tax, community service obligations (CSOs), capital works grants – water and sewerage, revenue from community service obligations (CSOs), net profit after tax (22 reportable indicators and 18 derived indicators)
- Public health
 - sub themes: water quality compliance (5 reportable indicators and 0 derived indicators)

A full list of indicators is provided in Appendix C – Current Framework indicators.

2.5.3. Annual performance reports

Annual national urban water utility performance reports have been published under the Framework from its inception in 2005. At the time of this report there were 13 published annual performance reports (2005–06 to 2017–18). The reporting year is the financial year (from 1 July to 30 June).

Like the Framework and its indicators, these reports have evolved over time. Early reports were heavily focused on presenting tabulated data from reporting utilities and provided little analysis. Later reports, however, began to include more sophisticated analysis of the performance data and discussed interannual variations, anomalies and longer-term trends in key indicators.

From 2006–07 onward the report was published in two parts. Part A is a written analysis of key indicators and trends and Part B, a tabulated spreadsheet containing data for all indicators required in the reporting year for all utilities reporting in that year (i.e. the Part B datasets do not include data for deprecated indicators and/or utilities that did not or no longer report).

In 2008–09 the report introduced a key themes chapter, exploring emerging issues identified from the analysis of the performance data. In 2009–10 a comparison of capital cities was introduced as an

appendix to the main report. In 2010–11 jurisdictional summaries were introduced, outlining the key policy and legislative frameworks governing the urban water sector in each jurisdiction.

2.5.4. The Framework's audit framework

The Framework includes an auditing framework, which imposes process-based audit requirements aimed at providing “confidence in the accuracy and reliability of reported data while encouraging improvements in reporting systems”.²² Auditing is intended to provide greater transparency and consistency in the process of collecting and reporting data across all urban water utilities, in order to report performance results that are relevant, useful and enable meaningful comparisons between water utilities. Auditing is not the only method used for Quality Assurance, which is typically also undertaken in some form by data providers and/or State jurisdictions.

The 2009 Audit Requirements noted that [t]hese ‘Audit Requirements’ (the Requirements) promote consistency of Framework performance audits through:

- Outlining the requirements of the Deed
- Providing a reliability and accuracy grading system to assess audit compliance (in the absence of a state based regulatory audit compliance rating system).
- Provision of a template for consistency in submitting the audit report and findings.
- Identifying the indicators which require a performance audit (and the grading, which must be achieved in order to meet the auditing requirements).
- Provision of case studies to provide further clarity for particular issues.

Through the development of the Framework's foundation agreement, the *National Framework for Reporting on Performance of Urban Water Utilities Deed*¹⁹, it was agreed that auditing would be carried out on selected indicators of the FRAMEWORK indicator set on a 3-yearly cycle (beginning with the 2006-07 financial year). The Framework's audit requirements were first published in 2009 and were designed to guide water utilities, jurisdictional coordinators (i.e. state government or regulators) and external auditors in the conduct of Framework performance audits.²³ The *2012-13 urban national performance framework: urban auditing requirements*, provides guidance on the audit framework and requirements, including on process and provision of templates for auditors.

The National Performance Framework 2016–17 auditing requirements stated that: audits are to be conducted at a minimum of three-year intervals; indicators that have failed an audit will not be published (they need to be re-audited before they are published); audits must be carried out by suitably qualified and independent auditors; the level of assurance to be provided is generally ‘reasonable’ assurance (although there are some instances in which ‘limited’ assurance is appropriate); audits must be conducted under Australian Standard ASAE 3000: Assurance Engagements Other than Audits or Reviews of Historical Financial Information; and auditable indicators are those with the indicator codes W7, W8, W11, W11.1–W11.3, W12, W14, W18, W18.5, W19, W26, W27, A2, A3, A5, A6, A8–A11, A14, A15, E1–E3, E8, E12, E12.1, E13, C2, C4, C8, C13, C14–C19, H3, H4, F1–F8, F11–F16, F20–F30, P7, and P8 (See Appendix C – Current Framework indicators).

²² National Water Commission (NWC), 2013. *2012-13 Urban national performance reporting framework: urban auditing requirements*. NWC, ACT, Canberra.

²³ National Water Commission (NWC), 2009. *National Performance Framework 2008 - 09 Urban Water Performance Report Auditing Requirements and Audit Report Template*, Version 1 - April 2009. NWC, ACT, Canberra.

2.5.5. The Framework dataset

The Framework dataset is a tabulated excel spreadsheet containing data for the indicators, and is updated and published annually, following the process of data collation and review. While the published annual Urban NPR Part B contains historical data, it does so with two caveats. Firstly, the data contained within it is only for the indicators included in the requirements for that reporting year, and secondly it only contains data for utilities reporting in that year.

Blank data cells, cells with a zero, or cells with a N/A should indicate:⁴

- Zero—A value of zero should only be entered where it is a legitimate value and not when data is unavailable or an indicator is not applicable.
- No data—Reporting no data shows the indicator is applicable to your utility but no data is available at the time of reporting.
- Not applicable—Reporting an indicator as not applicable should only be done in circumstances where it is not relevant to a utility's operations.

However, the above standard for reporting missing and zero values was only introduced in 2018, so prior blank cells can indicate any of the above.

2.6. Legislation, regulations and agreements

While the Intergovernmental Agreement on a NWI establishes each State and Territories commitment to nationally consistent, independent and public performance reporting, there is no specific Commonwealth, State or Territory legislation establishing the Framework. There is, however, Commonwealth and State legislation that supports and/or enables the collection of Framework performance data.

The Framework itself was established and has been operated under a series of contractual agreements between state and territory representatives, regulators and the WSAA. These agreements (discussed below), have decreased progressively in their formality over time. Importantly, these agreements have not been contiguous and the Framework has operated for significant periods in the absence of a formal agreement.

A timeline of Framework agreements and key governance or administrative events is set out in Figure 1 below. The governing bodies, agreements, policies and events in the above figure are discussed in detail in the following sections.

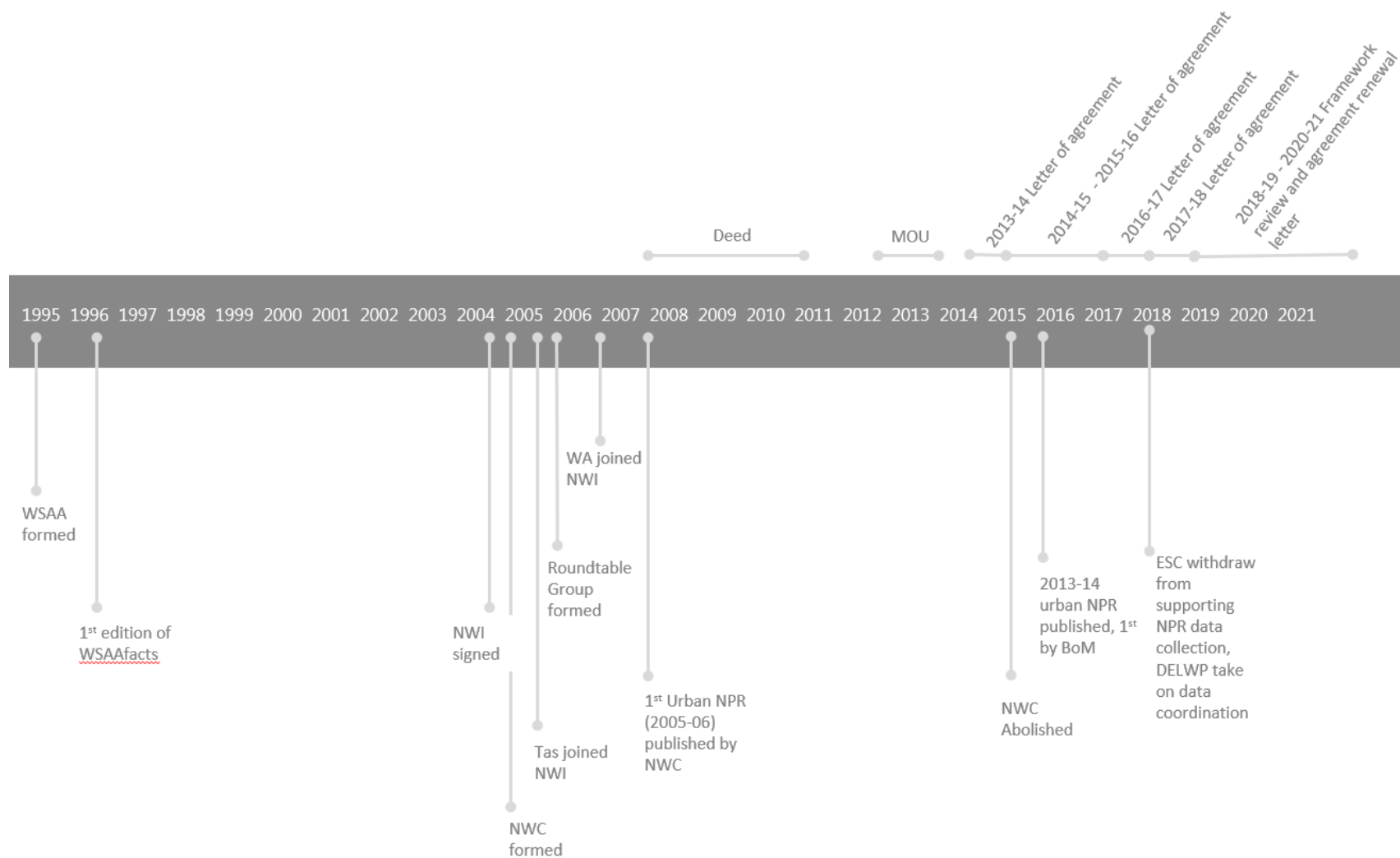


Figure 1 Framework agreements and governance-related events

2.6.1. Framework agreements

National Framework for Reporting on Performance of Urban Water Utilities Deed (2007–2009)

The Framework's foundation agreement was the National Framework for Reporting on Performance of Urban Water Utilities Deed (the Deed). The Deed set out how the Deed Parties would report on the performance of urban water utilities in accordance with the NWI Agreement, under the Framework. Established between the Commonwealth and the States and Territories, the parties to the Deed were:

- The Australian Capital Territory, acting through and represented by its Office of Sustainability;
- The Commonwealth of Australia, acting through and represented by the National Water Commission;
- The Northern Territory of Australia, acting through and represented by the Northern Territory Treasury;
- The State of New South Wales; acting through and represented by its Department of Energy, Utilities and Sustainability;
- The State of Queensland, acting through its Department of Natural Resources and Water;
- The State of South Australia, acting through and represented by its Department of Treasury and Finance;
- The State of Tasmania, acting through and represented by its Department of Treasury and Finance;
- The State of Victoria, acting through and represented by its Department of Sustainability and Environment; and
- The State of Western Australia, acting through and represented by its Department of Water.

In addition to the State and Territory representatives the Water Services Association of Australia, the Economic Regulation Authority of Western Australia and the Essential Services Commission of Victoria were also parties to the Deed.

The Deed was the legal basis for establishing and operating the Framework. Specifically, the Deed set out how parties would manage the:

- operation of the Roundtable Group, including sub-committees;
- data collection and collation;
- preparation of the annual national urban performance report;
- third-party performance data audits;
- cost, cost sharing and payment;
- reporting, including branding; and
- confidentiality.

The Deed operated for an initial 3-year period from 2007–2009 and was not renewed.

Memorandum of Understanding in Relation to National Performance Reports (2011–2013)

For the years 2011–2013 the Framework operated under a memorandum of understanding (MoU) between parties. Based on the Deed, the MoU provided a simplified articulation of the role of the Roundtable Group and operation of the Framework.

Urban National Performance Report letters of agreement (2013–2021)

Following the announcement of the abolition of the NWC, the BoM took over the role of Framework administrator in 2014. While this arrangement was initially for a one-year period the BoM continue to oversee the Framework. Under the BoM's stewardship the Framework has operated under annual agreements with Roundtable Group members.

These agreements have been enacted through countersigned letters exchanged between the BoM and Roundtable Group members. While these agreements have specified the roles, responsibilities and financial contributions of the parties they have not been as prescriptive as the Deed or the MOU.

Under these agreements, the Framework and the Roundtable Group have, by and large, continued to operate by the norms established under the Deed.

2.6.2. Supporting legislation and regulation

There is no specific Commonwealth legislation enabling or supporting the Framework. However, the Commonwealth *Water Act 2007* (the Act) and the Commonwealth *Water Regulations 2008*, made under the Act, are of relevance, primarily because the BoM has other (and in some cases related) water data and information responsibilities under the Act. Part 7 of the Commonwealth *Water Act 2007* empowers the BoM to collect water information which it defines as:

125 Meaning of water information etc.

In this Act:

water information means:

(a) any raw data, or any value added information product, that relates to:

(i) the availability, distribution, quantity, quality, use, trading or cost of water; or

(ii) water access rights, water delivery rights or irrigation rights; or

(b) any metadata relating to data of a kind referred to in paragraph (a);

and includes contextual information relating to water (such as land use information, geological information and ecological information).

While this is the case, data collected under the Framework is not mandated by or enabled by, the Commonwealth *Water Act 2007* or its associated regulations.

Following the findings and recommendations of the Commonwealth's Interagency Working Group on the provision of water information to the Commonwealth,²⁴ the BoM undertook a review of its urban

²⁴ Bureau of Meteorology (BoM), 2017. *Providing Water Information to the Commonwealth – Report of the Interagency Working Group*. Bureau of Meteorology, Melbourne.

water information requirements. The review specifically aimed to identify and remove duplication and streamline data provision. In doing so, the process recognised the role of the BoM in the administration, collection, collation and management of the Framework's indicators and data set.

The BoM specifically undertook to address issues around duplication between its pre-existing responsibilities under the Water Regulations, and its newer role in collecting and collating the Framework data. Central to this was addressing duplication across the Framework's water resources indicators (W indicators) and reporting utilities, and the Commonwealth's *Water Regulations 2008* Category 7 – information about urban water management requirements and reporting utilities (named persons).²⁵ Changes made came into effect for the 2017–18 reporting year.⁴

Jurisdictional legislation and regulations

At the jurisdictional level, States and Territories approach the mandating of the Framework in a variety of ways. Some explicitly note their commitment to the NWI principle and use legislative instruments to mandate its collection, while others rely on goodwill and established reporting practices (Table 1).

²⁵ Utilities named in the Regulations' Persons Categories F and M who provide their W indicators to the urban national performance reporting framework will meet their obligation under the Regulations.³ Utilities named in the Regulations' Persons Categories L who provide their U code data (detailed information about urban water management) will meet their obligation to provide their W indicators to the NPR Framework.

Table 1 State-based legislative, regulatory, or other arrangements supporting Framework data provision by utilities

State	Relevant arrangements
WA	Mandated under the <i>Water Services Act 2012</i> . Section 207 of the Act requires the WA ERA to monitor and report to the Minister for Water on the operation of water licensing schemes. ²⁶ The requirement for service providers to report Framework indicators is as a condition of their water service licence.
Qld	Framework reporting by water utilities in Queensland is mandated under section 141 of the <i>Water Supply (Safety and Reliability) Act 2008</i> . This section of the Queensland Act empowers the regulator to give notice to utilities of the requirement to provide performance data. ²⁷
ACT	In the ACT the Utilities Services Licence, issued under the Utilities Act 2000 (ACT) mandates that the licensee must provide all information reasonably required by WSAA to assist with inter-agency comparisons. ²⁸ The reference to WSAA is an out-dated reference from the precursor to the Framework. ²⁹
Vic	There is no legislative or licence-based requirement for Victorian water corporations to provide data to the Framework. The Framework's indicators are largely replicated under the Victorian ESC's performance framework. The ESC is required to undertake performance reporting by the Water <i>Industry Regulatory Order 2014</i> , made under the <i>Water Industry Act 1994</i> . Historically NPR data was collated and provided to the Framework by the ESC on behalf of water corporations. However, from 2016–17 the ESC ceased undertaking this function.
NSW	IPART regulated utilities—The requirements for water utilities licensed under NSW's public water utilities acts (<i>Hunter Water Act 1991</i> , <i>Sydney Water Act 1994</i> , <i>Water NSW Act 2014</i>) are written in to their operating licences established under these acts. ^{30,31,32} Local Water Utilities—Performance monitoring and associated data provision by utilities is an element of NSW's Local Water Utility best practice management guidelines. The guidelines are prepared under s409 of the <i>Local Government Act 1993</i> , which requires council to comply with the guidelines if they want to pay a dividend. ³³
NT	Section 47(4) of the <i>Government Owned Corporations Act 2001</i> (NT) requires the Power and Water Corporation (PWC) – as a Government owned corporation – to provide to the Territory information in relation to PWC or its subsidiaries, if the information is required by the Territory to enable it to provide the information to a body of the Commonwealth for the purpose of the collection of national data.
Tas	As the regulator, OTTER's function, under the Water and Sewerage Industry Act 2008, is to monitor the performance of the water and sewerage industry and report on the performance of regulated entities. ³⁴
SA	While ESCOSA have the power to mandated the provision of information under s29 of the <i>Essential Services Commission Act 2002</i> , SA Water provide information voluntarily. ³⁵

2.7. Framework operation

The Framework has evolved and matured over its 14 years of operation. In particular, the indicator set has been refined through regular reviews and the formality of the processes and practices around engaging with utilities has been relaxed.

2.7.1. Framework Governance

The RTG (Section 2.5.1) have acted as the Framework governing body from its inception in 2005. The Framework was established through and has continued to operate under the RTG's committee processes.

The Deed (Section 2.6.1) established the roles and responsibilities of RTG members and set out operational practices. While the Deed expired in 2009, the RTG has, by and large, continued to operate by the norms it established.

The RTG has no formal oversight and operates independently of any COAG process. However, there is some overlap between the RTG membership and membership of the Urban Water Reform Committee (UWRC)—a sub-committee of the COAG National Water Reform Committee (NWRC).

The RTG does not currently operate with a formal term of reference; however, its objectives are defined in the annual agreements between RTG members:^{36, 37}

- i. Ensure nationally consistent reporting on the performance of urban water utilities.*
- ii. Oversee the maintenance and revision of the urban national performance reporting framework indicator set which includes the definition of indicators, reporting handbook and audit protocols.*
- iii. Oversee the production of an annual, independent and public Urban NPR, including the processes for the collection of data and its audit.*

A draft Terms of Reference (ToR) was presented to the RTG at its June 2017 meeting. While the draft received broad support, the inclusion of compliance with the Framework's audit framework was a barrier to its adoption.

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- ²⁶ Economic Regulation Authority (ERA), 2018. *2016/17 Water, Sewerage and Irrigation Performance Data Report*. ERA, Perth. https://www.erawa.com.au/cproot/18756/2/2017_water_performance_report.pdf
 - ²⁷ Department of Natural Resources, Mines and Energy (DRME), 2016. *Key performance indicators for annual performance reporting for Queensland urban water service providers, Definitions guide November 2018*. DNRME, Brisbane. https://www.dnrme.qld.gov.au/_data/assets/pdf_file/0008/169163/kpi-definitions-guide.pdf
 - ²⁸ Independent Competition and Regulatory Commission (ICRC), 2014. *Utility Services Licence under the Utilities Act 2000 (ACT) issued to Icon Water Limited ACN 069 381 960 – As varied on 2 December 2014*.
 - ²⁹ Personal Communication, 29/01/2019. Narelle Orr, Icon Water, Canberra, ACT.
 - ³⁰ Independent Pricing and Regulatory Tribunal (IPART), 2017. *Hunter Water: Operating Licence 2017-2022*. IPART, Sydney NSW.
 - ³¹ Independent Pricing and Regulatory Tribunal (IPART), 2015. *Sydney Water: Operating Licence 2015-2020*. IPART, Sydney NSW.
 - ³² Independent Pricing and Regulatory Tribunal (IPART), 2017. *Water NSW: Operating Licence 2017-2022*. IPART, Sydney NSW.
 - ³³ Department of Water and Energy. 2007. *Best Practice Management of Water Supply and Sewerage Guidelines*, DWE, Sydney, NSW.
 - ³⁴ Office of the Tasmanian Economic Regulator (OTTER), 2018. *Tasmanian Water and Sewerage Industry Performance and Information Reporting Guideline*, Version 1.5. OTTER, Hobart. [https://www.economicregulator.tas.gov.au/Documents/Water and Sewerage Performance and Information Reporting Guideline July 2018 18 1364.pdf](https://www.economicregulator.tas.gov.au/Documents/Water%20and%20Sewerage%20Performance%20and%20Information%20Reporting%20Guideline%20July%202018%2018%201364.pdf)
 - ³⁵ Personal Communication, 29/01/2019. Mark Evans, ESCOSA, Adelaide, SA.
 - ³⁶ Agreements with the Bureau have been annual with the two exceptions. The 2015 Agreement covered both the 2014–15 and 2015–16 reporting years, and the 2018 agreement was for the 2017–18 to 2020–21 reporting years.
 - ³⁷ National urban water utility performance reporting framework: Indicators and definitions handbook January 2018, Bureau of Meteorology, Melbourne.

2.7.2. Framework administration

While the RTG has had an oversight and decision-making role with respect to the framework, the NWC (2005–2012) and subsequently the BoM (2013 onwards) have overseen its day-to-day operation and administration.

Presently this role of administrator is defined as part of the annual letters of agreements between RTG members (Section 2.6.1). The agreements have specified the role, responsibilities and services to be provided by the administrator and the financial contributions of the members to support these services.

These services are:

- maintenance of the indicator definition and reporting handbook;
- maintenance of the audit framework and handbook;
- secretarial and logistical support for the RTG;
- management of contracted services;
- development, hosting and maintenance of a Framework database application;
- administration of the reporting process and associated activities;
- data collection, analysis and reporting; and
- Urban NPR publication and release.

During the period that the NWC had carriage of the Framework, some tasks were outsourced to consulting firms to complete, including some data collection, collation, and analysis tasks, database updates or maintenance, and preparation of the reports. Since the transfer to the BoM, these tasks have mainly been fulfilled by the BoM.

Jurisdictional coordinators

Framework agreements have included a commitment from each jurisdiction to support the annual data collection through the in-kind contribution of a data coordinator. Data coordinators have essentially acted as a jurisdictional interface between the administrator and reporting utilities. The role was, in part, created to provide greater localised subject matter expertise on indicators and data and to oversee compliance with the frameworks audit requirements. Given there is increasingly a direct interface between utilities or state jurisdictions and the BoM (through online or automated reporting tools), there may be a need to consider redefining the role of jurisdictional coordinators.

2.7.3. Annual reporting process and timeline

Table 2 below presents a timeline of major activities and milestones in the Framework reporting cycle for each year. As the method of delivery and dates and times of these activities have varied over the life of the Framework, they should be seen as indicative only. The activities detailed below are not an exhaustive set of tasks, but rather represent the major activities and milestones associated with the reporting cycle.

Table 2 Timeline of activities and milestone in the Framework reporting cycle

Activity	Responsibility	Timing	Description
Reporting memo released	BoM, RTG	1 st week April	The reporting memo: <ul style="list-style-type: none"> • advises utilities of any changes to the Framework for the forthcoming reporting year • sets out key dates; and • specifies the performance indicators for the upcoming reporting year
Database opens	BoM	1 st July	The web-based data entry portal opens
Provision of data	Utilities, data coordinators	31 st October	Utilities provide their performance data either through direct entry into the database or submission to their jurisdictional data coordinator.
Variance analysis and reporting	BoM, data coordinators	1 st week November	Data for the current reporting year is compared with historical data and major anomalies and variances provided without explanation are refeed back to Jurisdictional coordinators for clarification by the reporting utility.
Draft tables and figures	BoM	November	A set of draft tables and figures are prepared for review and sign-off from the RTG
Tables and figure signoff	RTG	3 rd week November	
Draft report preparation	BoM	December–January	Draft of Part A and B of the Urban NPR
RTG review of draft report	RTG	2 nd Week January	RTG review the draft Part A and B of the report and provide comment and additional context and commentary on the data
Final report	BoM	January–February	Final Part A and B ready for signoff
Final report signoff	RTG	2 nd Week February	Signoff by the RTG and BoM Delegate
Publication	BoM	February	Report and infographic design, media plan and release, web-site update
Embargoed report released	BoM, RTG	4 th week February	The Urban NPR is released to utilities 3 days prior to its release
Urban NPR release	BoM, RTG	1 st week March	Public release of the Urban NPR and media release

2.7.4. Defining data and information provision requirements

From the implementation of the Framework in 2005 until 2013, the urban indicators and definitions handbook was released annually by the NWC. In addition to the indicator definitions, the handbook was used to document information pertinent to each reporting year as well as broader framework policies around changing historical data, changing data after a reporting deadline, audit requirements, missing data, explanatory notes and correspondence with the RTG. The 2013–14 Handbook ³⁸ supporting the provision of 2013–14 performance data by utilities was the last annually published handbook for the Framework.

Following the transition of the Framework’s oversight and administration to the BoM in 2013, annual reporting requirements were communicated to utilities through an annual reporting memo—issued through jurisdictional coordinators, in preparation for each reporting year. Memos continued to reference the 2013–14 handbook for indicator definitions. However, they replaced the handbook as the means by which utilities were informed of their specific annual reporting requirements, timelines and changes to the Framework⁴. The annual memo continued to reference the 2013–14 handbook until 2018, when an updated indicator definitions handbook was released by the BoM. The updated handbook:

- standardised the presentation of indicators, indicator names and units and introduced a concise definition for each indicator
- standardised the presentation of derived indicators
- synchronised the water resource indicators (W indicators) with the reporting requirements of the Commonwealth’s *Water Regulations 2008*, Category 7 – Information about urban water management
- introduced practice notes to provide cross indicator supporting notes on key topics, and
- with the exception of the changes to the W indicators, the migration of the indicators to the new handbook focused on providing clear definitions and supporting notes to assist utilities in reporting.

2.7.5. Data provision / collection

Like many aspects of the Framework, data provision and collection practices have evolved over its lifetime. Data collection practices vary across each jurisdiction. While the BoM plays a coordinating role, it is the jurisdictional coordinators (Section 2.7.2) who directly interface with utilities on the provision of data.

Data is collected through a web-based database application developed and hosted by the BoM. The system facilitates the direct entry of indicators through web-based browser forms or the bulk uploading of multiple indicators from multiple utilities in template—downloaded through the application. Since 2018, with the exception of two jurisdictions (Queensland and New South Wales), utilities directly enter their own data into the Framework database. Historically, other jurisdictions have centrally collated data, through jurisdictional coordinators, and entered it into the database on behalf of their utilities.

With the exception of Seqwater, Queensland utilities provide their performance data through the Queensland Water Directorate. The Directorate operates the Statewide Water Information

³⁸ National Water Commission, 2013. 2013 - 14 National Performance Framework: Urban performance reporting indicators and definitions handbook. National Water Commission, Canberra.

Management (SWIM) database and coordinates data provision across multiple reporting obligations on behalf of its members—facilitating single data entry arrangements for utilities. While the Directorate does not have a formal role in the Framework it acts as a de facto data coordinator.

In New South Wales, data coordination responsibilities are split between IPART and NSW Department of Industry (DOI). IPART act as the coordinator for the larger, economically regulated entities (Hunter Water, Sydney Water, Central Coast Water, and WaterNSW), while DOI interface with local water utilities.

Utilities coordinated by IPART directly enter their data into the Framework database. Local water utilities have their Framework data entered on their behalf by DOI, who collect the required data as part of their broader performance reporting requirements. A trial underway in NSW to facilitate local water utility performance reporting through a database application built on the same platform as the Framework database application will potentially address the need to enter the data into two systems.

2.7.6. Data collation and storage

Data collation and storage in the early years of the Framework was managed through the use of spreadsheets. In 2008 KAZ (now Fujitsu) won the tender for the development of a national performance report database. The cost of the development of the application was funded by the National Water Commission's Raising National Water Standards program.³⁹ The BoM hosted this database application and while it provided support for this service it did not directly support the database application. The Framework dataset was stored within this database application until it was decommissioned in 2016.

In 2015, work began on a new database application to address the security and maintenance issues that the legacy database application was presenting. The new database application was used for the first time for the 2015–16 reporting year and has been in operation since its release. Development of the new database application was carried out as an in-kind contribution to the Framework by the BoM. This contribution recognised the importance of the Framework and the historical data set and the economy of collecting Framework indicators and *Water Regulations 2008* Category 7— Information about urban water management— data through a single system. Furthermore, it was part of the BoM's response to the findings and recommendations of the Commonwealth's Interagency Working Group on the provision of water information to the Commonwealth.

2.7.7. Quality assurance

Auditing, with respect to the Framework's audit framework (section 2.5.4), takes place at the state and territory level prior to data collection, with jurisdictional coordinators driving the audit process and ensuring compliance. Individual utilities or data providers also assist in data validation or checking.

While auditing is seen as key element of the Framework's quality assurance and quality control (QA/QC) practices, the Framework also has a number of automated and manual processes to support quality assurance.

Automated quality control processes are incorporated into the current database application. These processes are:

³⁹ Pers. Com. Nancy Gonzalez, National Water Commission, 2014.

- automated error checking at the time of data entry (e.g. testing that text is not entered in place of a numerical value;
- requiring explanatory notes when values exceed specified tolerances;
- requiring explanatory notes when values are changed or updated⁴⁰; and
- standardising the way that missing, not applicable and zero values are represented in the data set (2017 and onward only).

In addition to the automated processes the Framework’s administrator undertakes manual checks of the data entered to identify errors and outliers. Issues identified through this process are currently raised with utilities through the jurisdictional coordinators.

2.7.8. Analysis and reporting

Analysis and reporting are presently carried out by the BoM under its annual agreement letter with the RoundTable Group to produce the Urban NPR. Historically, this role was carried out by the NWC as well as a third-party consultant (Deloitte) in the latter years of the NWC period. The form and content of the Urban NPR has evolved over the life of the Framework; however, it has been relatively static for the last 5 years.

The Urban NPR is published in two parts. Part A of the report provides commentary and analysis for key indicators. Part B of the report contains data for the full set of indicators reported on by utilities and bulk water authorities for all reporting years. The BoM utilises a set of custom spreadsheets and analysis tools to support the analysis of the Framework data. The tools produce the league and summary tables and box-plot used as the basis for the trend analysis presented in the report and the generation of the Part B data set published in conjunction with the Part A written analysis.

For the purposes of comparison, utilities are grouped according to their number of connections (connected properties). The analysis and commentary presented in Part A of the Urban NPR provides a context for each indicator, discusses changes in reporting methodologies, and highlights trends within and/or between different utility groups.⁷

The utility groups used are:

- Major—100,000+ connected properties
- Large—50,000–100,000 connected properties
- Medium—20,000–50,000 connected properties
- Small—10,000–20,000 connected properties.

Bulk water authorities are grouped separately and are not included in the analysis unless explicitly identified.

2.7.9. Release and promotion

In addition to producing the Urban NPR under the Framework, the BoM publicly release it on its website.⁴¹ The BoM prepares and distributes a media release in conjunction with the release of the

⁴⁰ These “change logs” are only available for data collect through the current database application—i.e. 2015 onwards.

⁴¹ <http://www.bom.gov.au/water/npr>

report and coordinates and/or responds to media inquiries about the Framework. As the BoM is an operational agency and not involved in policy, media inquiries relating to specific indicator results are referred to jurisdictional coordinators and/or the individual utilities. To support the release and promote the report, the BoM produces a set of info-graphics on key performance metrics. These info-graphics are used in social media posts and promotional collateral.

2.8. Resourcing and cost-sharing details

Operation of the Framework is made possible through a mix of cash and in-kind contributions. Cash payments are made by the agreed funding partner in each State and Territory to the BoM. The current quantum of cash support is based on the historical cost of the consulting and contract services used by the National Water Commission to deliver the annual Framework outputs at the time of the transition to the BoM. Funding requirements are shared between States and Territories based on their proportion of the total number of connected properties serviced by reporting utilities.

BoM manages and utilises these funds in conjunction with additional in-kind staff and Information and Communication Technology (ICT) resources to support the Framework's operational activities. State and Territory funding member cash contributions do not include their in-kind support. Both funding and non-funding members of the Roundtable Group provide in-kind support for the Framework. In-kind contributions from State and Territory Roundtable Group members have, to date, not been tracked or quantified.

Costs associated with reporting data and undertaking auditing borne by utilities, are a further in-kind contribution adding to the total cost of the Framework (but these are not tracked). Further details on the resourcing and cost-sharing arrangements are provided at Appendix I – Analysis of Framework funding arrangements.

3. Assessment approach

This section presents and explains an assessment framework that was used to structure and guide the Review, and ensure that it was able to cover the requirements set out by the BoM in its terms of reference. It also explains how different inputs to the Review, including consultation, were mapped against the framework.

3.1. Assessment framework

An initial assessment framework was developed through discussion with the BoM and RSC in the early phases of the Review as a model for guiding assessment of the Framework. The initial framework was slightly amended following insights from consultation, such as the need to elaborate on what each element meant, in part to clarify where different matters sit in relation to the Framework. The framework was also important for mapping of consultation inputs against the framework elements. The updated framework is provided in Figure 2 below, with further explanation of each element following.



Figure 2 Updated assessment framework

- **Vision, objectives, and outcomes** includes matters related to why the Framework exists and what it is trying to achieve, including what problem or drivers it responds to, the objectives it is trying to achieve, and the overall outcome that achieving the objectives should lead to.

- **Partners, stakeholders and users** includes those who own or manage the Framework, are otherwise directly or indirectly involved in the Framework, as well as the specific audience or users for whom the Framework is intended and their needs. Partners are defined as current signatories to the Framework, users are those who use the Framework's outputs and stakeholders include a wider audience of partners, users and/or potential users.
- **Services** includes the main outputs or services the Framework provides, including the actual performance reports and the dataset, as well as how, to what extent and why they are used.
- **Framework design and functions** includes the indicator set and its definitions, and the requirements or obligations imposed by the Framework, including reporting thresholds and requirements.
- **Governance** includes the formal and informal instruments and arrangements used to govern and operate the Framework, including coordination, decision-making, and accountabilities.
- **Operational tasks and infrastructure** include the actions, activities, systems, processes, and infrastructure to operate the Framework and deliver the services.
- **Resource requirements** includes the cash and in-kind contributions from all stakeholders to operate the Framework and deliver the services.
- **Cost sharing** is how the financial requirement is met by and shared among partners or stakeholders.

3.2. Mapping Review requirements and consultation input against the framework

Review requirements

The following table maps where, within the Review framework, the different requirements of the project brief will be addressed.

Table 3 Mapping Review requirements against framework elements

Framework element	Mapping of Review requirements
Vision, objectives, and outcomes	<ul style="list-style-type: none"> • The value of the Framework and how that value is realised
Partners, stakeholders and users	<ul style="list-style-type: none"> • The users and stakeholders for whom the Framework should operate • Information needs of the urban water sector • The value of the Framework and how that value is realised
Services	<ul style="list-style-type: none"> • The form and format of the reporting and analysis to be carried out under the framework • Performance reporting, benchmarking data • Information needs of the urban water sector • The value of the Framework and how that value is realised
Framework design and functions	<ul style="list-style-type: none"> • Coverage of the Framework and the threshold for reporting • The form and format of the reporting and analysis to be carried out under the framework • Performance reporting, benchmarking data • Information needs of the urban water sector • The audit and QA practices required to ensure the integrity of the data set, including consideration of the Framework's audit framework, State and Territory audit practices
Governance	<ul style="list-style-type: none"> • Governance of the Framework
Operational tasks and infrastructure	<ul style="list-style-type: none"> • Data management and system processes and associated IT infrastructure • The audit and QA practices required to ensure the integrity of the data set, including consideration of the Framework's audit framework, State and Territory audit practices • Opportunities for aligning state/territory and commonwealth reporting frameworks supporting single point of data entry in each jurisdiction
Resource requirements	<ul style="list-style-type: none"> • The cost vs value of auditing • The cost of the Framework, including practices, mechanisms, and technologies available to reduce costs associated with audits
Cost sharing	<ul style="list-style-type: none"> • The funding model for future National Performance Reporting
Priority actions and principles	<ul style="list-style-type: none"> • A refreshed, fit-for-purpose National Performance Reporting Framework that meets the needs of all stakeholders now and into the foreseeable future and has ongoing support of all jurisdictions and the urban water sector

Note: Some Review requirements are addressed by more than one element, particularly questions around value.

Consultation input

Table 4 indicates the approximate mapping of the consultation inputs against the framework, including from the interviews and submissions. This is achieved by mapping each of the questions that was presented in the briefing paper and used in the template for written submissions. The questions are provided in full at Appendix B – Consultation questions.

Table 4 Mapping consultation inputs against framework elements

Framework element	Interview / submission questions
Vision, objectives, and outcomes	Questions 1, 2, 3, 12.
Partners, stakeholders and users	Questions 4, 5, 6, 7, 10, 11.
Services	Questions 8, 9, 11, 12, 15.
Framework design and functions	Questions 2, 4, 5, 6, 12, 13, 14.
Governance	Inferred
Operational tasks and infrastructure	Questions 13, 15.
Resource requirements	Question 15.
Cost sharing	Question 15.
Priority actions and principles	Question 16.

Note: See Appendix B for complete questions. Some questions address or respond to more than one Review framework element.

4. Assessment of the Framework

The section is structured according to the Review framework elements, with the main matters or issues identified by the Review described and discussed under each element. Overall findings, and potential solutions are also presented for each framework element.

4.1. Vision, objectives and outcomes

Vision, objectives, and outcomes include matters related to why the Framework exists and what it is trying to achieve, including what problem or drivers it responds to, the objectives it is trying to achieve, and the overall outcome that achieving the objectives should lead to.

4.1.1. Existence, clarity and relevance of statements around vision and purpose, objectives, or outcomes

As stated in Sections 2.2 and 2.3, the most authoritative statements that approximate a 'vision', or aims and objectives, of the Framework are clauses 75 and 76 of the NWI. However, these are very brief statements, are not explicitly a vision or objectives, and do not provide much guidance and direction to the urban water sector. This has been reinforced by findings from previous reviews of urban water sector policy, including the National Water Commission's (NWC) 2011 review (Appendix F 12.3.1). Further elaboration on the Framework's aims and objectives has to be sourced from previous performance reports and other sources to better understand its current aims and objectives. Even if this is done, it could be contested since there is no single authoritative source (noting that different agents or agencies have produced Urban NPRs over time).

Further, where objectives are defined or stated, they are not up-to-date and may not reflect the current views or needs of stakeholders, or meet or support aspirations for a high value and enduring Framework into the future (Appendix E 11.1). For example, the NWI was created nearly fifteen years ago, and it is likely that the needs of users have evolved in that time, and will continue to evolve in the future. Governance documents or agreements are lacking any specific statements of objectives, and there is no clear Terms of Reference for the RTG that provides any statement of vision or objectives (as described in Section 4.5.2). As a consequence of this, there is no clear and robust 'reference point' to guide decision-making.

Many stakeholders have called for clearer objectives for the Framework (Appendix D 10.1; Appendix E 11.1; Appendix F 12.4.1) and asserted that clear, user-focused national objectives should underpin reform efforts (Appendix F 12.2.1). This would ensure that there is common understanding and agreement of what the Framework is seeking to achieve, and guide any efforts to improve it.

Finding 1: The vision and objectives of the Framework, and outcomes it is seeking to achieve, are not sufficiently clear and defined, or articulated or documented. Where relevant statements are provided, they are out of date and may not reflect user needs.

4.1.2. Understanding of, or agreement on, the Framework's purpose

Many stakeholders have indicated that they understand the Framework aligns with, or is a legacy of, the NWI, and believe that part of its purpose is to continue the NWI commitment *to report independently, publicly, and on an annual basis, on benchmarking of pricing and service quality for urban and rural water utilities* (NWI clause 75) (Appendix D 10.1.1; Appendix E 11.1; Appendix J 16.1).

Through consultation, the most widely shared understanding of the purpose or objectives was that they should focus on facilitating transparency of industry performance and holding utilities accountable for their performance through independent reporting (Appendix D Figure D2; Appendix J 16.1). Consistent with this, independence, transparency and accountability have also been identified as core concerns for the sector as a whole since 2017 (Appendix F 12.2.1). However, many stakeholders provided other or additional responses regarding their understanding of the core purpose of the Framework, including (Appendix D Figure D2; Appendix J 16.1):

- Allowing assessment on 'like for like' basis
- Driving continuous improvement in performance
- Measuring contribution to outcomes-based goals
- Supporting policy development and decision-making
- Providing simple, reliable data.

As such, there is a diversity of views (and understanding) around the purpose and objectives of the Framework. While many respondents were able to articulate what they use the Framework for (and/or how they think others use it) and shared an assumption that the purpose of the Framework is aligned with NWI commitments, most also acknowledged the lack of clarity about what the Framework intends to achieve (Appendix D 10.1; Appendix E 11.1). In interviews, some admitted that they had no idea what the Framework is for and could not articulate the drivers for the Framework existing, yet others recognised the policy rationale for having the Framework as a national 'point of truth' (Appendix E 11.1). There was also a lack of awareness among stakeholders around the precise audience of the framework and who it is really intended for (Appendix D 10.3; explored further in Section 4.2.1). This may have contributed to a lack of understanding of the Framework's purpose, and thus, a lack of clarity around the outcomes that the Framework should seek to deliver against.

When asked to articulate outcomes the Framework should seek to deliver, many stakeholders confused outcomes with outputs, frequently stating that a reliable, meaningful dataset is the desired outcome (Appendix J 16.1). While this indicated consensus around the output that provides the most value to users (explored further in Section 4.3), when asked what outcome this output should influence or produce, many respondents re-stated their understanding of the purpose of the Framework overall—which included the range of diverse views stated above. Thus, there was also a lack of consensus around the outcome that the Framework should deliver.

Finding 2: There is general awareness among stakeholders that the Framework is aligned with or designed to meet NWI commitments, but there is a range of views among stakeholders on, and hence not a consistent understanding of, its specific purposes beyond this. There is also not consensus among stakeholders on the outcomes the Framework should be seeking to support or deliver against.

4.1.3. Relevance to, or ability to meet, current and future needs

The lack of sufficiently clear and understood vision and objectives appears to be impacting other aspects of the Framework, particularly in relation to framework design, function and services, and hindering its ability to evolve and keep pace with changing needs of the sector. For example, challenges have emerged regarding indicator growth and selection, design and definitions. If there isn't clarity about what the Framework should be seeking to achieve (including its purpose or specific outcomes), it is difficult to know how the Framework should be designed and implemented at a macro or detailed level. A key issue raised in consultation included whether or not the Framework should be providing detailed, 'true' benchmarking capabilities at a national level (and hence indicator selection and definitions that support this). Because this isn't an explicitly stated aim of the Framework, it is difficult for those implementing and operating the Framework to make decisions about indicators in this regard (Appendix D 10.2.1, 10.2.2).

Current and future needs are in part reflected in changing drivers or expectations in the urban water sector. The Review explored questions around the evolving drivers affecting the urban water sector and how these are, or are not, being responded to by the current Framework. Consultation responses highlighted that key drivers include changes in customer expectations and experience (including affordability), technological changes, climate change and growing populations, and liveability and urban planning (Appendix D Figure D3). This is consistent with the emerging pressures challenging the Australian urban water sector identified by Infrastructure Australia in 2017 (Appendix F 12.2.1).

Responses indicated that the current Framework does not, or does not adequately, address or respond to these evolving drivers (Appendix D 10.2.1, 10.2.2). For instance, respondents commented on the fact that we are in a different technological age from when the Framework was created and that this has had implications for the usability of the report (Appendix D 10.2.2). Users now demand timely, interactive methods of engaging with data, and the current Framework does not deliver this. Some respondents also stated that the Framework is not capturing data and information on emerging trends that are of interest to users, and suggested that the Framework needs to evolve by having more relevant and up-to-date indicators, and contextual information that reflect and acknowledge drivers and their impacts (Appendix D 10.2.1). There is agreement among stakeholders that the Framework's inability to evolve to account for these changing drivers and their impacts on the sector is diminishing (and will continue to limit) the value that it delivers to users (Appendix J 16.3).

Finding 3: There is evidence to suggest that the Framework is not adequately evolving to reflect changing drivers in the water sector, and this is likely to be causing the Framework to lose relevance and thus, value, for users.

4.1.4. Summary

The vision and purpose, objectives, and outcomes of the Framework do not appear to be sufficiently defined or clearly articulated in documentation. Where these statements are provided, they are dated and are unlikely to properly reflect current views or future needs. To some extent, this is likely to contribute to the lack of a common understanding of the Framework's purpose among and between partners and users, and in turn, this is likely to be impacting on successful implementation and operation of the Framework. While gaps in understanding or awareness among stakeholders could also be a factor, the end result is the same – that is, a lack of common understanding and confusion that will contribute to sub-optimal outcomes and decreasing utility to stakeholders.

4.2. Partners, stakeholders and users

Partners, stakeholders and users include those who own or manage the Framework, are otherwise directly or indirectly involved in the Framework, as well as the specific audience or users for whom the Framework is intended and their needs.

4.2.1. Who the Framework is for, and needs it is meeting

The Review Team identified (Appendix H – User needs analysis) or consulted with (Appendix A – Stakeholder consultation) many actual or potential user groups of urban water performance information. Stakeholders were not clear on who exactly the Framework is for and what specific needs it currently aims to meet (Appendix 10.3). However, consultation and analysis suggested that there is likely a ‘core’ cohort of users, based on the level of interest in the Framework and alignment of their needs. The Review Team has identified this core cohort of users as urban water service providers, State, Territory and Commonwealth governments (including respective government agencies, advisory bodies and the like), and economic regulators. While bulk water suppliers with more than 10,000 total connected properties are expected to participate in reporting, the Review discovered that bulk water authorities do not gain much value out of the Framework and hence cannot really be characterised as a core user (Appendix E 11.4; Appendix J 16.2).

Timely access to, and ability to interrogate, performance data was consistently recognised as a common user need among the core cohort. However, the Review found that some user groups within the core cohort have geographically-specific needs (local, state, individual utility), and some of them have technically specific or very detailed needs (such as the case of specific regulators needing very specific data on individual utilities) (Appendix H – User needs analysis). On the other hand, some may have much broader or higher-level interests and gain value from this, or a more general view of ‘comparable’ data.

- Many water service providers stated that they currently use the Framework to flag areas of concern or possible improvement opportunities, and some use it for business planning purposes, strategic direction and investment decisions, but in general, most do not use it for decision-making (Appendix D 10.3.1; Appendix E 11.2). Many utilities expressed that the Framework’s value is currently limited as it does not allow them to accurately compare performance, and outputs are not tailored to their needs (Appendix D 10.3.1). Since this need is not currently being sufficiently met for many service providers, some have undertaken their own benchmarking activities, sourced their own data, or gathered data directly from WSAA or other utilities rather than rely on Framework data (Appendix D 10.3.1; Appendix E 11.2). Ideally in the future, the Framework (dataset specifically) would allow service providers to easily and accurately compare their performance relative to similar providers, to learn from others, and to make informed decisions as appropriate about improving performance or optimising investments based on the Framework dataset (Appendix D 10.3.1; Appendix J 16.2).
- A few government departments and economic regulators indicated that the Framework provides value by improving their approach to sectoral performance and economic regulation generally (Appendix D 10.3.1; Appendix J 16.2). Yet other regulators stated that they do not gain value from the Framework and do not rely on it because they collect the information they need from utilities under license reporting manuals and information requests (Appendix D 10.3.1). However, most government bodies and regulators indicated that they would ideally gain more value from the Framework in the future by using it to inform judgements about performance, investment, compliance and the adequacy of policy and regulatory settings.

While the Review has identified likely ‘core users’ of the Framework and their potential needs, there is a lack of awareness and clarity of who is in this group among users and stakeholders, and uncertainty around which needs the Framework can realistically meet.

Finding 4: There is a need to more clearly articulate the core stakeholders the Framework is for, and identify and define a realistic and high value subset of their overall needs that it should seek to address.

4.2.2. The Framework’s value to users

The Framework is valued by, or delivering value to, the majority of stakeholders. Although the extent of value and way in which it is delivered differs significantly between and among users, nearly all respondents expressed a desire for the Framework to continue (Appendix D 10.3). 88% of written submission respondents stated that the Framework provides value for them (Appendix D Figure D4). Very few respondents consulted voiced that the Framework has no value (or were unsure if it provides value) (Appendix D 10.3). It was conveyed that if the Framework no longer existed, the States or industry associations would have to create something to replace it, but likely don’t have the resources to do so (Appendix J 16.1). However, it was also evident that the value being delivered has been diminishing over time as it has failed to evolve with changes in the sector, and that there is much potential for the Framework to deliver much greater value if improvements are made, including to its design and to its services (for example, improving indicators, data quality and timeliness, and relevance of reporting) (Appendix D 10.2.1, 10.3.4; Appendix E 11.4).

Finding 5: It is clear that the majority of stakeholders value the Framework, and wish to see it continue. However, the value proposition to stakeholders has significantly diminished, and all agree on the need for substantive improvements to ensure it provides value now and into the future.

4.2.3. Improving the Framework’s value proposition

Through consultation, the Review Team identified a wide range of potential sectors or groups that could benefit from the Framework beyond the core users, including but not limited to (Appendix D 10.3.3):

- Customers / the public
- Not-for-profits and advocacy groups
- Universities, academics
- Urban planners and developers
- Media
- Indigenous groups
- Health and other regulators
- International water sector

In seeking to move towards an increased value proposition, the Review Team considered whether the scope, depth or breadth of the Framework should increase, in an attempt to meet the diverse needs and interests of this broad group of users, or whether it should contract in some way (or maintain its

current scope) and focus on better meeting an existing or smaller subset of user needs (core user needs).

While there was broad agreement that all of the broader stakeholder groups (beyond core users) could potentially benefit from the Framework in some way, this was not indicative that the Framework should target all of these users. The breadth across these groups suggests a potentially wide and large user base—the needs of which are potentially very diverse and may not be realistic to fulfil. Additionally, there was not a clear use case presented from these groups that explicitly justified their direct engagement as partners of the Framework, or that justified the development of specific tailored outputs to support their needs. However, urban communities were found to be potentially significant enough to include as a subsidiary, or secondary, user of the Framework (the most mentioned group that could benefit more from the Framework in the future) (Appendix D Figure D7; Appendix J 16.2).

The Review Team further analysed the ways in which the Framework's value proposition could be expanded by considering where there is commonality and alignment between user needs, what is most relevant nationally, and where there may be gaps in current information provision that are likely to persist. Given the alignment across core user needs, and the fact that these users' needs are not currently being met (Section 4.2.1), it is likely that the Framework's value proposition would improve most significantly by focusing on these users' needs in particular before attempting to address the needs of broader stakeholder groups.

Finding 6: In order to increase its value proposition, the Framework should focus on meeting the needs of its core users (which are not currently being adequately met), rather than expanding its user base. Expansion risks further diminishing the value to core users, and is unlikely to increase value for the broader user base, as there does not appear to be a clear and identified need to address.

4.2.4. Summary

It is not sufficiently clear exactly who the Framework is for, and what exact needs of those users it can be expected to, and should seek to meet. However, the Review Team suggest the core users of the Framework are urban water service providers, State, Territory and Commonwealth governments, and economic regulators. These users do value the Framework, and wish to see it continue, but their needs are not adequately being met at this time. Delivering increased value should come from focusing on better meeting the needs of these users, rather than seeking to broaden the user base.

4.3. Services

Services includes the main outputs or services the Framework provides, including the actual performance reports (Part A) and the dataset (Part B), as well as how, to what extent and why they are used.

4.3.1. User satisfaction with, or value obtained from, Part A

Part A is the written Urban NPR, as described in Section 2.5.3. Written commentary (i.e. reporting) was not universally identified as a need by all parties responding to the Review. However, the importance of factual commentary explaining results in the context of key drivers has been raised by those expressing concerns about incorrect or inappropriate interpretations of performance data

(Appendix D 10.1.2, 10.2.1, 10.3.1, 10.4.2). While factual commentary to explain the results is desired by many users (Section 4.2.1), Part A is not currently delivering sufficient value in this regard. In fact, only a minority of those consulted indicated that they gain value from Part A (Appendix D 10.3.1). It appears that Part A delivers the most value for users that do not have appropriate resources to interrogate data on their own (Appendix D 10.3.1). Although, of those that acknowledged the value of the report, many stated that this value is static and limited—as it is too long, trying to do too much, lacking a specific audience, is inflexible and released far too long after data collection (Appendix D 10.4.3; Appendix E 11.3).

The latest (2017-18) Part A report was 130 pages in length, which respondents stated made it difficult to ‘cut through’ to what is important (Appendix E 11.3). However, the core of the report was only 65 pages in length, while Appendices made up the remainder of the report⁴² -- yet this may still be too long for most audiences. Additionally, the PDF delivery format was seen as outdated and inflexible, with many suggesting that a large PDF report is not used or valued at all (or very little) (Appendix D 10.4.3; Appendix E 11.3).

Currently, the BoM is responsible for development and delivery of the report (Section 2.5.3), and some respondents suggested that the BoM may not be the appropriate entity for producing this kind of output (given its focus on somewhat different content areas than the BoM specialises in, and that it is qualitative ‘story telling’ exercise in some regards, rather than a data and scientific exercise), which could be contributing to its lack of value (Appendix J 16.2). Lastly, there was consensus that when the report is published it is too late to be of much use to stakeholders, and it delays the delivery of the dataset, which is then also considered to be ‘out of date’ (as explored further in Section 4.3.2).

It was stated that shorter, quicker, and more relevant reporting could be of greater value to users. Some respondents provided some detailed ideas around how the report could be transformed into something much shorter (i.e. effectively an executive summary length), which was faster to produce and which could act as a useful briefing to a variety of stakeholders (Appendix E 11.3, Appendix J 16.2) (alternative formats explored further in Section 4.3.3).

Finding 7: The Part A report is presently not providing value to stakeholders as a result of its current format, content, length, and timing of release.

4.3.2. User satisfaction with, or value obtained from, Part B

Part B consists of the Framework dataset, as described in Section 2.5.5. Users obtain the most value from the dataset out of any other Framework output and refer to the dataset most frequently. Yet there are three key factors that are currently limiting the value obtained from this output — timing, accessibility and interrogation capabilities (Section 4.1.2; Appendix D 10.1.2, 10.3.1, 10.4.3; Appendix E 11.3; Appendix J 16.2).

The most significant factor impacting user satisfaction with Part B is the timing of data delivery (Appendix D 10.4.3, Appendix E 11.3, Appendix J 16.2). There is general consensus that the data is delivered too late to be used effectively, as by the time it is released it is no longer relevant — especially pricing information that is known nearly 24 months prior to publication of the dataset (Appendix D 10.4.3). People generally want to be able to access the data as soon as possible, and for many, much sooner than they currently can (Appendix 11.3). Currently, the dataset is released during the first week of March, along with the written report, but reporting entities submit their data by the

⁴² BoM 2018. National performance report 2017-18: urban water utilities: http://www.bom.gov.au/water/npr/docs/2017-18/nationalPerformanceReport2017_18UrbanWaterUtilities.pdf

end of October (Table 2). Some have suggested that it would be appropriate to release the dataset after the variance analysis has taken place and tables and figures have been signed off by the BoM in November (Table 2; Appendix D 10.4.3). Others think that the dataset should be live and accessible immediately after data submission. However, some respondents acknowledged the need to balance timeliness of data delivery with data quality assurance (Appendix D 10.4.3). There is a common recognition that timeliness must not compromise the ability to undertake necessary data quality processes appropriately and thoroughly, resulting in the need to prioritise high quality data over timing of delivery.

Another significant factor impacting the value obtained from Part B is the accessibility of the data. Users suggest they are not able to easily access all the data they would like, as only data from the last 6 years is available for entities that have reported against the current Framework dataset. Data reported prior to 2013 is not easily accessible — if a reporting entity wanted to look at the historic trend for a given measure, it would have to locate the old Framework datasets for those years and collate that data with the current dataset itself. Stakeholders want access to data electronically, in one 'point of truth' single spreadsheet, that contains all data published (the complete dataset) (Appendix E 11.3; Appendix J 16.2).

The third factor limiting the current value that the dataset delivers to users is the ability (or lack thereof) to interrogate the data. User generated or controlled analysis is of interest to many, including to address issues such as currently being only able to interrogate data on a per connected property basis (Appendix J 16.2). Stakeholders frequently seem to want more opportunities to do more with data themselves and a view tended to emerge that being able to interrogate the raw data efficiently is where the real value would lie (Section 4.3.3 below provides examples of new products or delivery formats suggested by respondents).

Finding 8: Users tend to obtain a high degree of value from the dataset (and more so than the report) but there are still opportunities to improve it, including in relation to accessibility, timing of release or updating, and interrogation of data.

4.3.3. New or alternative services, products or delivery formats

Throughout the Review, ideas were presented on new methods or products to improve both Part A and Part B (Appendix D 10.4.3).

As for new products that could replace Part A, annual summary statements that focus on targeted performance metrics and/or outcomes were seen by many respondents as a viable alternative to the lengthy report (Appendix J 16.2). Some suggested that different outputs could be tailored for different audiences – factsheets, summary documents, reports – depending on user need in various contexts and willingness to invest in these outputs (Appendix J 16.2). Similarly, suggestions were made that providing basic infographics could be useful for government users, as well as customers and the media. There were several comments provided that a higher level, 'executive summary' style of report, of much shorter length (e.g. handful of pages), could provide value. An example of a 'factsheet' type product that could be considered to inform a new Framework product is the annual factsheets published by Vewin in the Netherlands (Appendix G 13.4.3).

On the potential for new approaches to increase the value of Part B, this included discussion about the idea of, or preference for moving to a business intelligence and/or dashboarding approach (Appendix E 11.3). Respondents expressed a desire for a digital interface that allows users access to the data and the ability to interrogate and analyse the data (e.g. web-based comparison and analysis tool/s or dashboards), as well as improved methods of data normalisation (e.g. not just on a per connected property basis). An online dashboard or phone application was mentioned during

workshops (Appendix J 16.2). It was suggested that online reporting or dashboards could allow for a reduction in the time lag between data delivery and publication, which would cater to user constraints and allow user needs to be better met (Appendix D 10.4.3). The idea of providing an avenue for third parties to provide such functionality was also discussed – for example the BoM could provide access to the database in a way that allows state governments and utilities to develop software tools that interact with it and undertake analysis.

In the United Kingdom, a performance dashboard (Discover Water) was developed that requires regular reporting by all utilities, which could serve as an example to learn from (Appendix G 13.3.3). However, this was developed primarily for customer use rather than utility use. Another example is the public data portal provided by Water New Zealand as part of New Zealand's National Performance Review, which allows users to generate charts and statistics for the various metrics reported against (Appendix G 13.2.3). However, it is important to note that users have expressed this as a preferred output or tool, but have not confirmed their willingness to pay for it, or the extent of benefits they might receive.

Consultations did not generally explore who is willing to pay to invest in these ideas. However, a paring back of the written reporting could deliver major cost savings, which could potentially be reinvested in other areas or different approaches. From a resourcing and cost-benefit ratio perspective, there may be merit in allowing third parties to invest in further analytical tools (rather than the BoM), as this helps to ensure investment is only made in tools that are genuinely needed, and where there is willingness to pay. However, there may be a reasonable case for the Framework owner to undertake some level of investment to allow this to occur (e.g. providing ways for third party tools to interact with the dataset).

Finding 9: There are approaches or tools that stakeholders agree could improve Part A and Part B outputs, but funding the implementation of such changes should be met by cost savings or be based on stakeholder willingness to pay.

4.3.4. Summary

There is room to improve the Urban NPR to better meet user needs and ensure value is realised. Key issues include the format and timing of outputs, and greater ability for bespoke analysis. Users appear to prefer fast access to high quality data over reporting. There is a strong user desire for, and agreement on, the need for comparison and analysis tools (e.g. a web-based dashboard) that would support interrogation of the data and improved methods of data normalisation. There is also an appetite among some users for readily digestible facts and commentary on key performance metrics or outcomes, and a preference for this type of output to replace the current Urban NPR. However, funding the implementation of such changes should be met by cost savings or be based on stakeholder willingness to pay.

4.4. Framework design and functions

Framework design and functions include the indicator set and its definitions, and the requirements or obligations imposed by the Framework, including reporting thresholds and requirements.

4.4.1. Number of indicators

As shown in Appendix C – Current Framework indicators and discussed in Section 2.5.2, there are currently 156 performance measures included in the Framework indicator set. Of those, 100 are reportable (i.e. reporting entities provide data against them) and 56 are derived (calculated automatically subsequently). An important consideration is whether the current number of indicators is too numerous, and if so, what a more optimal number might be. In the past, the RTG has made efforts to reduce the number of indicators in total, however there may still be concerns about whether the current number is correct or optimal. In general, respondents did raise this issue frequently, and there tended to be a view that there may be too many. Respondents expressed that the large number of indicators can be overwhelming and confusing, and that it makes for an onerous collection and auditing process (Appendix D 10.4.2). Having to address a large number of indicators may have implications for successful operation of the Framework, including greater potential for error in calculation and interpretation. The volume of indicators may be contributing to a lack of effort and commitment to the process, as many respondents shared the sentiment that not all indicators could possibly be relevant or useful. It was stated that the quantity may be reducing the robustness of reporting and attention placed on understanding performance drivers (Appendix D 10.4.2). Another, and potentially significant issue, is that the number of indicators increased the audit burden and cost under the audit framework (i.e. audits could be smaller and less costly if there were fewer indicators to audit).

If the number of indicators were to be reduced, decisions would have to be made about what specific indicators and themes to pull back on. Stakeholders vary in their views of what groups of indicators and themes are most important or relevant (relevance explored further in Section 4.4.4), and in the context of seeking to reduce the number of indicators, this could be a challenge to address (particularly given current governance weaknesses, including inability to reach consensus or make decisions about change—this is explored further in Section 4.5).

Finding 10: There is a general view that there are too many indicators, and that the large number is leading to negative consequences for other aspects of Framework operation. However, it is not clear what an optimal number might be.

4.4.2. Definition interpretation and indicator calculation

Each of the 156 performance measures is accompanied by a definition of that measure. An 'indicators and definitions handbook' provides the definitions and notes for all indicators to support consistency in reporting across all jurisdictions (Section 2.5.2). However, many respondents expressed concern about the ambiguity of definitions and resulting inconsistency in interpretation.

Reportable indicators, of which there are 100 (Section 2.5.2; Appendix C – Current Framework indicators), and their definitions, are subject to potential interpretation error by reporting entities. Some of these indicators require calculation, which may put them at compounded, or higher, risk of being reported incorrectly due to potential calculation error, as well as increased risk of interpretation error due to being more complex than indicators that do not require calculation. While derived indicators are not computed by service providers themselves (and thus are not subject to direct interpretation or calculation error), derived indicators are calculated based on reportable indicators, which could be reported incorrectly for the reasons mentioned previously. Thus, derived indicators are also subject to error. This has been thought to compromise data quality and reliability, and thus the ability to effectively compare performance (Appendix D 10.4.2). Respondents felt that the existing framework and approach does not provide satisfactory assurance to users that definitions have been consistently understood and applied, reducing confidence in the data, and thus the value of the data itself (Appendix D 10.4.2; Appendix E 11.4).

Some respondents have recommended that only simple base metrics (that do not involve any calculation) be included in the Framework, to remove opportunity for calculation error and to reduce potential interpretation error (given that simple base metrics are likely to be easier to understand) (Appendix J 16.3). Regardless of the metric, there is a desire for each to be tightly defined and standardised, and for further detail (and maybe examples) to be provided in some of the definitions of the reporting metrics, particularly for those that require calculation or are complex (Appendix D 10.4.2). The recent WSAA opex benchmarking project was mentioned as a positive example of well documented definitions that could inform future definition documentation for the Framework (Appendix D 10.4.2).

Finding 11: There are still issues around indicator definitions and understanding or interpretation (noting that improvements and changes have been made), which are likely contributing to ongoing problems with data accuracy and quality (and therefore reliability and trust).

4.4.3. Comparability and benchmarking

A lack of contextual information to allow for more accurate comparability and benchmarking was the most frequently mentioned shortcoming of Framework indicators by respondents (Appendix D Figure D10). The fact that assessments and comparisons do not capture contextual factors and the diversity of reporting businesses was thought to compromise data reliability and usefulness (Appendix D 10.4.2). Many respondents stated that definitions need to give regard to the differences between businesses to ensure meaningful comparisons of performance (Appendix D 10.4.2). For instance, a lack of understanding and recording of the drivers and constraints to service provider performance against specific indicators (including geography, regulatory context and vertical integration) was thought to prevent accurate comparability (Appendix D 10.4.2). An example is pumping costs, which are driven by the topography of each utility, but which can also be a key driver of emissions outcomes. To design indicators that account for all these matters is likely to be challenging.

However, there is argument among stakeholders over whether to:

- have indicators where no subsequent explanation or re-interpretation is required to ‘adjust’ for or to help explain different characteristics (which might imply a more difficult indicator to design) (e.g. design a pumping cost indicator by topography measure that produces context-specific results, thus not requiring contextual information for explanation); or
- have more straightforward indicators to design and report on, which might require more interpretation and explanation of the factors driving differences (e.g. design a universal simple pumping cost metric, then provide substantial contextual information to explain results) (Appendix E 11.4).

Some are very keen to minimise caveats (i.e. create a more standardised form of benchmarking) and have suggested that jurisdiction-specific definitions be removed wherever possible so that effort required to adjust or caveat for differences is minimised (Appendix E 11.4). Others, however, suggest differences will always exist and utilities should be responsible for explaining them (Appendix E 11.4). It was suggested that explanations of indicator definitions could be provided as part of a Framework communications strategy to improve user understanding of definitions, with a focus on those that have been updated or identified as having limited comparability (Appendix D 10.4.2).

Finding 12: There is confusion about whether and to what extent the Framework should be trying to provide ‘true’ benchmarking, in the sense that indicators are directly comparable without contextual information or reinterpretation to account for underlying differences in utilities.

4.4.4. Relevance of indicators and themes

Most respondents agree that indicator themes or categories need to adapt to address evolving needs and changing drivers in the sector, in order to remain relevant and meaningful (Appendix D Figure D3; Appendix J 16.3). Some respondents suggested certain indicators that are currently included in the dataset need to be removed and/or updated (particularly in the customer service and environment categories), as they are no longer reflective of what they intend to measure⁴³ (Appendix D 10.2.1, 10.4.2; Appendix E 11.4). Others mentioned that there are evolving drivers, such as investment in research, socio-economic measures or the Sustainable Development Goals (SDGs), that are not currently included in Framework reporting, but should be, as they are relevant to users (Appendix D 10.4.2).

It was suggested that a shift to outcomes-based reporting, with consequential changes to themes and indicators, could improve the relevance of indicators and themes (Appendix D 10.4.2; Appendix E 11.4; Appendix J 16.3). Respondents suggested that a revision of indicators could begin with identification of outcomes being sought, with indicators then designed around those outcomes, using existing indicators where possible and appropriate (Appendix J 16.3). Many respondents also expressed an interest in leading indicators. It was acknowledged that forward-looking or leading indicators likely comprise the data and trends that service providers are reporting to their Boards already (Appendix J 16.3). It was suggested that it could be relatively easy to incorporate these indicators into Framework reporting, and that these measures would be informative for users.

In addition to revising or modifying existing indicators or adding new indicators into the Framework in the short term, stakeholders recognise that indicators will likely need to change again in the future as the sector continues to evolve. There is a desire for the inclusion of a mechanism or method for ensuring that the Framework is able to flexibly and efficiently change indicators over time in response to emerging trends in the industry, so as to remain relevant and meaningful (Appendix J 16.3). This could consist of a formal process for periodic indicator monitoring and review, supported by the creation of a set of principles to guide the development, modification or rationalisation of indicators or indicator themes as part of the ongoing operation and development of the Framework.

Finding 13: There are opportunities to remove, modify, and add individual indicators and potentially also indicator themes, including to respond to changes in the sector, and ensure that indicators remain current, relevant, and useful. Further investigation of and response to this is warranted, as well as how to best ensure indicators adapt more reliably over time.

4.4.5. Alignment of indicators and definitions with other reporting requirements

Almost three quarters of the written submissions to the Review indicated that the Framework's indicators are duplicative of State and/or other Commonwealth requirements (e.g. ABS) (Appendix 10.4.1). However, it was acknowledged by some respondents that duplication has decreased over time. This is likely a direct result of the 2017 alignment of the Framework and the Commonwealth's *Water Regulations 2008* (the Regulations). This alignment saw the Framework's water resources indicators (W indicators) aligned with the Regulations Category 7 – information about urban water management requirements (refer to Section 2.6.2 for more information).

⁴³ For instance, there was widespread agreement among stakeholders that indicator C14-Percentage of calls answered by an operator in 30 seconds should be removed from the indicator set, as the duration to answer a phone call was suggested to be inconsistent with how utilities now engage with customers and is no longer representative of customer satisfaction (Appendix 10.2.1, 10.4.2; Appendix 11.4). Another indicator that was commonly recognised as being no longer relevant or appropriate is indicator A9-Infrastructure leakage index.

While there is clearly some duplication of reporting across State and Commonwealth requirements (solutions further explored in Section 4.6.3), most respondents noted that it is not the duplication itself that causes challenges, but the fact that similar indicators must be derived in different ways or are not identical (Appendix D 10.4.1). A number of specific examples of perceived differences between State and Commonwealth reporting indicator units were raised by respondents in the Review process, which are thought to impose unnecessary cost and effort on reporting entities in some States (Appendix D 10.4.1). However, in most cases, rather than identifying instances of duplication, they are suggestive of indicator or definition interpretation errors (highlighting the communication challenges discussed in Section 4.6.1).

Finding 14: The challenge regarding misalignment of reporting requirements may be more perceived than real, with inaccurate indicator definition interpretation (Finding 11) being the underlying contributing factor leading to misunderstanding of actual reporting requirements.

4.4.6. Coverage of water utilities

Some respondents argued that the Framework should cover the sector as a whole and as such should include service providers of all sizes in reporting (Appendix J 16.2). Currently the Framework excludes a significant portion of the industry due to the 10,000-connection threshold, particularly in New South Wales and Queensland. In Queensland, the current threshold excludes 51 councils out of 77, meaning that much of the industry (in this state at least) is excluded (Appendix E 11.2). However, it is acknowledged that the 51 councils that do not report to the Framework represent only 10 per cent of the population in Queensland. Regardless, for many utilities, comparisons cannot be made, and the Framework is also biased towards larger utilities, preventing a complete picture of national industry performance as a whole.

Many respondents felt that smaller providers would benefit from participation in the Framework, as it would allow for the identification of improvement opportunities to close gaps in capacity and capability (Appendix D 10.3.3, Appendix E 11.2). It was also found that from a policy, performance and customer interest perspective, smaller utilities and local councils probably have the most concerns (e.g. in regards to water security, quality, etc.) (Appendix E 11.4). This opportunity to drive performance improvements is potentially being lost. While there was agreement that the 10,000-connection threshold may not be appropriate, and some feel the number is arbitrary and has no real basis, there were no explicit suggestions of what a revised threshold should be or how a new threshold should be determined.

On the other hand, others feel that inclusion of small utilities is unlikely to be cost-effective. In 2011, the Productivity Commission (PC) agreed with this view due to the large number of small utilities in some areas of regional Australia, and the sensitivity of individual utility performance to respective local conditions (Appendix F 12.1.1). Some respondents raised the issue around reporting capacity of smaller utilities, as the costs for them may be unaffordable. It was noted that the approach for smaller utilities to participate in the Framework would likely need to differ from larger utilities given the costs and capacity required to provide data. While the costs and benefits of including smaller utilities has (to our knowledge) not been quantified, we note that in 2017, the PC changed its position, and made a specific recommendation to include providers of all sizes in public reporting of performance monitoring data to promote competition by comparison (Appendix F 12.1.2).

Given concerns about the cost and other impacts on smaller utilities, differential and/or staged approaches to reporting could be used. For example, smaller utilities could report on a smaller subset of indicators, or could start with a smaller subset and progress to more complete reporting later. A staged approach could be considered, with an initial 'opt-in' phase being trialled. The advantage of

this is it could help establish appropriate thresholds for reporting (size of utility) and identify the most useful (or problem) areas for reporting.

The approach to reporting undertaken by the European Benchmarking Commission (EBC) could inform such an approach. Participants in EBC reporting have the option of selecting one of three reporting levels – basic, standard or advanced (Appendix G 13.5). The basic level requires the least amount of data inputs, while the advanced level requires the most. The advanced benchmarking level provides more detailed performance analysis across additional areas of interest (water quality and reliability), allowing better insights into business processes.⁴⁴ Utilities with less than 100,000 customers can participate at the basic level for a reduced fee compared to that paid by larger utilities⁴⁵. Similar to this approach, one stakeholder suggested the adoption of an incentive-based support mechanism for small utilities, potentially tied to infrastructure grants schemes (Appendix D 10.3.3).

Finding 15: There is a sound rationale for including as many smaller water service providers in the Framework as is feasible and cost effective, while recognising the potential need for differential reporting requirements and staged implementation.

4.4.7. The audit framework

The Framework's audit framework (Section 2.5.4) was developed to provide enhanced confidence in the accuracy, completeness and reliability of reported information. Compliance with the audit framework has been a feature of all NPR agreements (Deed, MoU and annual letters of agreement) (Section 2.6.1). By and large, the majority of jurisdictions have met their agreed audit commitments, either through the application of the audit framework or through their own state practices.

Comments in consultation were generally strongly weighted to questioning the efficacy and cost of auditing, however some comments did suggest auditing is required for data quality or assurance, assuming it could be implemented effectively. Comments included (Appendix D 10.4.2, 10.4.3; Appendix E 11.6):

- The auditable nature of the Framework in itself creates an increased burden for reporting entities.
- The cost of auditing data for the Framework is significant for water corporations.
- The large number of indicators is problematic for auditing, as it drives increased audit complexity and audit cost.
- The need to consider more cost-effective alternatives, at least for some indicators, to drive QA/QC outcomes. For example, basic system water balances can be used to QA/QC many of the Framework's water resource indicators, leaving the audit to focus on key data items—i.e. the average annual volume of residential water supplied (Indicator W12).
- With the exception of the average annual volume of residential water supplied (Indicator W12), the W indicators should not be included in the audit framework.
- Auditing is having or has had the effect of introducing duplicative arrangements and requirements, with some utilities suggesting data can be audited up to three times – once in their annual report,

⁴⁴ European Benchmarking Commission: <https://www.waterbenchmark.org/content/the-programme-explained-participation-and-practicalities>

⁴⁵ European Benchmarking Commission: <https://www.waterbenchmark.org/content/the-programme-explained-participation-and-practicalities>

once by state regulators, and again by the Framework (noting that the audit Framework does state reaudit is not required).

- Despite investment in auditing, there are still fundamental problems with data quality, which can be driven by (among other things):
 - Problems with indicator definitions and interpretation (which are unlikely to be addressed by a process-based audit)
 - Consultants undertaking audits not being sufficiently experienced with the water sector or the Framework (resulting in false confirmation, or not picking up issues or anomalies).
- Other issues driving poor data quality (e.g. definitions and interpretation) are so serious as to render audits meaningless or at the least highly ineffective, while adding substantial time and cost, and that therefore those issues must be addressed before paying for audits.

It was found that audit requirements are an issue for the current operation of the Framework, with some partners or reporting entities suggesting audit costs are prohibitive. This has been said to contribute to challenges implementing appropriate governance and legal arrangements – for example, inability to agree to complying with the audit requirements is suggested to have contributed to a lack of agreement on Terms of Reference for the RTG. There is currently variable compliance with the audit framework, with some jurisdictions not complying partly due to cost, but also partly because they view it as an infringement on the role of their auditor general's office.

Some respondents provided suggestions about how audits could be improved, and there may also be useful insights from international examples (See Appendix G – Summaries of international approaches to performance reporting). Some of these include:

- The potential to develop and apply a more risk-based approach (e.g. targeting higher risk indicators or indicator sets, or riskier geographies, or utilities)
- Undertaking a certain number or proportion of rolling or random audits per time period, rather than requiring all entities be audited at a set time scale
- Pooling resources to meet audit costs under the current or an alternative framework (e.g. a random approach could be supported by sharing the reduced costs across all entities)
- Sharing audit results or findings (insofar as they highlight issues that could be relevant to or addressed by others) across all reporting entities (while respecting privacy or confidentiality issues)
- Having a consistent group of, or specific auditors, trained adequately and repeatedly undertaking the Framework audits, or alternatively (or in addition) that an independent, or industry body lead or be responsible for the audits
- More clearly establishing which Framework indicators are actually audited under state arrangements and more specifically making sure Framework audits do not audit those indicators in those locations

Some elements of the New Zealand auditing approach may provide insights – it focuses on measures that have been recently introduced, previously inconsistent, or difficult to report against, with external audits rotated around participants each year, and which target 20% of those involved (see further details at Appendix G 13.2.4).

Finding 16: The audit framework appears to be ineffective in achieving its objectives, and the current (or intended) approach is likely inefficient. However, it is also apparent that there are a range of factors contributing to poor data quality and assurance outcomes that need to be addressed, in addition to audits.

4.4.8. Summary

There is sufficient variety, extent and materiality of issues in this area to warrant changes. There may be a case for reducing the number of indicators, and there is a strong case for further review of, and modification to individual indicators to reflect changes in the sector. It is also clear that indicator definitions and interpretation continue to present challenges, but it is less clear from users at least, as to whether the Framework should seek to provide true detailed benchmarking without requirements for caveats. Consistent with the PC's perspective, many stakeholders agree that there would be benefit in including smaller utilities in reporting. Further, the audit framework clearly needs modifications and agreement to compliance by stakeholders if it is to have its intended effect.

4.5. Governance

Governance includes the formal and informal instruments and arrangements used to govern and operate the Framework, including coordination, decision-making, and accountabilities.

4.5.1. Agreement to the Framework and commitment of partners

There is currently no specific legislative or regulatory basis for the Framework—while Part 7 of the Commonwealth *Water Act 2007* empowers the BoM to collect water information (Section 2.6.2), data collected under the Framework is not mandated by or enabled by this Act or its associated regulations. This is challenging in the sense that the Framework's authority and stature is not what it might be, and because this would imply a greater degree of robustness in considering and defining its purpose and objectives, and potentially also operation.

'The Deed' was the foundational agreement for the Framework that was in effect from 2007 to 2009, which provided some specificity and guidance for governance arrangements, yet was complex and difficult to implement (refer to Section 2.6.1). The MoU established after the Deed was intended to be easier to implement, yet only lasted two years so was short in duration. The letters of agreement instigated following the MoU were further reduced in longevity (annual) and require recontracting each year (Section 2.6.1). As a result, it appears that governance arrangements have lost effectiveness over time. The lack of an overarching, enduring formal agreement is a likely cause of apparent or actual (and current and historical) wavering commitment by some partners to the Framework, which was raised as a concern in consultations (Appendix E 11.5). The current partners of the Framework include all state, territory and Commonwealth government representatives and economic regulators of water service providers (Section 2.4.2). One partner has withdrawn their support for or participation in the Framework, while some others do not appear committed to it (Appendix D 10.4.3; Appendix E 11.2).

Overall, it appears that current governance arrangements are not adequate for sustaining a durable, lasting Framework—as this is not possible without a durable and lasting agreement to what the Framework entails, how it is governed and who must be committed to it. The Commonwealth *Water Act 2007* may provide scope for formalising a mandate for the provision of the Framework's performance data, so this could potentially be modified to require Framework data provision. However, most stakeholders support that the vision and objectives of the Framework must be formally defined and agreed (Section 4.1) before any redesign of governance arrangements can occur (Appendix J 16.4).

Finding 17: The lack of a formal, long-term mandate for the Framework is a critical issue, and is holding the Framework back in various ways, not least of which is governance. The Framework

cannot be expected to be durable and lasting in the absence of a formal and long-term commitment to it by its partners and stakeholders.

4.5.2. Decision-making and accountability

The Framework has been overseen by the RTG since its inception (Sections 2.1 and 2.7). Through the course of consultation, a variety of issues or matters were raised regarding decision-making and accountability in relation to the RTG and more broadly. Some key and repeated themes included the performance of the RTG itself, and issues around representation in decision-making. Specific concerns or issues raised in relation to the RTG include (Appendix E 11.5; Appendix J 16.4):

- The RTG being too slow to make decisions, either due to difficulties in reaching agreement, or parties not turning up and resulting in delays (examples were given of indicator review processes where quorums on proposed change could not be achieved, or absentees oppose changes decided in their absence)
- The RTG not having appropriate representation – of key groups, including representatives of community interests, of local government and/or small providers, and of broader industry representatives; or of those that could bring fresh perspective and insights, including representatives from outside the industry, such as a member of the electricity or gas utilities sector
- The lack of clarity about the role(s) assigned to the RTG, including that it does not have an explicit Terms of Reference guiding it (although we note one was prepared but not agreed), and how this has contributed to a lack of accountability within the RTG, including to whom the group is accountable and for what tasks, activities, or outcomes
- Whether the RTG is the right structure or approach for decision-making (or for example, whether it should be a technical reference group and a different group should be responsible for decision-making).

Many respondents agreed that there may not be ‘the right people around the table’ in terms of accountability and decision-making within the RTG, including whether those involved have been best placed to do the job that’s assigned to them, or conversely, if they even understand what that job is (Appendix E 11.5). It was recognised that there may be merit in different governance arrangements, including greater separation between technical work and decision-making, with clearer accountabilities and responsibilities that are assigned to those best placed to manage them, and which drive greater performance and outcomes. Respondents suggested that a new clear Terms of Reference for the RTG should be highly prioritised, which clearly sets out the roles, responsibilities and obligations of members, as well as accountability and decision-making arrangements and other matters, as appropriate and relevant for effective functioning (Appendix E 11.5; Appendix J 16.4). In workshops, this was flagged as the highest governance priority by stakeholders (Appendix J 16.4).

Some attributed broader decision-making and accountability weaknesses or concerns to the lack of a formal agreement for the Framework (Section 4.5.1), as well as the absence of a clearly defined, well-resourced owner responsible for administering the Framework in partnership with jurisdictions through a legislated process (explored further in Section 4.5.3) (Appendix D 10.5). It is recognised that inefficient decision-making processes and a lack of accountability impacts the effectiveness and efficiency of other areas of Framework operation—and hinders the ability of the Framework to evolve, remain relevant, and ultimately deliver value for users. In order to undertake required changes in other areas, including framework design and function (Section 4.4) and services (Section 4.3), governance arrangements need to be appropriate and operating effectively.

Finding 18: It is clear that the decision-making and accountability arrangements for the Framework are lacking, and in need of improvement. A range of criticisms are made of the RTG, but the problems may be broader and not specifically the fault of that group, such as the lack of appropriate governance arrangements more broadly.

4.5.3. Owner and service provider

While many stakeholders identify the BoM as the current ‘owner’ of the Framework, it is the RTG that holds the most ownership over decision-making processes. While the BoM ‘hosts’ the dataset and collects the information, it does not make decisions regarding the Framework. It holds the data, updates the database, and provides the outputs including the written report, and supports the RTG (Section 2.7). Many agree that the current Framework is not being appropriately ‘championed’, and a shift from ownership by committee to ownership by one entity could help establish a more effective ‘champion’. A single and appropriately defined owner could be empowered to make decisions about the Framework, subject to input from and agreement with partners. One stakeholder recommended (and others supported) the creation of an independent national agency that has responsibility for the governance, collection and auditing of performance information via a legislated reporting mechanism, and has responsibility for coordinating all of the water authorities and stakeholders (Appendix D 10.5).

Yet among most stakeholders, the BoM is regarded as an independent, trusted and appropriate entity for urban water data collection and thus, for continuing to host the dataset (Appendix J 16.4). If Framework outputs are pared back to focus more on the dataset, then the BoM might be increasingly seen as the appropriate entity to more formally administer the Framework. However, as discussed in Section 4.3, stakeholders recognise that the BoM may not be best placed to be the provider of Part A (or similar) outputs. If this were pursued (i.e. BoM being a more formal administrator), The *Water Act 2007* and *Water Regulations 2008* could potentially be used as the mechanism (utilising Category 7 of the Regulations to specify reporting requirements). This would have the benefit of only requiring modification to existing legislation and regulations, while also providing a sounder legislative and regulatory basis. However, there would be many issues to work through, including what decision-making structures would exist under what authority.

Finding 19: Ownership of the Framework is not clearly defined or designated to one entity, which is impeding its successful operation.

4.5.4. Summary

There is no certainty, durability or robustness to the current annual agreements, and there is no clearly designated owner of the Framework. Further, decision-making and accountability arrangements are unclear, with a range of criticisms levelled at the RTG, which may be driven by its lack of underlying direction and accountability. In combination, these matters have contributed to ineffective operation of the Framework, and hampered its ability to adapt over time.

4.6. Operational tasks and infrastructure

Operational tasks and infrastructure include the actions, activities, systems, processes, and infrastructure to operate the Framework and deliver the services.

4.6.1. Operational responsibilities or activities

Effective operation of the Framework requires key activities be undertaken by different stakeholders, including data providers, State and Territory governments, and the BoM.

Key activities undertaken by utilities and data providers include:

- preparation and provision of data against indicators (Section 2.7.5);
- assisting in data validation or checking (Section 2.7.7); and
- participating in or responding to results of audits of data (including paying for the audits) (Section 2.8).

Key activities undertaken by State Governments or their regulators include:

- data collation or other coordination tasks (Sections 2.7.2, 2.7.5);
- participation in Framework governance (e.g. in the RTG) (Section 2.5.1); and
- advising on Framework implementation or management. Jurisdictional data coordinators act as the interface between the BoM and reporting entities (Section 2.7.2).

The operation of the Framework by the BoM includes activities such as:

- project management; data management—database hosting, administration, management and support (Sections 2.7.2, 2.7.5);
- annual data collation, analysis and reporting (including preparing and publishing Part A and B) (Sections 2.7.6, 2.7.8);
- Urban NPR release activities, promotion, media management and report hosting (Section 2.7.9);
- support and maintenance of the Framework’s annual reporting memo, indicators and definitions and audit handbooks (Section 2.7.2); and
- RTG secretarial support (Section 2.7.2).

4.6.2. Understanding of Framework operation

Based on comments from a number of respondents, there is a lack of awareness and understanding among some participants of the Framework’s indicators and operation, in particular with respect to data provision and validation (Appendix D 10.4.1). In general, many respondents suggested that communication around the Framework, who it’s for, and how it operates, is not clear enough (Appendix D 10.1.1; Appendix E 11.2; Appendix H 14.2).

Firstly, with respect to the Framework’s indicators, it was noted that the indicator definition handbook and audit guidelines are not publicly, or even readily, available. Hence, despite the release of an updated handbook in 2018, not all stakeholders appear to be aware of its existence. The absence of a point of truth for current documents is a key issue for the Framework. The lack of publicly available versions of this information is likely to be contributing to a lack of visibility and understanding of the Framework and preventing broader uptake and use. Respondents suggested that making these documents publicly available may improve understanding of Framework operation.

With respect to data provision, it has been suggested that the use of data coordinators, appointed in each State and Territory, as a conduit for information (as described in Section 2.7) may not be operating as well as it could in all jurisdictions. Some comments question whether this approach is the

most effective method to deliver or handle information and raised the idea that the BoM (or whoever 'owns' the Framework) should interact directly with service providers (Appendix D 10.4.1).

Finding 20: There is variable understanding of the Framework among its users, including how it operates. This is likely a result of jurisdictional coordinators creating a disconnect between the Framework's administrator (the BoM) and reporting entities, the absence of a point of truth for current documents, and the lack of a clear communication strategy.

4.6.3. Data provision and validation processes

With respect to data validation, some respondents have complained about excessive iteration between themselves and the BoM, or between the data coordinator and data providers, with questions and validation checks (Appendix E 11.6). Data validation processes currently applied after data submission should be implemented at the time of data provision. Implementing variance reporting at the time of data submission provides immediate feedback to water service providers on anomalies and variance. This will not only assist in early identification of issues, but will also impact the time of data publication.

Some respondents have also suggested that IT and technology solutions are not being harnessed sufficiently to speed up collection, and improve quality associated with data capture (Appendix D 10.2). An example was provided in an international jurisdiction where data is collected directly and automatically from water utilities' administrative and operational systems (Appendix E 11.4).

Queensland's SWIM program has been highlighted as a positive example of how this has been addressed at a state level, and other States and Territories could consider if this type of approach may work in their jurisdiction (Appendix E 11.4). The SWIM program simplifies reporting of up to 900+ indicators by requiring the reporting of up to 200 indicators in total (and using data translation tools to produce the other indicators), which it then passes on to the relevant State and Commonwealth agencies in specified formats⁴⁶. In addition to reducing duplication of reporting requirements and improving alignment of requirements (Section 4.4.5), this may have the additional benefit of less calculation or interpretation errors (Section 4.4.2), as the data translation tool reduces computation responsibilities for individual entities.

One stakeholder from South Australia stated that a single repository for data in the water sector (into which all utilities provide their data, that is then provided to relevant parties or allows those parties to pull the information they require from that repository) would be 'utopic', as this would prevent the need to duplicate reporting across the various interested parties (Appendix D 10.5). States with an interest in reducing reporting duplication for their service providers (such as South Australia, if the stakeholder's response above is reflective of the majority of service provider's views) could consider developing and implementing an approach similar to Queensland's.

Finding 21: Lack of understanding of the Framework and its operation has had a significant impact on the efficiency and effectiveness of data provision and validation processes in particular. Despite this, single point of data entry arrangements at the state-level have been successful at improving these processes by reducing the number of indicators that need to be interpreted or calculated, and minimising duplication of reporting requirements.

⁴⁶ QldWater, Statewide Water Information Management (SWIM): <https://www.qldwater.com.au/SWIM>

4.6.4. Summary

There is variable understanding of the Framework among its users, including how it operates. While there have been significant improvements in the way the Framework's indicators are defined, collected and validated, many stakeholders remain unaware of, or unclear on how these changes impact them. There is no single point of truth for disseminating information about the framework, its process and practices, and there is no communication strategy or approach for communicating with the Framework's partners and users. This has had particularly significant implications for data provision and validation processes due to confusion around indicators and definitions. Single point of data entry arrangements at the state-level have been successful at improving data provision and validation processes in the absence of clear communication.

4.7. Resource requirements

Resource requirements includes the cash and in-kind contributions from all stakeholders to operate the Framework and deliver the services.

4.7.1. Resourcing requirements, including budgeting

Effective operation of the Framework requires activities be undertaken by different stakeholders, including data providers, state governments, and the BoM or consultants, and these activities need to be resourced, in cash or via in-kind contributions.

The level of resources required in total is difficult to determine. This would require understanding the cost of data provision for all entities, in addition to state government and BoM in-kind costs. The cash contributions are known, and have averaged around \$130,000 in total over the period 2012-13 to 2020-21, with the total cash contribution being based on the historical cost of providing key Framework functions and outputs when it was the responsibility of the NWC (Appendix I – Analysis of Framework funding arrangements). A challenge with this approach includes that it doesn't provide for future investments that may be required, or account for periodic reviews (e.g. these would have to be met by ad hoc unbudgeted increases in financial contributions, or temporary increases in in-kind contributions). The cash contributions (which are provided by state governments according to the cost-sharing formula) were suggested to primarily cover the costs for the Part A reports (published pdf documents), with most other activities resourced through in-kind contributions, regardless of who is resourcing them.

Finding 22: The Framework appears to lack a robust budgeting arrangement. Past costs of Framework delivery are not the most appropriate way to budget for future needs of the Framework, including because they do not reflect the current or future needs of users, and exclude resources required for periodic review or capital investments.

4.7.2. Tracking in-kind contributions

Some utilities estimated their data provision costs during consultation, with one bulk utility suggesting this was 2-3 days per team across 4 teams that contribute to the dataset. However, this is likely to vary markedly across entities (Appendix E 11.7). In-kind contributions are also difficult to determine because some entities (including the BoM) do not specifically account for the time taken to deliver Framework functions as distinct from other functions (which may be shared within the organisation,

under the same cost codes, for example). The inability to clearly identify, and disaggregate specific activities or tasks that occur as part of the Framework's operation and delivery, means it is also difficult to track resources or costs in a meaningful way. This makes it challenging to understand the true cost of delivering the Framework, and identify opportunities to improve the efficiency of its delivery.

Finding 23: There is a lack of clarity associated with activities resourced through in-kind contributions, which makes it difficult to understand the true cost of the Framework and identify opportunities to optimise its delivery. There is also a lack of clarity and transparency about how financial contributions are spent.

4.7.3. Resourcing impact on utilities and state governments

Consultations suggested that for many utilities, their only cost associated with the Framework is preparing and submitting data, which was recognised by some as the cost they face for the benefit of being able to access other data and information under the Framework (Appendix D 10.4.3, Table D; Appendix E 11.7). Most utilities did not raise resourcing as an issue (other than for audits), but were instead more focused on how to improve the utility of Framework services or outputs (Appendix D 10.4.3; Appendix E 11.7; Appendix J 16.5). However, some regulators have taken issue with resource impacts, with changes to how the Framework is resourced at the State level having occurred in some jurisdictions.

A key issue for resourcing, which was raised by many respondents, is the audit framework, with the current audit framework suggested to have major resourcing implications for utilities (the audit framework is described in Section 2.5.4, and issues with the audit framework explored in Section 4.4.7). The cost versus benefit of audits has been a long-standing issue within the RTG, and this has been cited by Queensland and the Northern Territory as the primary reason for their reluctance to require utilities to undertake audits. The issue was raised many times, and we understand that it has prevented partners committing to various agreements (e.g. a new MoU, or formalisation of RTG terms of reference).

Finding 24: The audit framework, as currently designed, presents a material resourcing issue to many stakeholders, and appears to be preventing achievement of data quality and assurance outcomes.

4.7.4. Potential to reduce resources required

While, outside of auditing, resourcing was generally not raised as a major problem, there are opportunities to reduce the overall resources required (Appendix E 11.7). The most prospective opportunities may come from better tailoring services and outputs to user needs, having users make their own investments in bespoke analysis or tools that they would benefit from (e.g. raw data is provided and users undertake their own analysis), and improving framework design (e.g. improving clarity and understanding around indicators and reducing their total number). There may also be opportunities to introduce greater competitive tension in the delivery of other functions by the framework owner/administrator, which could reduce the costs of supporting the Framework. While the overall resource requirements for delivering the Framework do not appear excessive, there are opportunities for efficiencies and lowering the total requirement, which are consistent with other changes that may be warranted (e.g. streamlining services).

4.7.5. Summary

The overall costs of the Framework do not appear excessive, but there are opportunities to improve efficiency, and increase value as a result. Identifying these opportunities would be more feasible if there were better accounting of both in-kind and cash contributions to the Framework. Changes in other areas, including services and framework design, are likely to yield savings and reduce resources required, as should modifications to the audit framework. The resources required to participate (e.g. provide data) may be offset by the benefits users receive in accessing data and reporting (where they use it), which seems appropriate.

4.8. Cost sharing

Cost sharing is how the financial requirement is met by and shared among partners or stakeholders.

4.8.1. The current cost sharing approach and potential alternatives

The current cost sharing approach splits the cash funding between State and Territory jurisdictions (noting there have been ad-hoc Commonwealth contributions in the past – See Appendix I 15.1). The share for each state is determined using a cost-sharing model based on the proportion of connected properties in each state (of the national total). This results in Victoria and New South Wales meeting most of the funding requirement, followed by Western Australia and South Australia. However, the total funding required each year is modest (the total amount split between states has been around \$130,000 per year between 2013-14 and 2020-21), and the funding contributions of the major states are extremely modest in the context of state government budgets for those states, while other State and Territory contributions are very low in absolute terms (e.g. between \$1,000 and \$4,000 per annum) (Appendix I 15.1).

The cost-sharing model itself (i.e. connected properties as a proportion of the national total) could be considered as reflecting beneficiary or impactor pays principles, and is not an unusual approach to sharing costs or benefits at a national level (e.g. many models would be based on population, and connected properties would align with population to a large extent). Although connected properties may not be perfect (e.g. the number of beneficiaries or impactors might depend on the number of individuals associated with a connected property, and some utilities could be disproportionately affected if they have unusually high or low numbers of connections based on the types of dwellings), it has a relatively sound basis and is practical and pragmatic in the context of the water sector (given the ease with which connected properties can be determined).

While the appropriateness of the cost-sharing model is important, the quantum of costs being shared diminishes the importance of the model to some extent, and may even result in some perverse outcomes. For example, the low total cash support the Framework requires means that individual state contributions are also very low. So, while the method is principled, it may be that the costs of administering the arrangement could be more than the benefit of sharing funding obligations (for example, calculating shares, and preparing and following up invoices for \$1,000 might cost more in staff time than the amount being invoiced).

The cash funding provided for the most part funds development and provision of the Part A report (the pdf published annual report). If substantial modifications are made to that report (as stakeholders have argued for) this could substantially reduce the funding requirement. If this occurred there would be even less cost to share, and the argument for applying cost-sharing may be further reduced. In addition, if services provided shift further towards data provision only, costs may be reduced further,

and an argument could be made to remove cost-sharing altogether. Given the Commonwealth's mandated role in water data and information collection and provision, as well as the national basis and focus of the Framework, it could be argued that the remaining funding required should be met solely by the Commonwealth.

In any event, a single source for funding would be more administratively straightforward and consistent with a new, smaller quantum of cost. This approach might require there being no major increases in costs in the future (which might reintroduce an argument for sharing costs), but this may be consistent with a revised future approach to services provision where individual state governments, or utilities, invest in their own tailored tools or approaches to interrogate or analyse data provided by the Framework—which is an approach that was suggested and supported by a range of stakeholders (Appendix D 10.5; Appendix J 16.2, 16.5).

Finding 25: The current cost-sharing model is not broken. However, there is merit in considering if a cost-sharing approach continues to be appropriate or warranted, especially given any reductions in total funding required resulting from changes to the services provided.

4.8.2. Summary

The cost sharing model itself is not 'broken', but may not be required or justified, in the context of other changes made to the Framework, particularly if they reduce the total cash contributions required in the future. A transition to a single source of cash funding may be more administratively straightforward, and having the Commonwealth fulfil this role could be argued to be consistent with its formal mandated role in water data and information and the national basis and focus of the Framework.

4.9. List of findings

	Findings
Vision, objectives, users	<ul style="list-style-type: none"> • Finding 1: The vision and objectives of the Framework, and outcomes it is seeking to achieve, are not sufficiently clear and defined, or articulated or documented. Where relevant statements are provided, they are out of date and may not reflect user needs. • Finding 2: There is general awareness among stakeholders that the Framework is aligned with or designed to meet NWI commitments, but there is a range of views among stakeholders on, and hence not a consistent understanding of, its specific purposes beyond this. There is also not consensus among stakeholders on the outcomes the Framework should be seeking to support or deliver against. • Finding 3: There is evidence to suggest that the Framework is not adequately evolving to reflect changing drivers in the water sector, and this is likely to be causing the Framework to lose relevance and thus, value, for users. • Finding 4: There is a need to more clearly articulate the core stakeholders the Framework is for and identify and define a realistic and high value sub set of their overall needs that it should seek to address. • Finding 5: It is clear that the majority of stakeholders value the Framework, and wish to see it continue. However, the value proposition to stakeholders has significantly diminished, and all agree on the need for substantive improvements to ensure it provides value now and into the future. • Finding 6: In order to increase its value proposition, the Framework should focus on meeting the needs of its core users (which are not currently being adequately met), rather than expanding its user base. Expansion risks further diminishing the value to core users, and is unlikely to increase value for the broader user base, as there does not appear to be a clear and identified need to address.
Services	<ul style="list-style-type: none"> • Finding 7: The Part A report is not providing value to stakeholders as a result of its current format, content, length, and timing of release. • Finding 8: Users tend to obtain a high degree of value from the dataset (and more so than the report) but there are still opportunities to improve it, including in relation to accessibility, timing of release or updating, and interrogation of data. • Finding 9: There are approaches or tools that stakeholders agree could improve Part A and Part B outputs, but funding the implementation of such changes should be met by cost savings or be based on stakeholder willingness to pay.

	Findings
Framework design and function	<ul style="list-style-type: none"> • Finding 10: There is a general view that there may still be too many indicators, and the large number could be leading to negative consequences for other aspects of Framework operation, however it is not clear what an optimal number might be. • Finding 11: There are still issues around indicator definitions and understanding or interpretation (noting that improvements and changes have been made), which are likely contributing to ongoing problems with data accuracy and quality (and therefore reliability and trust). • Finding 12: There is confusion about whether and to what extent the Framework should be trying to provide 'true' benchmarking, in the sense that indicators are directly comparable without contextual information or re interpretation to account for underlying differences in utilities. • Finding 13: There are opportunities to remove, modify, and add individual indicators and potentially also indicator themes, including to respond to changes in the sector, and ensure that indicators remain current, relevant, and useful. Further investigation and action into this is warranted, as well as how to best to ensure indicators more reliably adapt over time. • Finding 14: The challenge regarding mis-alignment of reporting requirements may be more perceived than real, with inaccurate indicator definition interpretation (Finding 11) being the underlying contributing factor leading to misunderstanding of actual reporting requirements. • Finding 15: There is a sound rationale for including as many smaller water service providers in the Framework as is feasible and cost effective, while recognising the potential need for differential reporting requirements and staged implementation. • Finding 16: The audit framework appears to be ineffective in achieving its objectives, and the current (or intended) approach is likely inefficient. However, it is also apparent that there are a range of factors contributing to poor data quality and assurance outcomes that need to be addressed, in addition to audits.
Governance	<ul style="list-style-type: none"> • Finding 17: The lack of a formal, long-term mandate to the Framework is a critical issue, and is holding the Framework back in various ways, not least of which is governance. The Framework cannot be expected to be durable and lasting in the absence of a formal and long-term commitment to it by its partners and stakeholders. • Finding 18: It is clear that the decision-making and accountability arrangements for the Framework are lacking, and in need of improvement. A range of criticisms are made of the RTG, but the problems may be broader and not specifically the fault of that group, such as the lack of appropriate governance arrangements more broadly • Finding 19: Ownership of the Framework is not clearly defined or designated to one entity which is impeding its successful operation.

	Findings
Operational tasks and infrastructure	<ul style="list-style-type: none"> • Finding 20: There is variable understanding of the Framework among its users, including how it operates. This is likely a result of jurisdictional coordinators creating a disconnect between the Framework’s administrator (the BoM) and reporting entities, the absence of a point of truth for current documents, and the lack of a clear communication strategy. • Finding 21: Lack of understanding of the Framework and its operation has had a significant impact on the efficiency and effectiveness of data provision and validation processes in particular. Despite this, single point of data entry arrangements at the state-level have been successful at improving these processes by reducing the number of indicators that need to be interpreted or calculated, and minimising duplication of reporting requirements.
Resourcing and cost sharing	<ul style="list-style-type: none"> • Finding 22: The Framework appears to lack a robust budgeting arrangement. Past costs of Framework delivery are not the most appropriate way to budget for future needs of the Framework, including because they do not reflect the current or future needs of users, and exclude resources required for periodic review or capital investments. • Finding 23: There is a lack of clarity associated with activities resourced through in-kind contributions, which makes it difficult to understand the true cost of the Framework and identify opportunities to optimise its delivery. There is also a lack of clarity and transparency about how financial contributions are spent. • Finding 24: The audit framework, as currently designed, presents a material resourcing issue to many stakeholders, and appears to be preventing achievement of data quality and assurance outcomes. • Finding 25: The current cost-sharing model is not broken. However, there is merit in considering if a cost-sharing approach continues to be appropriate or warranted, especially given any reductions in total funding required resulting from changes to the services provided.

5. Conclusions and recommendations

This section provides overarching conclusions, and presents the Review Team's recommended actions. Conclusions are made with respect to the scope questions set out for the Review and cross reference relevant findings and recommendations, while the recommendations are organised by assessment framework elements.

5.1. Conclusions

To provide conclusions for the Review, the core scope questions set by the Review (refer Section 1.2.2) have been answered below. These responses cross reference and bring together findings from Section 4 and recommendations, which are set out and explained in detail in Section 5.2.

The users and stakeholders for whom the Framework should operate

The Review Team views users of the Framework as being: water service providers; State, Territory and Commonwealth Governments and their Departments; and state-based economic regulators. These should be considered as the core users, and the users for whom the Framework should operate. This should not preclude use of the Framework by any other interested parties (for which access should be maintained), but the needs of these users should be the core focus, and the reason for the Framework's operation. These users should be clarified in revised vision and objectives statements. Refer Findings 2, 4, 6; Recommendation 1.

The value of the Framework and how that value is realised

The value of the Framework is best realised by more effectively meeting a realistic and achievable subset of the overall needs of the core users, including by better tailoring its services and outputs to user needs. This means that the Framework cannot be expected to meet all information needs of all users, for example, and that it must improve with respect to meeting the needs of its core users. It appears that the core value proposition is in providing a 'point of truth' snapshot of provider performance to inform regulation and policy, drive continuous improvement, and support awareness of sector developments both within and beyond the sector. The value proposition is unlikely to be increased by expanding the user base to meet unproven demand for Framework outputs among a wider audience. Refer Findings 1, 3, 4, 5, 6; Recommendation 1.

Performance reporting, benchmarking data and information needs of the urban water sector

Users have a diverse range of information needs, including geographically specific needs, technically specific needs, and broader or higher-level interests. While not all of these needs can be met by the Framework, a common need identified among core users is an ability to compare key elements of water service provider performance through measurement against select indicators. However, in general, users need more contemporary and up-to-date information that better reflects changes that have occurred in the sector, and may occur in the future. Users clearly identified that reporting, as has traditionally been provided by the Framework, is not the primary need (or not a need at all). Users want and need access to robust, high quality, consistent, independent, and timely data. They also need improved access to information about how the Framework operates and what their performance reporting requirements are. Refer Findings 3, 7, 8, 20; Recommendations 1, 3, 4, 12.

The audit and QA practices required to ensure the integrity of the data set, including consideration of the Framework's audit framework, State and Territory audit practices, and the cost vs value of auditing

The Review Team consider that quality and integrity of the dataset must be addressed by multiple means through an overarching QA/QC strategy—which includes, but is not limited to, a revised audit framework. Process audits should be seen as one of a range of tools and processes used to provide confidence in the Framework's dataset and drive improvements in data quality and reporting practices. However, an audit framework is an 'end of pipe' solution, whereas improvements to ensure quality and accuracy of input data could also be made. For example, indicator design and definition issues, including ensuring they are properly understood and applied, will have a strong bearing on the quality of input data. This does not mean that auditing does not have a future role, but changes need to be made to it to ensure it is cost effective and can be agreed to by stakeholders. Refer Findings 11, 14, 16, 21; Recommendations 6, 7, 13.

The current and future scope of reporting and the reporting mechanism/s

Stakeholders clearly value and use the dataset (Part B) more so than the static published reports (Part A), but there is a desire for the scope of the dataset to evolve to address changing trends and drivers in the sector. This includes necessary revisions to reporting themes, indicators and indicator definitions. The volume of reporting indicators should not grow in number over time—the current large number of indicators may be leading to negative consequences for other areas of Framework operation. Users do find some value in some reporting, albeit in a reduced scope, but the precise nature of this (including its target audiences) needs to be further investigated. Refer Findings 7, 8, 10; Recommendations 2, 6.

The cost of the Framework, including practices, mechanisms, and technologies available to reduce costs associated with audits

The overall financial costs of the Framework are modest. However, costs could be further reduced by better tailoring services and outputs to identified user needs. Costs associated with audits could be reduced by moving to a risk-based approach. This could involve random or rolling audits of a sample of utilities, or samples of indicators, based on high risk categories or to address anomalies identified. Examples exist in international cases where audits appear to be more cost effective or risk based. Refer Findings 16, 22, 24; Recommendations 5, 9.1, 14.

The funding model for future National Performance Reporting

The current funding model (cost sharing) is not broken, but given it is sharing such a small quantum of funds, and given the desire for reduced reporting and use of third parties to develop data interrogation tools, funding requirements are likely to decrease. Given this, there is a strong argument for moving from cost sharing to a single national funding source. Refer Finding 25; Recommendation 14.

Opportunities for aligning state/territory and commonwealth reporting frameworks supporting single point of data entry in each jurisdiction

It appears that most State/Territory reporting requirements are mostly aligned with Framework reporting requirements, but that there is perceived misalignment, which may be largely due to inadequate definitions and guidance for reporting entities. However, opportunities for further aligning reporting requirements may exist in some states, which should be investigated at the state level, as reporting entities are regulated and licensed by State or Territory governments in each jurisdiction. Single point of data entry arrangements could assist in minimising both perceived and real reporting alignment issues (as demonstrated by Queensland's approach with the SWIM program). As such, State and Territory governments should investigate single point of data entry. Refer Findings 14, 21; Recommendation 13.

Governance of the Framework

Governance of the Framework is lacking, and is likely to have contributed to various issues that have arisen over time. Substantial changes to governance arrangements for the Framework are required – there is no certainty, durability or robustness to annual agreements, and accountability arrangements are unclear. There is a need for a revised formal agreement (e.g. MoU) and formal recommitment by parties, revisions to the decision-making and accountability approach (including moving away from the RTG, developing and agreeing terms of reference and membership for two new committees, and clarifying a single owner and/or administrator). Refer Findings 17, 18, 19; Recommendations 9, 10, 11.

Coverage of the Framework and the threshold for reporting

The Review Team are of the view that smaller utilities should be participating in the Framework. There is a strong rationale for them doing so, given opportunities for utility performance improvements exist in this area of the sector. However, issues around the threshold for reporting (i.e. entity size), and differential reporting (e.g. scope of reporting by smaller entities) need to be resolved to ensure it is feasible and cost-effective. Importantly, this must be pursued in collaboration with those proposed to newly report, because they need to obtain value from the data they access, and need to be capable of reporting it. Refer Finding 15; Recommendation 8.

The form and format of the reporting and analysis to be carried out under the framework

There is a strong user desire for comparison and analysis tools that would support interrogation of the data and improved methods of data normalisation. However, the business case is not proven, so it is suggested that the Framework invest insofar as making data accessible by third party tools that users may develop themselves. There is also an appetite among some users for readily digestible facts and commentary on key performance metrics or outcomes through fact sheets or an executive summary rather than the current written report. Refer Finding 9; Recommendations 2, 5.

Data management and system processes and associated IT infrastructure

IT and technology solutions are not being harnessed sufficiently to speed up collection, and improve quality associated with data capture. Currently, data is released too late to be of value to users. There is significant scope to improve the efficiency and effectiveness of data provision and validation processes and single point of data entry arrangements at the State or Territory level are a preferred solution to addressing this, as they can assist in reducing the opportunity for indicator misinterpretation or miscalculation and speeding up data provision processes (as well as minimising reporting alignment issues discussed above). Refer Findings 8, 14, 21; Recommendations 13.

5.2. Recommendations

5.2.1. Vision and objectives; partners, stakeholders and users

The vision, objectives and outcomes of the Framework, including what it is designed to achieve (and not designed to achieve), and for whom, should be developed, defined and clearly articulated. The vision and objectives must identify the core users and convey the outcomes the Framework is seeking to provide for these users. These statements should set expectations about the value that users will receive from the Framework, and guide the actions of those responsible for its implementation. Guidance for developing and determining the vision, objective and outcome statements has been provided at Appendix K – Guidance and draft content for vision, objective and outcome statements. This includes draft statements that could be adopted as a basis for further refinement and endorsement.

Recommendation 1.1: A revised vision and objectives statements should be developed by the current RTG, in collaboration with and subject to the approval of the NWRC, based on the guidance provided by the Review Team.

Recommendation 1.2: The core users and indirect beneficiaries of the Framework should be clarified in the revised vision, objective and outcome statements, based on guidance provided by the Review Team.

5.2.2. Services

Services associated with the Framework should be modified, including the format, content and timing of publication of the written Urban National Performance Report (Part A), and the accessibility, availability, and timing of updating of the Framework dataset (Part B). A new approach to accessing the Framework dataset is required to allow users to undertake analysis in more sophisticated and bespoke ways, while ensuring there is no investment in comparison and analysis tools that stakeholders or partners are not willing to pay for, or are not truly of value to end users. There should remain no cost for users to access the data.

Part A reporting

Recommendation 2: The BoM should transition the written report (Part A) to a substantially more concise format and with substantially reduced content, focusing on targeted performance outcomes or performance metrics and sector/service provider outcomes agreed to by core users.

Part B dataset

Recommendation 3: The BoM should make the complete dataset for all water service providers for all years publicly available, including intermediate indicators used in the calculation of normalised performance metrics.

Recommendation 4: The BoM and the RTG should identify, and subsequently implement, changes that will facilitate the updating and public release of the Framework dataset as soon as QA/QC processes have been completed following data provision. If further reductions in timing of release are required, the BoM should consider testing the value of an 'as-received' dataset with stakeholders. The dataset should continue to be available as a downloadable excel file(s).

Recommendation 5: The BoM should develop a digital interface (web service) that allows any user to access the data in a format that enables them (at their behest and expense) to use third-party tools to provide bespoke interrogation and analysis of the data (but the BoM should not invest in those tools). This should be in addition to ongoing provision of excel files, and new data should also be made available via this method.

5.2.3. Framework design and functions

The framework design and functions should be updated to reflect changes in the industry, to address data quality and reliability concerns, and to include greater coverage of the industry as a whole. This includes necessary modifications to indicators, definitions, auditing approaches, and reporting thresholds, as well as providing a process for periodic review.

Indicators

Recommendation 6.1: A thorough, detailed, and independent review of the reporting themes, indicators and indicator definitions, should be undertaken independent of, but report to, Framework governing and owner/administrator bodies. This should occur following agreement on, and be undertaken with reference to, the revised vision and objectives, and should also follow the guidance provided by the Review Team, including indicator principles.

Recommendation 6.2: Indicator themes and individual indicators should be subject to regular periodic independent review every five years, with reference to the revised objectives and indicator principles.

Guidance on initial and subsequent indicator reviews

The initial, and subsequent reviews of indicators, must be undertaken with reference to the revised vision and objective statements agreed, in addition to the following draft principles for indicator selection. The initial review's objectives should include identifying an agreed set of lasting national outcome areas, and associated indicators and performance metrics that meet the needs of users. It should also seek to further clarify and address specific definitional and interpretation problems, remove redundant or no longer relevant indicators⁴⁷, and introduce new indicators required, whilst containing growth in the total number of indicators (preferably reducing the total number from the current amount). The initial review must also specifically investigate and conclude on the value and benefit of ongoing inclusion of bulk water related indicators and reporting entities in the Framework. Subsequent reviews should be undertaken at 3 to 5-year intervals, and should be undertaken independent of, but report to Framework governing and owner/administrator bodies. Initial and subsequent indicator reviews, and the ongoing design and operation of the Framework more generally, should be guided by the principles for indicator review and selection set out below.

Principles for indicator review and selection

Framework indicators should:

- clearly reflect or respond to the vision, objectives and outcomes of the Framework;
- focus on outcomes, or be outcome based;
- ensure national relevance, national interest, and national comparability;
- meet common interests across different jurisdictions and types and sizes of reporting entities, as much as possible;
- enable comparisons without significant additional effort to provide data, or adjust or caveat for differences;

⁴⁷ Examples provided to the Review Team included customer performance related indicators and metrics that better reflect contemporary customer expectations and outcomes; infrastructure leakage; percentage of calls answered by an operator within 30 seconds.

- avoid complex or jurisdiction specific definitions, wherever possible;
- not materially grow in number over time;
- be harmonised with existing state or Commonwealth indicators or existing reporting requirements wherever possible;
- be easy to understand and as straightforward as possible to produce or derive data for;
- be future focused, and include 'leading' indicators rather than 'lagging' indicators, as appropriate;
- respond to contemporary issues and drivers, but not focus excessively on short-term trends; and
- be adaptable and flexible to changes in the industry so as to remain relevant and accurate.

QA/QC strategy, including audit framework

Recommendation 7: A QA/QC strategy should be developed by the RTG, including a revised audit framework, based on independent advice and in collaboration with water service providers or their representatives and state government entities responsible for state-based audits, and reflect guidance provided by the Review Team.

Guidance on QA/QC strategy, including revised audit framework

The purpose of both the QA/QC strategy and revised audit framework should be ensuring data quality, reliability, and consistency, but must be cost-effective and agreeable to auditable entities, address issues with duplication, and should reflect a risk-based approach. For example, audits could be rolling, random, target a sample of providers each year, and/or target anomalies. The revised approach and framework should reflect insights gained from international examples and reflect best practice. The revised approach should also reflect the scope of auditable indicators in light of future changes to indicators (including as a result of indicator reviews) and any changes to the threshold for reporting entities (including whether, and how, smaller entities should be audited). The revised approach and framework should continue to allow jurisdictions to use their own audit requirements where these are acceptable, and should more specifically highlight what indicators are already audited by different jurisdictions and can be excluded from the audit framework.

Reporting thresholds

Recommendation 8.1: Coverage of the Framework should be extended to include water service providers with less than 10,000 connected properties.

Recommendation 8.2: The threshold for reporting (i.e. entity size), and their reporting requirements, should be determined by the RTG in collaboration with and subject to agreement by other stakeholders, based on the guidance provided by the Review Team.

Guidance on sub 10,000 connected property reporting

The RTG should develop sub 10,000 connected property arrangements in collaboration and consultation with (and subject to the agreement of entities proposed to be included and/or their representative bodies) their relevant state government oversight agency, and the UWRC. In principle, as many entities as possible should be included. Reporting requirements should reflect the unique arrangements of smaller entities, including their ability to manage the reporting burden and costs, their needs from performance information (e.g. what information would most benefit them to help improve performance outcomes), and the availability of data and information. Indicators specific to (and only reported on by) smaller entities may be justified. Newly included entities should begin reporting from the beginning of the 2020-21 reporting period, and new reporting requirements should be subject to transitional implementation arrangements.

5.2.4. Governance

A new approach to Framework governance should be developed, which clarifies and assigns ownership of the Framework, as well as administrative, operational, and decision-making roles and responsibilities. The new arrangements must provide sufficiently clear accountabilities and robust mandates to different entities or bodies, such that decisions can be taken and the Framework operated in a way that meets the needs of partners and core users.

Ownership and administration roles

Recommendation 9.1: The Commonwealth Department or agency with responsibility for water policy should be established as the formal owner and champion of the Framework, and the NWRC should consider and determine how this should be given ongoing and practical effect. This recommendation is contingent on the Commonwealth agreeing to fund the core functions of the Framework into the future (Recommendation 14).

Recommendation 9.2: The BoM should be formally established as the operator of the Framework, with responsibility for its operation, maintenance and support, and the authority to make operational decisions subject to input from and agreement with the proposed steering committee.

Decision-making and accountability

Recommendation 10: Two new separate committees should be formed – a technical reference committee, and a steering committee – each with distinct roles and membership. Together they should replace the RTG. Design and mechanisms for establishment and authority should be determined by the Commonwealth Department responsible for water policy based on guidance provided by the Review Team.

Guidance on new committee arrangements

New committee arrangements are required to better distinguish between strategic and policy related, and technical, decision-making, and ensure there are clearer roles and responsibilities, and greater accountability. The technical reference committee should be responsible for technical matters and problem solving (e.g. detailed indicator and data issues), should not be a decision-making body, and should be accountable to the steering committee. The steering committee should be responsible for strategic matters and certain decision-making (delegated from the Framework owner), and should be accountable to the Framework owner. Both should be responsible for advising and supporting the BoM in fulfilling its administrator role.

Membership of the steering committee should include senior government, regulatory, and industry representation and an independent member from outside the water sector. The technical reference committee should include representation from core Framework users, with a focus on those reporting on indicators and using data (e.g. water service providers). Clear Terms of Reference must be developed for both committees, and should clearly set out their purpose, roles, responsibilities and obligations, their membership, accountability and decision-making arrangements. They should also reflect the revised vision, objectives and outcomes, and other key elements, such as principles that must be followed in updating or developing new indicators. Where any recommendation in this Review has been assigned to the RTG but is not completed by it prior to the new governance arrangements coming into effect, the steering committee should determine which committee should be responsible for it post 30 June 2021.

Formalising roles and governance arrangements

Recommendation 11: The role of the BoM, obligations to provide Framework data, updated governance arrangements and key framework design aspects should be reflected in amendments to the Commonwealth *Water Act 2007* and/or *Water Regulations 2008* (as appropriate). The Commonwealth Department responsible for water policy and the BoM should determine the feasibility of and approach to this. If it is not feasible, they should lead development of and ensure agreement to a new long-term MoU with partners prior to end of the current agreement in 2021.

5.2.5. Operational tasks and infrastructure

The Framework requires an enhanced approach to communicating with users and stakeholders and providing supporting information that enables it to function effectively. There are also opportunities to improve data collection and verification approaches which will support more timely publication of data. State governments should investigate opportunities to streamline reporting requirements.

Framework information and communication

Recommendation 12: The Framework owner and administrator (as established through Recommendation 9), with RTG support, should develop and implement a strategy and plan for ongoing communication with the Framework's partners and users. Objectives should include ensuring all users are properly informed about and fully understand the operation and use of the framework (including specifically ensuring consistent understanding of indicator definitions), and are provided with timely updates regarding any changes. This should include providing indicator definitions, audit guidelines and other operation documents, as well as making all historic Framework publications publicly available, as a short-term priority.

Data provision and validation

Recommendation 13: Where they do not already exist (e.g. SWIM in Queensland), State and Territory governments and industry should investigate opportunities for, and the feasibility of, single source of data entry for reporting entities in their jurisdictions to improve the effectiveness and efficiency of data provision and validation processes. If they determine that single source of data entry is cost-effective and desired, then the State or Territory and respective subset of industry should implement it.

5.2.6. Resourcing and cost sharing

Delivery against other recommendations should lead to a net decrease in annual funding required for the Framework, but there are also recommendations that will introduce costs (particularly in the short-term). Nevertheless, the long-term result should be lower total costs. Core Framework functions should be met solely by the Commonwealth given the low quantum involved and the national focus of the Framework. Other contributions will still be required by state governments and should be recognised as their costs of participation.

Recommendation 14: The current approach to resourcing the Framework's operation and sharing financial costs should be replaced in favour of a new, single Commonwealth funding approach for

core Framework functions, supported by in-kind and other contributions, as described in the new resourcing model developed by the Review Team.

New resourcing and cost sharing model

The Framework's core functions (including indicator definition; data collation, verification and hosting; publication of the dataset and streamlined reporting, and; enhancements to data access (Recommendation 5)) should be funded or otherwise resourced by the Commonwealth, with no cash contributions required from state governments. The Commonwealth should also provide secretariat support required for revised governance arrangements, with participation in the revised committees met as in-kind contributions by participants. The Commonwealth should also develop budgets for and provide financial resources to support capital investment required to support the maintenance of the Framework's database, artefacts, and the periodic reviews, and general evolution of the Framework. The BoM should receive funding for operation, and DA (or whichever Commonwealth agency has direct responsibility for urban water policy) should fund any policy related activities. The BoM must also improve how it tracks costs and resources applied in the operation of the Framework.

The cost of data preparation and provision by water service providers should be met by them; collection by state administrators or state systems (e.g. state data coordinators, or SWIM) should be met by state governments; completion of process audits should be the responsibility of water service providers (noting that a new funding model for this should be developed as part of Recommendation 7). These costs should be explicitly recognised as the jurisdictional costs of participation in the Framework.

5.3. List of recommendations

Element	Recommendations
Vision, objectives, users	<ul style="list-style-type: none">• Recommendation 1.1: A revised vision and objectives statements should be developed by the current RTG, in collaboration with and subject to the approval of the NWRC, based on the guidance provided by the Review Team.• Recommendation 1.2: The core users and indirect beneficiaries of the Framework should be clarified in the revised vision, objective and outcome statements, based on guidance provided by the Review Team.

Element	Recommendations
Services	<ul style="list-style-type: none"> • Recommendation 2: The BoM should transition the written report (Part A) to a substantially more concise format and with substantially reduced content, focusing on targeted performance outcomes or performance metrics and sector/service provider outcomes agreed to by core users. • Recommendation 3: The BoM should make the complete dataset for all water service providers for all years publicly available, including intermediate indicators used in the calculation of normalised performance metrics. • Recommendation 4: The BoM and the RTG should identify, and subsequently implement, changes that will facilitate the updating and public release of the Framework dataset as soon as QA/QC processes have been completed following data provision. If further reductions in timing of release are required, the BoM should consider testing the value of an 'as-received' dataset with stakeholders. The dataset should continue to be available as a downloadable excel file(s). • Recommendation 5: The BoM should develop a digital interface (web service) that allows any user to access the data in a format that enables them (at their behest and expense) to use third-party tools to provide bespoke interrogation and analysis of the data (but the BoM should not invest in those tools). This should be in addition to ongoing provision of excel files, and new data should also be made available via this method.
Framework design and function	<ul style="list-style-type: none"> • Recommendation 6.1: A thorough, detailed, and independent review of the reporting themes, indicators and indicator definitions, should be undertaken independent of, but report to, Framework governing and owner/administrator bodies. This should occur following agreement on, and be undertaken with reference to, the revised vision and objectives, and should also follow the guidance provided by the Review Team, including indicator principles. • Recommendation 6.2: Indicator themes and individual indicators should be subject to regular periodic independent review every five years, with reference to the revised objectives and indicator principles. • Recommendation 7: A QA/QC strategy should be developed by the RTG, including a revised audit framework, based on independent advice and in collaboration with water service providers or their representatives and state government entities responsible for state-based audits, and reflect guidance provided by the Review Team. • Recommendation 8.1: Coverage of the Framework should be extended to include water service providers with less than 10,000 connected properties. • Recommendation 8.2: The threshold for reporting (i.e. entity size), and their reporting requirements, should be determined by the RTG in collaboration with and subject to agreement by other stakeholders, based on the guidance provided by the Review Team.

Element	Recommendations
Governance	<ul style="list-style-type: none"> • Recommendation 9.1: The Commonwealth Department or agency with responsibility for water policy should be established as the formal owner and champion of the Framework, and the NWRC should consider and determine how this should be given ongoing and practical effect. This recommendation is contingent on the Commonwealth agreeing to fund the core functions of the Framework into the future (Recommendation 14). • Recommendation 9.2: The BoM should be formally established as the operator of the Framework, with responsibility for its operation, maintenance and support, and the authority to make operational decisions subject to input from and agreement with the proposed steering committee. • Recommendation 10: Two new separate committees should be formed – a technical reference committee, and a steering committee – each with distinct roles and membership. Together they should replace the RTG. Design and mechanisms for establishment and authority should be determined by the Commonwealth Department responsible for water policy based on guidance provided by the Review Team. • Recommendation 11: The role of the BoM, obligations to provide Framework data, updated governance arrangements and key framework design aspects should be reflected in amendments to the Commonwealth Water Act 2007 and/or Water Regulations 2008 (as appropriate). The Commonwealth Department responsible for water policy and the BoM should determine the feasibility of and approach to this. If it is not feasible, they should lead development of and ensure agreement to a new long-term MoU with partners prior to end of the current agreement in 2021.
Operational tasks and infrastructure	<ul style="list-style-type: none"> • Recommendation 12: The Framework owner and administrator (as determined in Recommendation 9), with RTG support, should develop and implement a strategy and plan for ongoing communication with the Framework's partners and users. Objectives should include ensuring all users are properly informed about and fully understand the operation and use of the framework (including specifically ensuring consistent understanding of indicator definitions), and are provided with timely updates regarding any changes. This should include providing indicator definitions, audit guidelines and other operation documents, as well as making all historic Framework publications publicly available, as a short-term priority. • Recommendation 13: Where they do not already exist (e.g. SWIM in Queensland), State and Territory governments and industry should investigate opportunities for, and the feasibility of, single source of data entry for reporting entities in their jurisdictions to improve the effectiveness and efficiency of data provision and validation processes. If they determine that single source of data entry is cost-effective and desired, then the State or Territory and respective subset of industry should implement it.

Element	Recommendations
Resourcing and cost sharing	<ul style="list-style-type: none"> • Recommendation 14: The current approach to resourcing the Framework's operation and sharing financial costs should be replaced in favour of a new, single Commonwealth funding approach for core Framework functions, supported by in-kind and other contributions, as described in the new resourcing model developed by the Review Team.

6. Implementation work plan and timeline

This section provides guidance on the proposed staging of recommendations and presents a pathway for implementation.

An indicative implementation pathway, including a work plan and timeline, has been developed to aid the prioritised implementation of recommendations. The pathway incorporates and reflects phases of investigation, decision-making and execution proposed by the Review Team. To a significant extent, the implementation pathway is informed by the date at which current formal agreements end.

However, many recommendations are independent of this, and the pathway otherwise reflects the need to begin and complete work in earnest, such that the Framework can adapt and evolve to meet needs as soon as practical.

This is reflected in the following work plan (Table 5), which highlights key timeframes or dates for each review element and specific recommendations associated with it, as well as key dependencies. An accompanying timeline illustrating the work plan is provided in Figure 3.

Table 5 Proposed recommendation work plan with key decision points

	Investigation	Decision or agreement	Implementation
Vision, objectives, users	<ul style="list-style-type: none"> NWRC and RTG to investigate, further consider or adopt draft vision until end September 2019 (Rec 1) 	<ul style="list-style-type: none"> NWRC and RTG to agree vision by end December 2019 (Rec 1)⁴⁸ 	<ul style="list-style-type: none"> NWRC to implement / give effect to vision from January 2020 (Rec 1)
Services	<ul style="list-style-type: none"> BoM to investigate new streamlined report approach (Part A) by end June 2020 (Rec 2) 	<ul style="list-style-type: none"> BoM to decide on new report approach by end September 2020 (Rec 2) 	<ul style="list-style-type: none"> BoM to implement new report approach from October 2020 (Rec 2)
		<ul style="list-style-type: none"> BoM to decide whether to make complete dataset available by end September 2019 (Rec 3) 	<ul style="list-style-type: none"> BoM to make complete dataset available from October 2019 if determined they should do so (Rec 3)
	<ul style="list-style-type: none"> BoM and RTG to investigate how to implement faster data provision by end June 2020 (Rec 4) 	<ul style="list-style-type: none"> BoM and RTG to decide on approach to faster data provision by end September 2020 (Rec 4) 	<ul style="list-style-type: none"> BoM to implement improved data provision approach by end March 2021 for 2020-21 reporting process (Rec 4)
	<ul style="list-style-type: none"> BoM to investigate new web-based accessibility tool by end December 2020 (Rec 5) 	<ul style="list-style-type: none"> BoM to agree or decide on new web tool by end March 2021 (Rec 5) 	<ul style="list-style-type: none"> BoM to implement new web tool from April 2021 (Rec 5)
Framework design and function	<ul style="list-style-type: none"> RTG to develop Terms of Reference for independent review of indicators by end December 2019 (Rec 6.1) 	<ul style="list-style-type: none"> RTG to decide on and contract independent reviewer by end March 2020 (Rec 6.1) 	

⁴⁸ Agreed vision, objective and outcome statements should inform the design and decision stages of Recommendations 2, 6, 10, 11 and 12.

	Investigation	Decision or agreement	Implementation
	<ul style="list-style-type: none"> RTG to guide the independent review through September 2020 (Rec 6.1) 	<ul style="list-style-type: none"> RTG to agree or decide on review findings and recommendations by end December 2020 (Rec 6.1)⁴⁹ 	RTG (until new governance committees established) to implement review recommendations from January 2021 (Rec 6.1)
		<ul style="list-style-type: none"> New governance committees decide on next indicator review after 5 years of first review (Rec 6.2) 	
	<ul style="list-style-type: none"> RTG to consult with State/Territory Governments and utilities to investigate and design revised audit framework and new reporting threshold by end December 2020 (Recs 7 and 8) 	<ul style="list-style-type: none"> RTG to decide on revised audit requirements and new reporting threshold by end March 2021 (Recs 7 and 8) 	<ul style="list-style-type: none"> RTG, State/Territory Governments and utilities to implement revised auditing approach and new reporting threshold from April 2021 (Recs 7 and 8)
Governance	<ul style="list-style-type: none"> NWRC and Commonwealth entity responsible for water policy⁵⁰ to consult with BoM to investigate owner and administrator arrangements by end December 2019 (Rec 9) 	<ul style="list-style-type: none"> NWRC to decide on formal owner and administrator by end March 2020 (Rec 9)⁵¹ 	
	<ul style="list-style-type: none"> NWRC to design owner and administrator arrangements based on decision by end March 2021 (Rec 9) 		<ul style="list-style-type: none"> Framework owner and administrator to implement arrangements from April 2021 (Rec 9)
	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy to investigate new 	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy to decide on new governance 	

⁴⁹ Decisions on indicator review findings and recommendations should inform the design and decision stages of Recommendations 7 and 8.

⁵⁰ Currently the Department of Agriculture (DA).

⁵¹ Decision on the formal owner and administrator should inform the design stage of Recommendation 11. This decision should also inform, and be informed by, the decision stage of Recommendation 14.

	Investigation	Decision or agreement	Implementation
	governance committee arrangements until end March 2020 (Rec 10)	committee arrangements by end June 2020 (Rec 10) ⁵²	
	<ul style="list-style-type: none"> NWRC and Commonwealth entity responsible for water policy to design new gov committees based on decision by end March 2021 (Rec 10) 		<ul style="list-style-type: none"> Implement new governance committee arrangements from April 2021 (Rec 10)
	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy and BoM to investigate feasibility of legislative amendments to formalise roles until end September 2020 (Rec 11) 	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy and BoM to resolve feasibility of the Water Act/Regs approach by end December 2020 (Rec 11) 	
	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy to develop/design amendments or new MoU, based on decision, by end March 2021 (Rec 11) 		<ul style="list-style-type: none"> Commonwealth entity responsible for water policy to implement legislative changes from April 2021 (Rec 11)
Operational tasks and infrastructure	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy, BoM and RTG to investigate and design comms strategy by end December 2020 (Rec 12) 	<ul style="list-style-type: none"> Commonwealth entity responsible for water policy, BoM and RTG to agree on comms strategy by end March 2021 (Rec 12) 	<ul style="list-style-type: none"> Framework owner and administrator to implement comms strategy from April 2021 (Rec 12)
	<ul style="list-style-type: none"> State/Territory Governments, utilities and industry reps to investigate single point of data entry arrangements from April 2020 (Rec 13) 		<ul style="list-style-type: none"> State/Territory Governments, utilities and industry to implement single point of data entry arrangements as/when practical (Rec 13)

⁵² Decision on the new governance committee arrangements should inform the design stage of Recommendation 11.

	Investigation	Decision or agreement	Implementation
Resourcing and cost sharing	<ul style="list-style-type: none"> Commonwealth to investigate new resourcing and cost-sharing model by end December 2019 (Rec 14) 	<ul style="list-style-type: none"> Commonwealth to decide on new resourcing and cost-sharing model by end March 2020 (Rec 14)⁵³ 	
	<ul style="list-style-type: none"> Commonwealth to design new model based on decision by end March 2021 (Rec 14) 		<ul style="list-style-type: none"> Commonwealth to implement new resourcing and cost-sharing model from April 2021 (Rec 14)

⁵³ Decision on the new resourcing and cost-sharing model should inform, and be informed by, the decision stage of Recommendation 9.

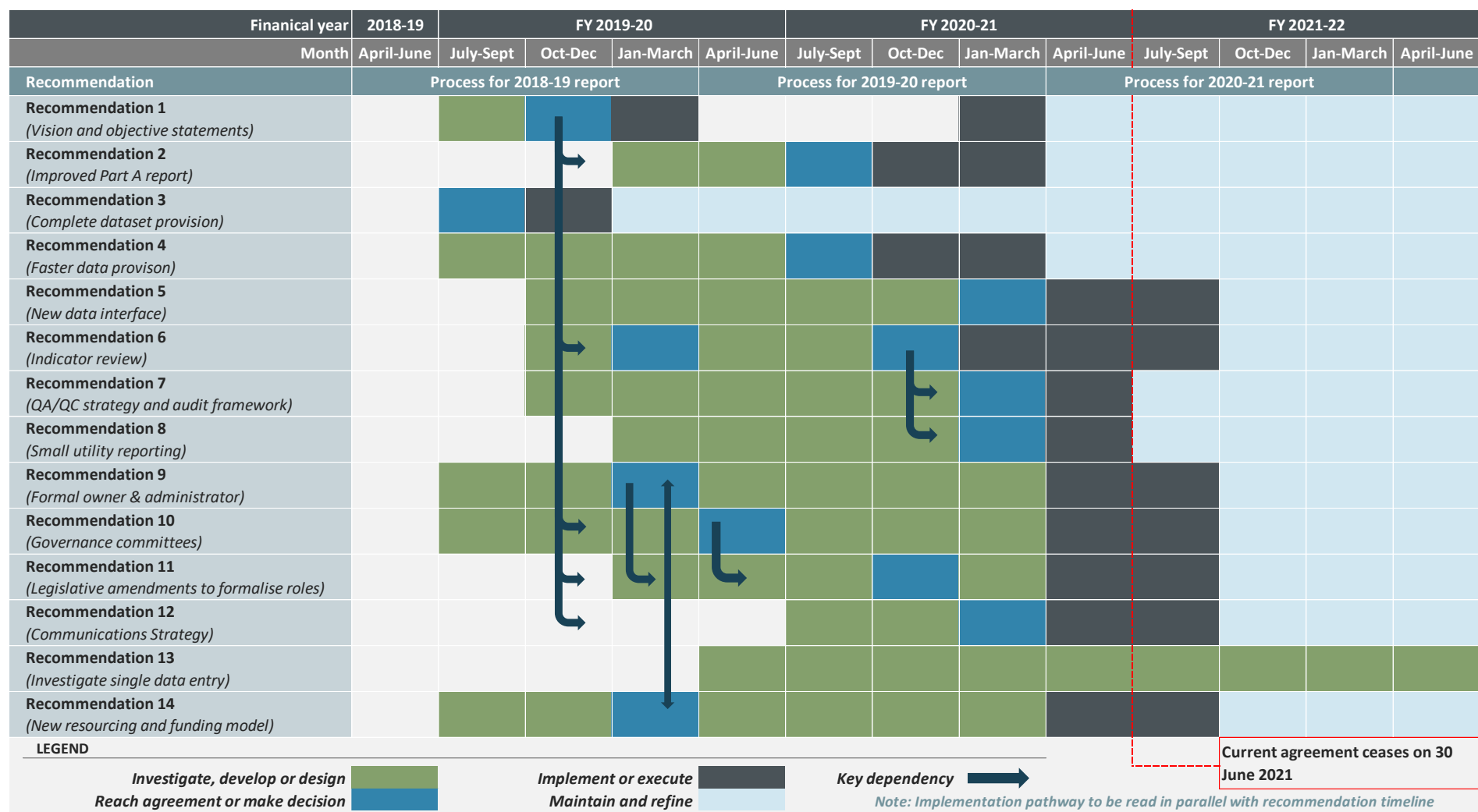


Figure 3 Proposed implementation pathway timeline

Appendix A – Stakeholder consultation

7.1. Overview

Consistent with the stakeholder engagement plan, the intensive phase of consultation on ‘issues and needs analysis’ formally began on 7 January 2019 and concluded on 15 February 2019. Stakeholder engagement was accompanied and informed by the Briefing Paper, which introduced the Review, made initial observations about issues with the Framework (without prompting or prejudicing responses) and included key questions and details about how to make a submission.

A list of stakeholders to directly contact regarding participation in the Review was prepared in collaboration with the BoM. Engagement involved wide and comprehensive consultation with the full extent of identified stakeholder groups to understand the value, opportunities and issues associated with the National Performance Reporting Framework. Key stakeholders included water utilities, state and national government agencies or departments, economic regulators, industry bodies and advisory groups (including local government councils or associations), interested private sector organisations, public interest and advocacy groups, and academia or research organisations with experience dealing with the Framework. An ‘invitation to participate’ email was sent out on 2 January 2019 advertising the start of the consultation process on 7 January to initially identified key stakeholder groups. This email was subsequently sent to additional individuals and organisations throughout January, as secondary groups were identified.

Additionally, the Review Team released social media posts announcing the consultation phase of the Review on 7 January 2019, and facilitated the promotion of the Review in national and international media outlets, including the National AWA Source Newsletter published on 14 January and the SAI Global Water Newsfeed published on 17 January 2019.

By the end of the formal consultation phase, the Review Team had contacted 163 individuals across 103 organisations including:

- Utilities (53)
- Government agencies and departments (21)
- Local governments, councils and their representative bodies (4)
- Economic regulators (7)
- Industry bodies and advisory groups (7)
- Private sector representatives (5)
- Other (including public interest and advocacy groups, academia and research) (6)

Following identification of issues and possible opportunities during targeted interviews and written submissions, the Review Team undertook four workshops to present preliminary findings and facilitate input from stakeholders to identify, test, or refine potential recommendations.

7.2. Targeted interviews

The Review Team conducted face-to-face and telephone consultations (both formal interviews and informal conversations) between November 2018 and February 2019. Formal interviews occurred

between 7 January and 15 February. The discussion paper provided a useful framework for eliciting responses with most consultations generally seeking to follow this structure, while still providing the flexibility to follow specific areas of interest or investigation relevant to participants.

To date, 45 individuals across 27 different organisations or agencies have been consulted through a targeted interview, exclusive of meetings conducted with BoM. These organisations include:

- Utilities (8)
- Government agencies and departments (6)
- Local government, councils and their representative bodies (2)
- Economic regulators (5)
- Industry bodies and advisory groups (4)
- Private sector representatives (1)
- Other (including public interest and advocacy groups, academia and research) (1)

7.3. Written submissions

The call for submissions opened on the BoM website on 7 January 2019 and formally concluded on 15 February 2019. The key questions in the Briefing Paper formed a written submission template to provide further guidance to stakeholders making a submission. Written submissions varied widely in length, tone and clarity. Most responded directly to the key questions included in the briefing paper. Administratively, the submissions process was largely successful. The email established by the Review Team to receive submissions operated effectively.

By 22 February 2019, 25⁵⁴ submissions from 28 organisations had been received by the Review Team. Submissions were received from:

- Utilities (13)
- Government agencies and departments (3)
- Local government, councils and their representative bodies (1)
- Economic regulators (3)
- Industry bodies and advisory groups (4)
- Private sector representatives (3)
- Other (including public interest and advocacy groups, academia and research) (1)

7.4. Workshops

The Review Team held four workshops in different capital cities around Australia. The workshops were intended to provide an opportunity for the Review Team to present on the preliminary findings

⁵⁴ Three joint submissions were received – i.e. Kingspan and Urban Water Cycle Solutions; OTTER and DPIPWE; LGNSW and NSW Water Directorate.

from the formal consultation period and analysis, including key improvement opportunities, and facilitate input from stakeholders to identify, test, or refine potential recommendations.

Given that the latter (solutions, improvement opportunities) were relatively less prominent in consultation than issue identification, the workshops provided a good forum to elicit and facilitate discussion across stakeholders about the future direction for the framework. Interest in workshop participation was gauged through the initial consultation phase. This informed the proposed approach and locations for the workshops. Workshops took place in the following cities during the fortnight beginning 25 March 2019:

- Melbourne: 24 in-person participants, 6 remote participants
- Sydney: 16 in-person participants, 4 remote participants
- Brisbane: 22 in-person participants
- Adelaide: 10 in-person participants, 3 remote participants

Appendix B – Consultation questions

Vision and objectives

1. What is your understanding of, and opinion on the current vision, purpose and rationale, or objectives for the NPR Framework?
2. Do you think the current Framework, indicators and/or outputs deliver against this? How, or why?
3. What do you think the future vision and objectives should be?

Evolving urban water sector drivers

4. What are the key ways the urban water sector has changed since the inception of the Framework?
5. How do these changes impact the relevance of the current Framework?
6. What key challenges and opportunities does the sector face now and into the future, and how should the Framework evolve in response?

Value of the NPR Framework

7. How does the Framework currently provide value, and to whom? For example, what exactly is it used for, and who are the key users?
8. How, specifically, do you or your organisation use the Framework and its outputs? For example, what issues, outcomes, functions or decisions do you rely on it for?
9. What other sources or forms of reporting or data do you use related to urban water sector performance, and why?
10. What additional sectors or user groups could benefit from the Framework, and how?
11. Is reporting or data provision the only or the best way to realise value? What else could the Framework do or provide to realise value?

Shortcomings or issues

12. What do you think are the major problems or shortcomings with the Framework, or its implementation (including its outputs), and why?
13. Do you have other reporting or data provision requirements that are duplicative, and are they material? What opportunities exist for synergies or streamlining, or are there other solutions?
14. What are the key issues with the Framework indicators, and what do you think are the solutions?
15. What are your views on other issues highlighted, including keeping pace with evolving needs, the timing of data provision or reporting, and costs or cost sharing?

What changes do you think need to be made to address shortcomings?

Appendix C – Current Framework indicators

9.1. Framework indicators 2017-18 report

Category	Sub category	Indicator	Units	Status	Page
Water resources	Sources	W1 —Volume of water sourced from surface water	ML	Report	21
	Sources	W2 —Volume of water sourced from groundwater	ML	Report	22
	Sources	W3.1 —Volume of water sourced from desalinated marine waters	ML	Report	22
	Transfers	W5.3 —Volume of water, excluding recycled water, received from other service providers or operational areas within the urban water supply system	ML	Report	23
	Transfers	W14.3 —Volume of water, excluding recycled water, exported to other service providers or operational areas within the urban water supply system	ML	Report	24
	Production	W11.3 —Volume of potable water produced for supply into the urban water supply system	ML	Report	24
	Use	W8.3 —Volume of water supplied to residential customers	ML	Report	25
	Use	W9.3 —Volume of water supplied to non-residential customers	ML	Report	25
	Use	W31 —Volume of water returned to surface water and groundwater from the urban water supply system	ML	Report	26
Water resources	Use	W13 —Volume of water returned as environmental flows from outside of the urban water supply system	ML	Report	26
	Use	W10.1 —Volume of non-revenue water	ML	Report	27
	Wastewater collected	W16 —Volume of wastewater, excluding trade waste, collected	ML	Report	27
	Wastewater collected	W17 —Volume of trade waste collected	ML	Report	28
	Inflow to plant	W18.4 —Volume of wastewater inflow to wastewater treatment plants	ML	Report	28
	Transfers:	W18.2 —Volume of wastewater received from other service providers or operational areas within the urban wastewater system	ML	Report	29
	Transfers	W18.1 —Volume of wastewater exported to other service providers or operational areas within the urban wastewater system	ML	Report	29
	Extraction for sewer mining	W18.3 —Volume of wastewater taken through sewer mining	ML	Report	30
	Outflow from plant	W18.5 —Volume of treated effluent outflow from wastewater treatment plants	ML	Report	30
	Use	W29 —Volume of treated wastewater disposals	ML	Report	31
	Outflow from plant	W30 —Volume of wastewater losses and discharges	ML	Report	31

Water resources	Transfers	W6 —Volume of recycled water received from other service providers or operational areas within the urban water supply system	ML	Report	40
	Transfers	W15 —Volume of recycled water exported to other service providers or operational areas within the urban water supply system	ML	Report	32
	Use	W20 —Volume of recycled water supplied to residential customers	ML	Report	33
	Use	W21 —Volume of recycled water supplied to non-residential customers	ML	Report	33
	Use	W23 —Volume of recycled water supplied as environmental flows	ML	Report	34
	Use	W25.1 —Volume of recycled water supplied to managed aquifer recharge	ML	Report	34
	Use	W28.4 —Volume of urban stormwater supplied to residential customers	ML	Report	35
	Use	W28.5 —Volume of urban stormwater supplied to non-residential customers	ML	Report	35
	Sources	W7 —Total volume of water sourced	ML	$W7 = W1 + W2 + W3.1 + W5.3 - W31 + W20 + W21 + W28.4 + W28.5$	36
Water resources	Transfers	W5 —Total volume of water received from other service providers or operational areas within the urban water system	ML	$W5 = W5.3 + W6$	37
	Transfers	W14 —Total volume of water exported to other service providers or operational areas within the urban water supply system	ML	$W14 = W14.3 + W15$	37
	Use	W8 —Total volume of water supplied to residential customers	ML	$W8 = W8.3 + W20 + W28.4$	38
	Use	W9 —Total volume of water supplied to non-residential customers	ML	$W9 = W9.3 + W21 + W28.5$	38
	Production	W11 —Total volume of urban water supplied	ML	$W11 = W8.3 + W9.3 + W20 + W21 + W28.4 + W28.5$	39
	Use	W12 —Average volume of residential water supplied per property	ML/property	$W12 = (W8) / C2$	39
	Wastewater collected	W18 —Total volume of wastewater collected	ML	$W18 = W16 + W17$	40
	Wastewater collected	W19 —Average volume of wastewater collected per property	ML/property	$W19 = W18 / C8$	40
	Use	W26 —Total volume of recycled water supplied	ML	$W26 = W20 + W21 + W23 + W25.1$	40
	Use	W27 —Recycled water as a percentage of total wastewater collected	%	$W27 = (W26 + W15 - W6) / W18.5 * 100$	41
Assets	Water treatment plants	A1 —Number of water treatment plants providing full treatment	plants	Report	42
	Other water assets	A2 —Length of water mains	km	Report	43

Assets	Other water assets	A3 —Number of properties served per km of water main	properties/km	$A3 = C4 \times 1000 / A2$	44
	Wastewater assets	A4 —Number of wastewater treatment plants	plants	Report	45
	Wastewater assets	A5 —Length of sewer mains and channels	Km	Report	45
	Wastewater assets	A6 —Number of properties served per km of sewer main	properties/km	$A6 = (C8 \times 1000) / A5$	45
	Water main breaks	IA8 —Number of water main breaks, bursts and leaks	mains breaks	Report	46
	Water main breaks	A8 —Number of water main breaks, bursts and leaks, per 100 km of water mains	mains breaks/100 km	$A8 = (IA8 / A2) \times 100$	46
	Water losses	A9 —Infrastructure leakage index		Report	47
	Water losses	A10 —Real losses: service connections	L/service connection/day	Report	48
	Water losses	A11 —Real losses: water mains	kL/km water main/day	Report	48
	Wastewater breaks and chokes	A14 —Number of sewer mains breaks and chokes per 100 km	breaks and chokes/100km	Report	49
	Wastewater breaks and chokes	A15 —Number of property connection sewer breaks and chokes per 1,000 properties	breaks and chokes/1,000 properties	Report	49
Customers	Connected properties and population	C1 —Population receiving services: water supply	population 000s	Report	51
	Connected properties and population	C2 —Number of connected residential properties: water supply	properties 000s	Report	51
	Connected properties and population	C3 —Number of connected non-residential properties: water supply	properties 000s	Report	52
	Connected properties and population	C4 —Total number of connected properties: water supply	properties 000s	$C4 = C2 + C3$	52
	Connected properties and population	C6 —Number of connected residential properties: wastewater	properties 000s	Report	53
	Connected properties and population	C7 —Number of connected non-residential properties: wastewater	properties 000s	Report	53
	Connected properties and population	C8 —Total number of connected properties: wastewater	properties 000s	$C8 = C6 + C7$	53
	Water quality complaints	IC9 —Number of water quality complaints: water supply	complaints	Report	54
	Water quality complaints	C9 —Number of water quality complaints per 1,000 properties: water supply	complaints/1,000 properties	$C9 = IC9 / C4$	54
	Water service complaints	IC10 —Number of water service complaints	complaints	Report	55
	Water service complaints	C10 —Number of water service complaints per 1,000 properties	complaints/1,000 properties	$C10 = IC10 / C4$	55

Customers	Wastewater service complaints	IC11—Number of sewerage service complaints	complaints	Report	56
	Wastewater service complaints	C11—Number of sewerage service complaints per 1,000 properties	complaints/1,000 properties	$C11 = IC11 / C8$	56
	Billing and account complaints	IC12—Number of billing and account complaints: water supply and sewerage	complaints	Report	57
	Billing and account complaints	C12—Number of billing and account complaints per 1,000 properties: water supply and sewerage	complaints/1,000 properties	$C12 = IC12 / C4$	57
	Total water and wastewater complaints	IC13—Number of water and sewerage complaints	complaints	Report	58
	Total water and wastewater complaints	C13—Number of water and sewerage complaints per 1,000 properties	complaints/1,000 properties	$C13 = IC13 / C4$	58
	Connect time to a telephone operator	C14—Percentage of calls answered by an operator within 30 seconds	%	Report	59
	Average duration of unplanned water supply interruptions	C15—Average duration of an unplanned interruption: water supply	minutes	Report	60
	Water interruption frequency	IC17—Number of unplanned interruptions: water supply	interruptions	Report	61
	Water interruption frequency	C17—Number of unplanned interruptions per 1,000 properties	interruptions/1,000 properties	$C17 = IC17 / C4$	61
Customers	Restrictions or legal action for non-payment of water bill	IC18—Number of restrictions for non-payment of water bills	restrictions	Report	62
	Restrictions or legal action for non-payment of water bill	C18—Number of restrictions for non-payment of water bills per 1,000 properties	restrictions/1,000 properties	$C18 = IC18 / C4$	62
	Restrictions or legal action for non-payment of water bill	IC19—Number of legal actions taken for non-payment of water bills	legal actions	Report	63
	Restrictions or legal action for non-payment of water bill	C19—Number of legal actions taken for non-payment of water bills per 1000 properties	legal actions/1,000 properties	$C19 = IC19 / C4$	63
Environment	Comparative wastewater treatment levels	IE1—Volume of wastewater treated to a primary level	ML	Report	64
	Comparative wastewater treatment levels	E1—Percentage of wastewater treated to a primary level	%	$E1 = (IE1 / W18) \times 100$	64
	Comparative wastewater treatment levels	IE2—Volume of wastewater treated to a secondary level	ML	Report	65
	Comparative wastewater treatment levels	E2—Percentage of wastewater treated to a secondary level	%	$E2 = (IE2 / W18) \times 100$	65
	Comparative wastewater treatment levels	IE3—Volume of wastewater treated to a tertiary level	ML	Report	66

Environment	Comparative wastewater treatment levels	E3 —Percentage of wastewater treated to a tertiary level	%	$E3 = (IE3 / W18) \times 100$	66
	Net greenhouse gas emissions	E8 —Percentage of biosolids reused	%	Report	67
	Net greenhouse gas emissions	IE9 —Net greenhouse gas emissions: water supply	t CO ₂ equivalents	Report	68
	Net greenhouse gas emissions	E9 —Net greenhouse gas emissions per 1,000 properties: water supply	t CO ₂ equivalents/1,000 properties	$E9 = IE9 / C4$	68
	Net greenhouse gas emissions	E9.1 —Net greenhouse gas emissions per ML: water supply—bulk utility	t CO ₂ equivalents/ML	$E9 = IE9 / W11$	68
	Net greenhouse gas emissions	IE10 —Net greenhouse gas emissions: wastewater	t CO ₂ equivalents	Report	69
	Net greenhouse gas emissions	E10 —Net greenhouse gas emissions per 1,000 properties: wastewater	t CO ₂ equivalents/1,000 properties	$E10 = IE10 / C8$	69
	Comparative wastewater treatment levels	E10.1 —Net greenhouse gas emissions per ML: wastewater—bulk utility	t CO ₂ equivalents/ML	$E10.1 = IE10 / W18$	69
	Net greenhouse gas emissions	IE11 —Net greenhouse gas emissions: other	t CO ₂ equivalents	Report	70
Environment	Net greenhouse gas emissions	E11 —Net greenhouse gas emissions per 1,000 properties: other	t CO ₂ equivalents/1,000 properties	$E11 = IE11 / C4$	70
	Net greenhouse gas emissions	E11.1 —Net greenhouse gas emissions per ML: other—bulk utility	t CO ₂ equivalents/ML	$E11 = IE11 / W11$	70
	Net greenhouse gas emissions	IE12 —Total net greenhouse gas emissions	t CO ₂ equivalents	$IE12 = IE9 + IE10 + IE11$	71
	Net greenhouse gas emissions	E12 —Total net greenhouse gas emissions per 1,000 properties	t CO ₂ equivalents/1,000 properties	$E12 = IE12 / C4$	71
	Net greenhouse gas emissions	E12.1 —Total net greenhouse gas emissions per ML: bulk utility	t CO ₂ equivalents/ML	$E12.1 = IE12 / W11$	71
Pricing	Residential tariff structure	P1 —Tariff structure: water supply	provided as text	Report	72
	Residential tariff structure	P1.2 —Fixed charge: water supply	\$	Report	72
	Residential tariff structure	P1.3- P1.7 —Usage charge: step 1 to 5	\$/kL	Report	73
	Residential tariff structure	P1.3a- P1.7a Upper bound of usage: step 1 to 5	kL	Report	73
	Residential tariff structure	P1.12 —Special levies: water supply	\$	Report	73
	Residential tariff structure	P1.13 —Income from special levies retained by the utility: water supply	yes/no	Report	73

Pricing	Annual bill	P2—Annual residential bill based on 200 kL per annum: water supply	\$	Report	75
	Annual bill	P3—Typical residential bill: water supply	\$	Report	76
	Residential tariff structure	P4—Tariff structure: wastewater	provided as text	Report	74
	Residential tariff structure	P4.1—Fixed charge: wastewater	\$	Report	74
	Residential tariff structure	P4.2—Usage charge: wastewater	\$/kL	Report	74
	Residential tariff structure	P4.3—Special levies: wastewater	\$	Report	75
	Residential tariff structure	P4.4—Income from special levies retained by the utility: wastewater	yes/no	Report	75
	Annual bill	P5—Annual residential bill based on 200 kL per annum: wastewater	\$	Report	76
	Annual bill	P6—Typical residential bill: wastewater	\$	Report	77
	Annual bill	P7—Total annual residential bill based on 200 kL per annum	\$	$P7 = P2 + P5$	76
	Annual bill	P8—Total typical residential bill	\$	$P8 = P3 + P6$	77
	Revenue	F1—Total revenue: water supply	\$ 000s	Report	78
Finance	Revenue	F2—Total revenue: wastewater	\$ 000s	Report	79
	Revenue	F3—Total income for the utility	\$ 000s	Report	80
Finance	Revenue	F4—Percentage of residential revenue from usage charges: water supply	%	Report	81
	Revenue	F5—Revenue per property: water supply	\$/property	$F5 = F1 / C4$	78
	Revenue	F5.1—Revenue per ML: water supply—bulk utility	\$/ML	$F5 = F1 / W11 \times 1000$	78
	Revenue	F6—Revenue per property: wastewater	\$/property	$F6 = F2 / C8$	79
	Revenue	F6.1—Revenue per ML: wastewater—bulk utility	\$/ML	$F6.1 = F2 / W18 \times 1000$	79
	Revenue	F7—Total income per property	\$/property	$F7 = F3 / C4$	80
	Revenue	F7.1—Total income per ML: bulk utility	\$/ML	$F7.1 = F3 / W11 \times 1000$	80
	Revenue from community service obligations	F8—Community service obligations ratio		$F8 = F25 / F3$	94
	Costs	F9—Written-down replacement cost of fixed water supply assets	\$ 000s	Report	82
	Costs	F10—Written-down replacement cost of fixed wastewater assets	\$ 000s	Report	82
	Costs	IF11—Operating cost: water supply	\$ 000s	Report	83
	Costs	F11—Operating cost per property: water supply	\$/property	$F11 = IF11 / C4$	83
	Costs	F11.1—Operating cost per ML: water supply—bulk utility	\$/ML	$F11.1 = IF11 / W11 \times 1000$	83
	Costs	IF12—Operating cost: wastewater	\$ 000s	Report	84

Finance	Costs	F12 —Operating cost per property: wastewater	\$/property	$F12 = IF12 / C8$	84
	Costs	F12.1 —Operating cost per ML: wastewater—bulk utility	\$/ML	$F12.1 = IF12 / W18 \times 1000$	84
	Costs	F13 —Combined operating cost per property: water supply and wastewater	\$/property	Report	86
	Costs	F13.1 —Combined operating cost per ML: water supply and wastewater—bulk utility	\$/ML	Report	86
	Capital expenditure	F14 —Capital expenditure: water supply	\$ 000s	Report	87
	Capital expenditure	F15 —Capital expenditure: wastewater	\$ 000s	Report	88
	Capital expenditure	F16 —Total capital expenditure: water supply and wastewater	\$ 000s	$F16 = F14 + F15$	88
	Economic real rate of return	F17 —Economic real rate of return: water supply		Report	89
	Economic real rate of return	F18 —Economic real rate of return: wastewater		Report	89
	Economic real rate of return	F19 —Economic real rate of return: water supply and wastewater		Report	89
	Dividends	F20 —Dividend	\$ 000s	Report	90
	Dividends	F21 —Dividend payout ratio		$F21 = F20 / F24$	90
	Net debt to equity	F22 —Net debt to equity ratio		Report	91
Finance	Interest cover	F23 —Interest cover ratio		Report	92
	Dividends	F24 —Net profit after tax (NPAT)	\$ 000s	Report	93
	Community service obligations	F25 —Community service obligation	\$ 000s	Report	94
	Capital works grants	F26 —Capital works grants: water supply	\$ 000s	Report	96
	Capital works grants	F27 —Capital works grants: wastewater	\$ 000s	Report	96
	Capital expenditure	F28 —Capital expenditure per property: water supply	\$/property	$F28 = F14 / C4$	87
	Capital expenditure	F28.1 —Capital expenditure per ML: water supply—bulk utility	\$/ML	$F28.1 = F14 / W11 \times 1000$	87
	Capital expenditure	F29 —Capital expenditure per property: wastewater	\$/property	$F29 = F15 / C8$	88
	Capital expenditure	F29.1 —Capital expenditure per ML: wastewater—bulk utility	\$/ML	$F29.1 = F15 / W18 \times 1000$	88
	Capital works grants	F30 —Net profit after tax ratio		$F30 = F24 / F3$	93
Public health	Water quality compliance	H1 —Water quality guidelines	provided as text	Report	97
	Water quality compliance	H3 —Percentage of population where microbiological compliance was achieved	%	Report	97
	Water quality compliance	H4 —Number of zones where chemical compliance was achieved	zones	Report	99
Public health	Water quality compliance	H4a —Total number of zones	zones	Report	99
	Water quality compliance	H5 —Risk-based drinking water management plan externally assessed	yes/no	Report	102

Appendix D – Synthesis of written submissions

The following sections provide a synthesis and summary of written submissions received, according to the themes and questions that were asked. It follows the same template submissions were provided in, and provides charts and statistics, a synthesis or summary of key messages, and quotes from various submissions, under each of the questions or areas asked.

10.1. Vision, purpose and objectives of the NPR Framework

Many respondents indicated an understanding that the NPR aligns with, or is a legacy of, the National Water Initiative (NWI), and believe that part of its purpose is to continue the NWI commitment to reporting publicly and independently on benchmarking of pricing and service quality for urban and rural water utilities on an annual basis (clause 75 of the NWI) (subs 1, 4, 11, 22, 23, 25). However, one respondent (sub 22) reasoned that the purpose and rationale for the relevant NWI clause is not clearly articulated, and that the point of reference for the overall purpose or objective of the NPR Framework should be consistent with the overarching objective of the NWI: “The objective of the Parties in implementing this Agreement is to provide greater certainty for investment and the environment and underpin the capacity of Australia’s water management regimes to deal with change responsively and fairly” (refer paragraph 5).

Another respondent (sub 23) indicated that the NWC and WSAA described the purpose of NPR in the ‘National Performance Report 2005-06: Major Urban Water Utilities’ (2007) as: “by identifying baseline performance of individual urban water utilities, the NPR is expected to provide strong incentive for improvement in performance of urban water utilities over time... Through transparent reporting, the NPR will build community confidence and improve water literacy in the community, enabling people to participate in informed discussions on water.” It was also mentioned that this purpose is consistent with the Productivity Commission’s (PC) advocacy to increase the scope and consistency of publicly reporting information to promote ‘competition by comparison’ (PC National Water Reform Inquiry Report 2017).

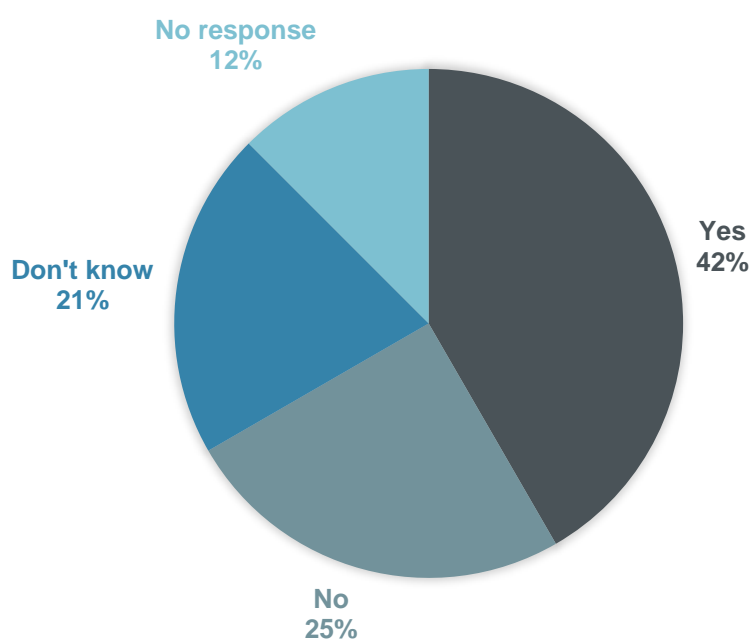
The majority of respondents supported this understanding of the vision and purpose, incorporating ‘transparent public reporting’ and ‘comparison of utility performance across Australia’ with an aim to ‘drive efficient performance, improve service delivery and drive best practice’ into their responses (subs 2, 4, 5, 6, 8, 10, 14, 17, 21). One industry body stated that the purpose of the NPR is ‘to drive continual improvement of urban water utilities and steer nationally coordinated efforts to fill knowledge gaps and encourage good utility performance and discourage poor utility performance’ (sub 19). This statement captures the essence of many stakeholder responses, which centred around revealing trends in performance, highlighting differences in performance, and uncovering where improvements can be made across a broad range of measures (subs 6, 5, 8, 7, 15, 16, 24). It was also stated that the intention of the NPR is to provide communities and customers with confidence in water services.

While many were able to articulate what the NPR is used for and shared an assumption that the purpose of the NPR is aligned with NWI commitments, others specified that they were unsure about what the NPR intends to achieve (subs 9, 21, 22). A local government body stated: ‘there is no documented or agreed vision and/or objective for the Framework’ (sub 22).

10.1.1. Whether the current Framework, indicators and/or outputs deliver against the vision, purpose or objectives, and why

While a significant proportion of respondents (42%) suggested the Framework delivers on its vision and objectives to some degree (Figure D1), many of these stakeholders also stated that there is much room for improvement. Many expressed that the NPR is meeting its basic objectives of providing transparency (through publishing of the report on the BoM website) and allowing for comparison or benchmarking of utility performance (subs 2, 5, 6, 11, 16, 17, 20), but that it is not delivering on these objectives in an efficient, effective or meaningful way (subs 4, 5, 6, 7, 8, 15, 18).

It was expressed that the NPR only goes part of the way towards achieving its aim of continual improvement through competition by comparison and benchmarking (sub 18). One respondent stated that 'it delivers transparency and allows utilities to be compared, but indicator results can be taken out of context when factors affecting performance are not considered' (sub 8), and this compromises the reliability and accuracy of the data. The majority of stakeholders who answered 'no' to this question shared the view that 'to be accurate and effective as a tool for comparison, greater contextual information is required' (sub 24; 4, 6, 8). One even went as far to state that 'pure benchmarking is not possible' due to contextual differences (sub 5).

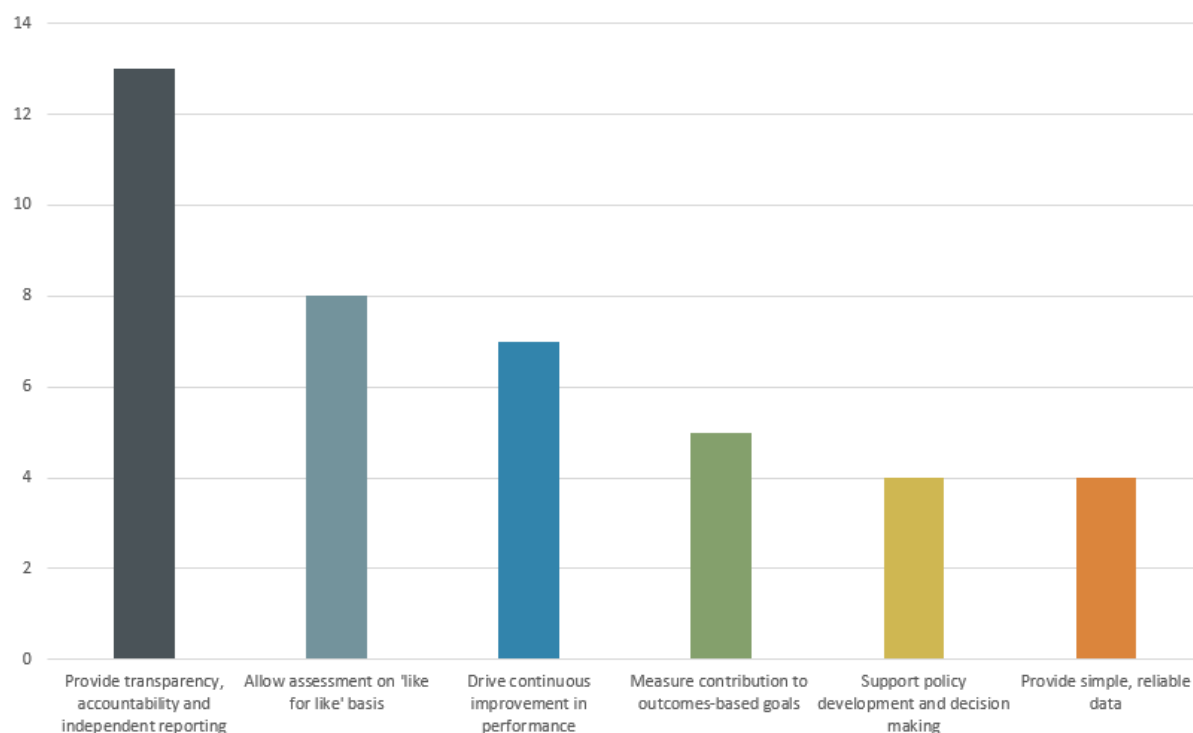


Source: Responses to Question 2 in written submissions template provided by stakeholders.

Figure D1 Stakeholder responses on whether the current framework, indicators and/or outputs deliver against current vision or objectives

Other factors that were raised in numerous submissions were inconsistency or ambiguity in indicators and associated definition, interpretations and calculations, as well as relevance of indicators, which were thought to inhibit the ability to deliver against any assumed objectives (subs 5, 6, 7, 19). As such, 46% of respondents did not believe that, or were unsure that, the NPR is delivering against the vision effectively ('no' and 'don't know' responses). This also includes those who found the vision or purpose to be completely unclear or undefined, who were thus unable to assess whether any objectives are being met (subs 1, 9).

10.1.2. Future vision and objectives



Source: Responses to Question 3 in written submissions template provided by stakeholders.

Figure D2 Count of submissions mentioning different future purpose or objectives for the Framework

The most frequently stated future purpose or objectives of the NPR provided was that it should focus on facilitating transparency of the industry (subs 1, 3, 7, 14, 17, 18, 20, 21) and holding utilities accountable for their performance (subs 1, 6, 9, 17) through independent reporting. Some feel that this is already the current purpose or objective, and that it should remain so: 'the Framework's objectives should remain centred around providing transparent reporting of utility performance for the purpose of making utilities accountable to customers and government for their service delivery performance' (sub 17). A government department that supported this objective stated: 'performance measurement data should be maintained and enhanced, but overall objectives should be retained... these should not be reduced in scope or reoriented toward other objectives' (sub 23).

The second most mentioned future purpose or objective is to allow for assessment of comparable businesses on a 'like for like' basis, meaning that data and information that provide comparisons capture contextual factors and the diversity of businesses including accounting for factors that drive differences (such as topography, density of settlement, distance from major centres (sub 13)) (subs 4, 6, 7, 8, 13, 14, 15, 21). This objective was often tied to supporting the greater purpose of driving continuous improvement of performance through identifying differences in performance and opportunities for collaboration, which was raised by many stakeholders (subs 2, 4, 6, 7, 9, 14, 22). Within this, incentivising or driving efficiency and innovation was also mentioned on numerous accounts.

Some respondents mentioned that NPR objectives should be outcome-based, and that it should measure the contribution of the sector to economic, social or liveability outcomes (sub 6, 9). One utility stated: 'the objectives could reflect...the contribution of the water sector to the development and prosperity of cities and communities' (sub 8). Consistent with this, some respondents expressed that the purpose of the NPR should be to ensure safe and reliable services for customers and communities (sub 22), and that the aim should be to reflect the real sustainability needs of Australia's

diverse communities (sub 18). However, on the contrary, one respondent disagreed with this view, suggesting that the NPR should not be defined as providing specific outcomes, 'as this may potentially interfere with state-based frameworks for regulation, policy and the operation of the water sector' (17).

While some respondents stated that the NPR should support planning, policy development, decision-making and regulation (including coordination between federal and state obligations) (subs 4, 8, 9, 15), it was also expressed that informing policy settings or decision-making is an added benefit of focusing on the true objectives of meaningful performance benchmarking and transparency, and that 'these additional benefits should not be (and do not need to be) entrenched in the framework' (sub 17). Some also thought that an objective of the NPR should be to provide data that is 'simple and reliable' for the sector (subs 4, 5, 7, 18). Other objectives or purposes mentioned include to foster security and resilience of the sector, and to account for long term interests of consumers (sub 1).

10.2. Evolving urban water sector drivers

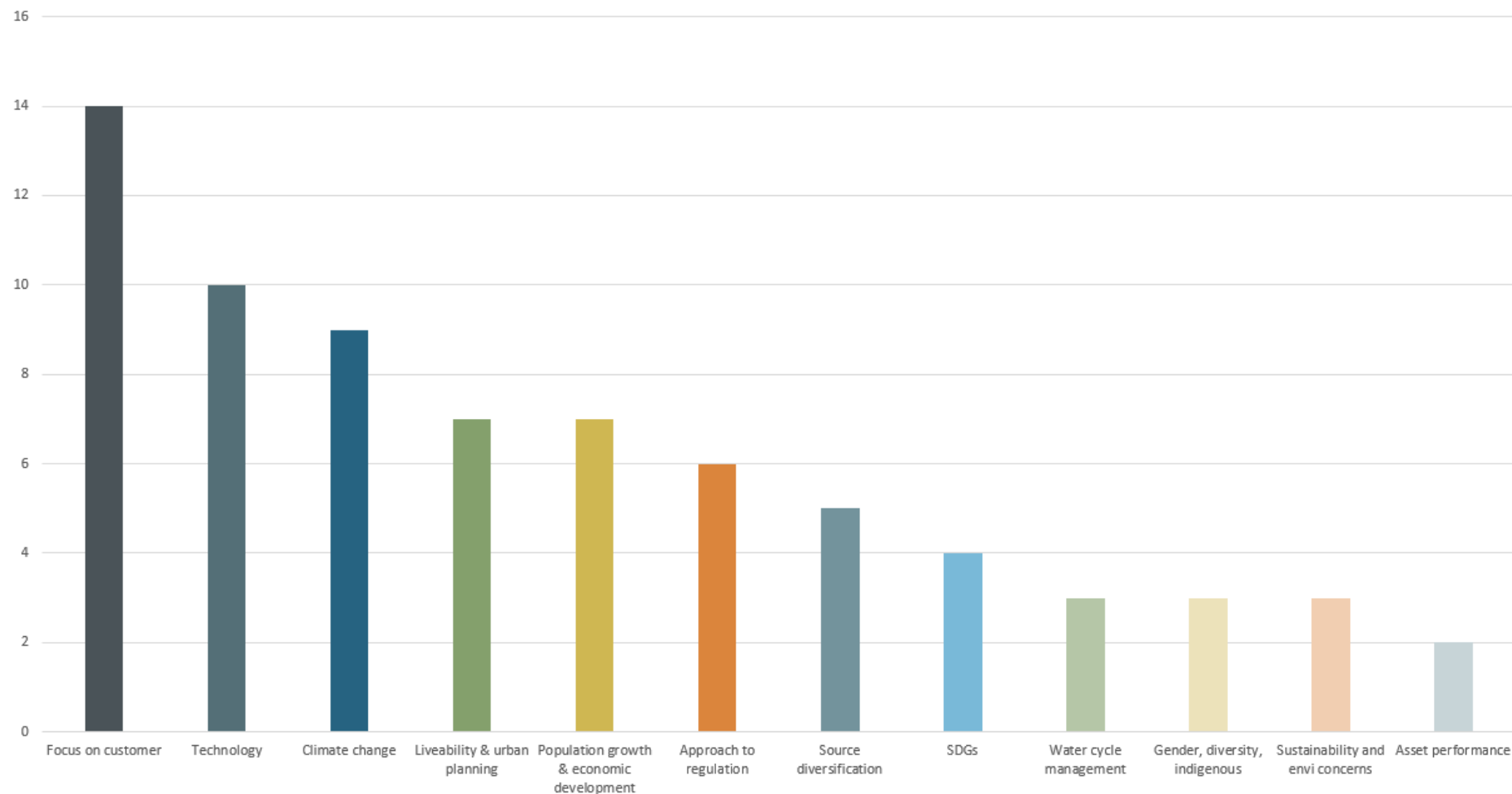
A wide range of evolving urban water sector drivers were identified in submissions, as is illustrated in Figure D3 below. A focus on customers was the most frequently mentioned driver in response to this question. Over 50% of submissions mentioned the trend toward greater emphasis on customer interests and meeting customer expectations (subs 2, 19, 15, 10, 1, 4, 8, 7, 9, 5, 6, 20, 22). This includes a focus on 'improved customer experience, better security of supply, reduced risk of contamination, reduced cost of supply, customer perceptions and improved taste and odour of services' (sub 24).

Customer-centricity was followed by emerging technology drivers and trends, including those related to social media, digital platforms, and innovation (subs 1, 2, 4, 6, 16, 19, 21, 22, 24). Some submitters mentioned the 'increased use of technological solutions and digital platforms in provider-user interfaces' (subs 1, 4), including the fact that there are emerging 'better tools for capturing, distributing and understanding data' (subs 6, 16). Others mentioned the increasing use of social media: 'From a customer point of view, social media might play a role, and there's a question over how we record customer complaints. Customers are now using other [online] methods to complain or enquire' (sub 21). Of those that commented on technology changes, the majority discussed the need for the Framework to evolve in response to this (discussed in following section).

The challenges posed by climate change, and particular drought, were highlighted by many submitters (subs 22, 13, 1, 20, 19, 6, 8, 15, 16), as was the challenges of population growth and demographic change (subs 22, 21, 15, 8, 13, 20, 19). One submitter stated the magnitude of projected urban population growth and implications for the urban water sector: 'Australia's population is predicted to grow by an extra 21.5 million within the next 50 years. Even on the most conservative population growth estimates, it is predicted that major urban centres will have an additional demand of over 600 billion litres annually by 2026, and over 1000 billion litres by 2056' (sub 19).

Some respondents mentioned the increasing focus on and need to integrate 'liveability and urban planning' into water sector operations and decisions (subs 19, 15, 20, 19, 7, 6). An industry body commented that 'urban water can no longer be seen in isolation from... broader elements to urban liveability' (sub 19). This includes collaboration and coordination with energy, transport and agricultural sectors and interests. Approaches to regulation, including 'developments in regulatory frameworks and structure' (sub 20) and 'separation of ownership, policy making roles and regulatory functions' (sub 5) was also mentioned as a key way the urban water sector has changed since the inception of the Framework (subs 5, 6, 11, 20, 22). One utility commented that 'there has also been a shift in some states/territories to a more light-handed approach to regulation' (sub 8), while a local government organisation stated that there has been 'greater regulation and compliance requirements' in some states (sub 22).

An industry body felt that a different driver of change was the primary cause for emerging regulatory reform: 'innovative approaches to supply diversification have been developed which in turn has demanded fundamental changes to the institutional and regulatory environment for urban water utilities' (sub 19). Other respondents also mentioned water supply diversification (i.e. recycling and reuse, desalination) as a key change in the sector (subs 6, 23, 24). Four respondents mentioned the SDGs (subs 19, 15, 24, 7). Three respondents mentioned water cycle management or stormwater management (subs 19, 13, 23), gender and diversity, social inclusion, or Aboriginal values (subs 15, 19, 20), and sustainability or environmental health (subs 13, 15, 24). Asset performance and the need to more accurately measure this was a driver noted by two respondents (subs 6, 9).



Source: Responses to Question 4 in written submissions template provided by stakeholders.

Note: Response groupings further defined and explained in text above.

Figure D3 Count of submissions referring to different evolving urban water sector drivers

10.2.1. Impact of evolving drivers on the relevance of the current Framework

Many stakeholders suggested the main way in which the evolving drivers of the sector are impacting the Framework is its relevance, as illustrated in the indicators and data (which is discussed more substantively by stakeholders under other questions and summarised further below). Some stakeholders suggested the Framework needs to evolve in response to the drivers by having more relevant and up-to-date indicators and data that reflect these drivers. Some pointed to the need to acknowledge contextual factors, and the fact that evolving drivers will impact different utilities differently, while others pointed to other deficiencies with indicators in response to this question. For example:

- ‘Need to focus on following priority areas: Data transforming business, strategic sector-wide investment, regional innovation, harmonising water regulation, and resource recovery and renewables’ (sub 18).
- ‘[the Framework] Needs to evolve by: Revision of indicators to reduce number and to include only those indicators which are true and accurate comparisons; Inclusion of relevant indicators that add value to the sector and can be used in decision-making at all levels; Reduce duplication of other regulatory reporting – finance, health and environmental; Keep pace with technological advances and need for current day data to allow for meaningful interpretations’ (sub 4).
- The need to incorporate outcomes rather than just outputs (subs 20, 22).
- ‘Looking forward, these issues will continue to impact utilities differently. Climate change, demographic change and technological change will continue to be key drivers of water demand and water supply. For utilities with ageing infrastructure serving a small population, this will present real challenges. In addition, the ageing workforce and the emerging skills that accompany new technology will put increasing pressure on utilities. The challenge for the Framework is how to recognise and reflect these differences’ (sub 22).

10.2.2. Challenges and opportunities the sector faces and how the Framework should evolve in response

As mentioned previously, many submitters commented on the need for the framework to evolve in response to technological trends. One utility commented ‘12 years is a long time since the NPR was created... we are in different technological age now’, and questioned, ‘does that have an impact on the report now? On its useability?’ (sub 21). Another utility responded that ‘embracing technological advances offers opportunities to deliver the framework in a more timely and useable manner...[and it] would be good if the framework could leverage technology to provide interactive method for users to engage with the data’ (sub 16). However, multiple submitters raised cyber security threats as a significant potential challenge associated with technological opportunity. One not-for-profit research organisation stated: ‘there is more opportunity to use digital technologies for a range of functions within the water sector, [but] there is also increased risk (such as cyber security) from digital transformations’ (sub 24).

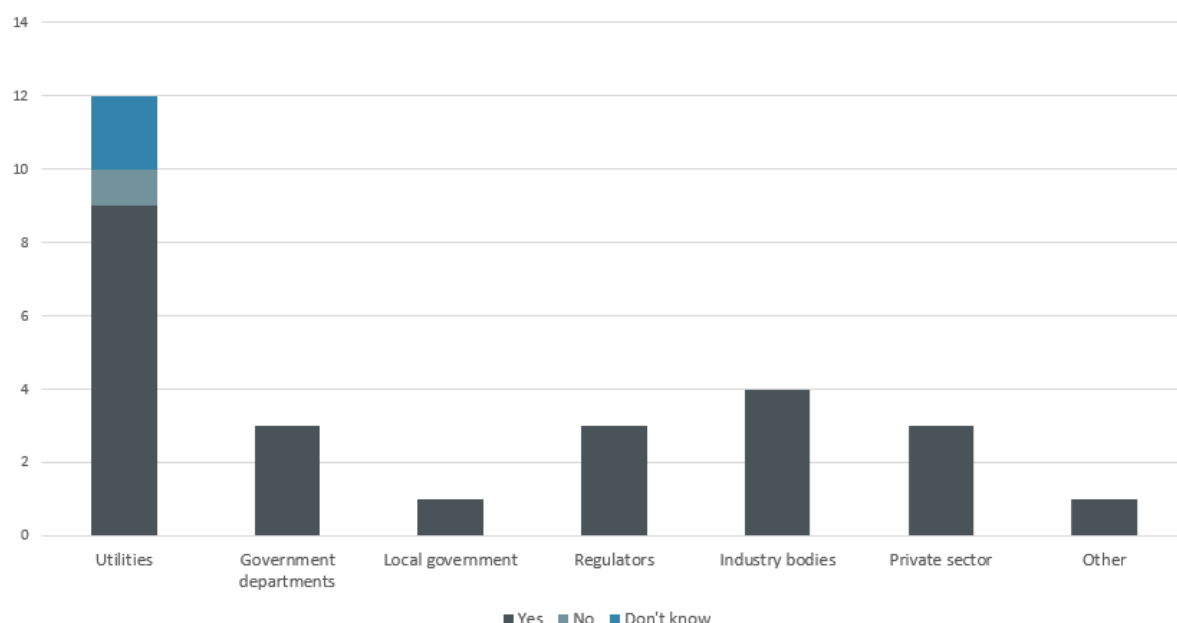
Some submitters suggested that the evolving drivers should be explicitly included in and reported on in the NPR, which could improve its relevance. For example, an industry body stated: ‘Customer centricity, water cycle management, urban liveability, and reporting on utilities contribution in achieving the Sustainable Development Goals (SDGs) are but some areas the NPR could report against going forward’ (sub 19).

In regards to opportunities to improve approaches to regulation in the urban water sector, one utility mentioned the ‘potential to evolve into a more regulated industry like energy’ (sub 6).

10.3. Value of the NPR Framework, including how it provides value and to whom

As is illustrated in Figure D4 most submitters stated that the Framework does currently provide value (88% of submissions). At least one submitter across every stakeholder category responded 'yes' to whether the framework provides value, with comments indicating the ways in which it provides value. One industry body stated that 'the NPR is critical to research and policy reform for the sector to lobby for change. It provides value for organisations...seeking policy reform' (sub 18). A utility stated that 'it provides value to utilities that can see their business performance and understand their areas of weakness and improvement. It can also provide confidence in the utilities performance and celebrate "wins"' (sub 6). A government department commented that the 'Framework provides inherent value by supplying publicly available, nationally consistent data that has been collected over a long period of time' (sub 11).

While 88% did respond in the affirmative, many respondents stated that while the NPR Framework provides value, this value is currently limited and there's potential for it to deliver much greater value in the future (subs 6, 7, 11, 14, 18, 21, 22). Some comments were provided about why it does not provide value, or how value could be improved. One industry body expressed that 'the principal target audience(s) for the NPR is not clear and improved clarity could help shape the content and use of the data collected' (sub 19). A not-for-profit research group commented that the 'NPR data does not provide insights into knowledge and capability gaps that could be used to drive future research strategies and provide context for investment prioritisation' (sub 24). The submitters that stated outright that the Framework does not provide value, or are unsure if it provides value, were utilities. The reasons for this are explained further below in the ways in which utilities do, or don't, use the framework and why.

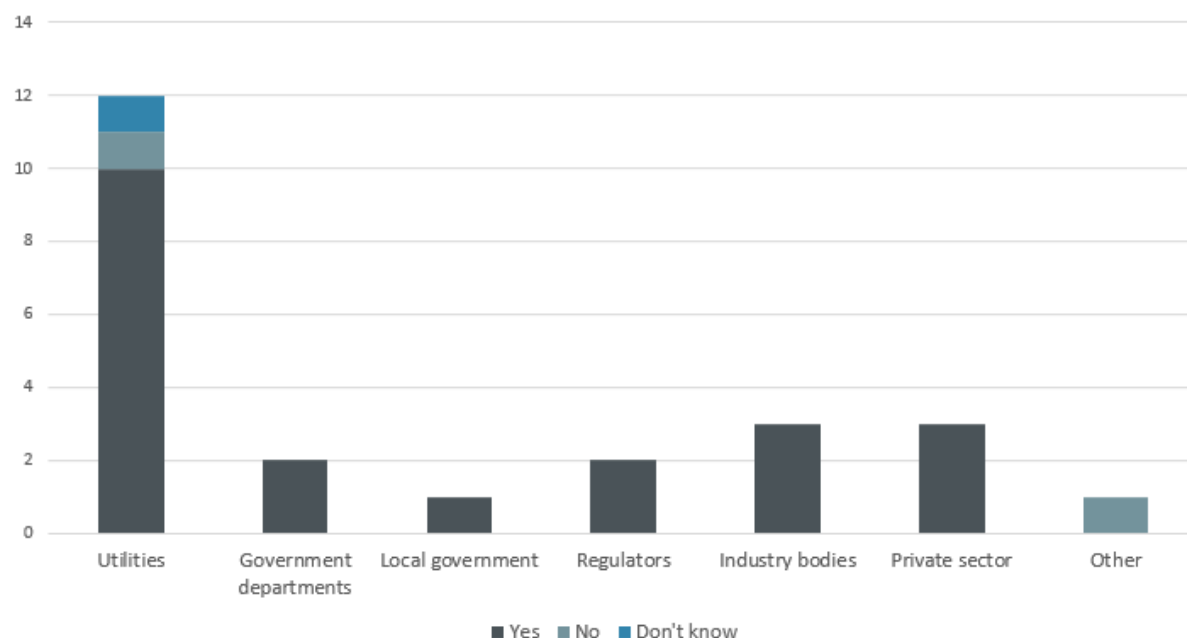


Source: Responses to Question 7 in written submissions template provided by stakeholders.

Figure D4 Does the NPR Framework currently provide value?

10.3.1. Use of the Framework and its outputs

There is a similar distribution in terms of use of the Framework and its outputs (relative to value), although not perfect (e.g. some regulators, government departments, and industry bodies responded that they value the Framework, but do not use its outputs) (refer Figure D5). The most use of the Framework and its outputs appears to be among utilities, although this may simply reflect the distribution of respondents (utilities were the majority of submitters).



Source: Responses to Question 8 in written submissions template provided by stakeholders.

Figure D5 Do you (the submitter) or your organisation use the Framework and its outputs?

Written responses suggested that regulators use the data to ensure utilities are operating in a prudent and efficient manner while maintaining acceptable customer service levels (5, others). However, one regulator stated that it 'uses some data in NPR in regulatory functions, including in role as licensed regulator, but do not rely on the NPR, as collect other information from utilities under license reporting manuals and information requests' (12).

It was stated that utilities use the data to analyse trends and make comparisons in performance to other similar utilities (subs 1, 2, 5, 8, 10, 9, 21). 'We use it to assess our relative position in the industry and to target discussions with who appear to be performing better' (sub 10). On the contrary, one utility indicated that they do not use the outcomes of the NPR due to the fact that 'the data is not current' (sub 4) and it is not suitable for internal purposes, as NPR reporting boundaries differ from a utilities own reporting boundaries (sub 4). It is also not used because it 'does not provide sufficient supplementary information to make meaningful comparisons against other utilities' and 'indicators are outdated' (sub 4).

Many other utilities stated that while they use some of the outcomes occasionally, they do not use the outputs often. One utility that ticked 'yes' to use of the NPR stated: We 'rarely use the outputs and if ever it might be to look at 1 or 2 comparative organisations across the country' (sub 15). Others use the NPR to 'extract charts for inclusion with other data into reports to internal stakeholders' (sub 16). Some utilities stated that the NPR reporting requirement is seen as a 'ticking the box' exercise—'use some of the asset indicators to compare performance but on the whole, use relationship with WSAA and other utilities to gain more reliable and comparable data' (sub 4). Additionally, it was noted that the NPR 'is currently of limited value to small utilities (those with less than 10,000 connections) – most LWUs in NSW' (sub 22) and the majority of utilities in Queensland (sub 18).

Some utilities also stated that they use the NPR for business planning purposes, strategic direction and investment decisions (subs 10, 5, 9, 14). Yet one industry body noted that members 'do not consider that the data provides a basis for decision-making, nor does it provide sufficient detail to support investigations into variations in performance outcomes between businesses' (sub 7). A government department, however, suggested that 'the report is used as a key reference document to provide reliable data both for internal reporting and external reporting' (sub 20).

Part B of the NPR was stated to be used much more often than Part A by several submitters (subs 17, 18, 23): 'People don't look at Part A. Part B is used for internal benchmarking (sub 18); 'our uses have mainly focused on the reported dataset, rather than the report' (sub 23). Although, one submitter stated that Part A has been particularly useful for Tasmanian stakeholders, as it 'allows (Tasmanian) regulators and utilities to see how their performance compares to other similar utilities across Australia and identifies shortcomings within the industry' (sub 17). One government submitter stated that 'users with fewer resources who cannot interrogate the data are more reliant on the NPR Report (Part A) ...as it provides a contextual overview such as rainfall, temperature and source water, compares similar utilities' performance against individual indicators and incorporates some data analysis' (sub 11). The Tasmanian stakeholders referenced by the previous submitter may be in this group of users that benefits most from Part A. However, it is also acknowledged by submitters that while the information in Part A is valuable to some, 'its benefit is static and limited' (sub 11).

10.3.2. Other forms of reporting or data used related to urban water sector performance, and why

Many submitters responded that they use other forms of reporting or data related to urban water sector performance (Figure D6). The most frequently mentioned source of information used by respondents was utility annual reports, datasets or budget statements (subs 1, 4, 5, 11, 14, 20, 22, 12). A utility stated that it sources information from 'annual reports of other utilities' in order to do 'comparisons in many areas not included in NPR' (sub 14). An industry body commented that it uses

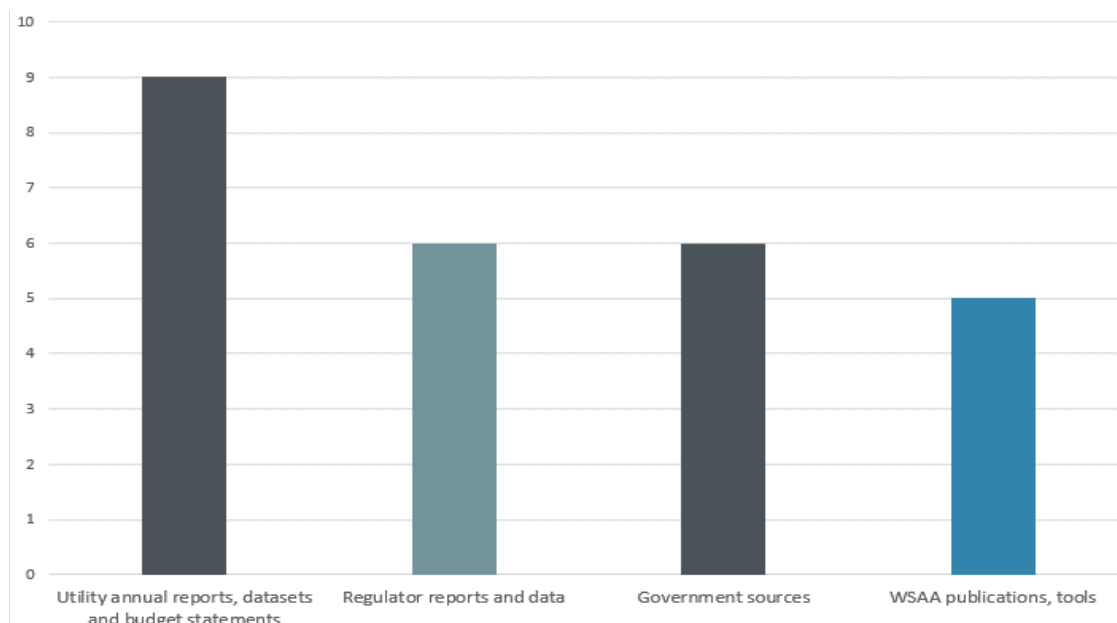
what it can out of ‘multiple public datasets as well as confidential data when have permission from utilities’ (sub 18) and a government respondent stated that it uses utility ‘annual reports and corporate plans’ (sub 20).

Some submitters noted the use of regulatory reports or datasets—of these submitters, the majority were Victorian stakeholders. One Victorian utility stated that it ‘references the ESC Water Performance Reports for data on customer affordability, average household water use and information on the typical household bills for internal and external reporting purposes’ and that ‘the [ESC] report is useful as it includes key observations and commentaries provided from the businesses explaining its performance, and discusses and tracks how businesses are managing their major projects across the five year regulatory period’ (sub 15). Other Victorian utilities responded similarly, stating that their key dataset for comparative performance reporting is the ESC Water Performance Report (subs 16, 21). A Victorian government department also expressed use of ESC performance reports (20). While Victorian stakeholders held the majority of responses for this source of information, other jurisdictions also noted use of regulator reports. One Tasmanian stakeholder reasoned that ‘the relevant industry regulator or authority is best placed to interpret and analyse performance data due to inherent locational differences between jurisdictions’ (sub 17).

Of respondents that indicated use of state government reports or datasets, the majority consisted of NSW and Queensland stakeholders. A NSW local government respondent stated that ‘the data published by DOI Water is generally accepted as the go-to information source when examining LWU issues within NSW’ since ‘it encompasses all LWUs in NSW’ (sub 22). A Queensland industry body commented that ‘Queensland has, and draws information from, its own KPI Framework, as it allows DNRME to benchmark all service provider performance and to encourage performance improvements through competition-by-comparison’ (sub 18). Two respondents noted the use of data from the Australian Bureau of Statistics (ABS) (subs 2, 6).

Multiple respondents mentioned that WSAA publications, datasets, tools and forums provide useful information that cannot be accessed anywhere else (subs 1, 4, 8, 16). A utility stated that ‘the WSAA – Opex Benchmarking project... provides significant insights into our operating expenses that are not provided through other performance reporting’ (sub 16). A government department commented that ‘the water sector through WSAA also gathers performance data, especially on productivity. This is not publicly available’ (sub 20).

Most respondents indicated that they access data and information through the internet, using the websites of utilities, regulators, government departments. The majority of respondents gather data and information directly from utilities, through annual reports, strategic documents and financial statements published publicly. Many also go to WSAA for information.



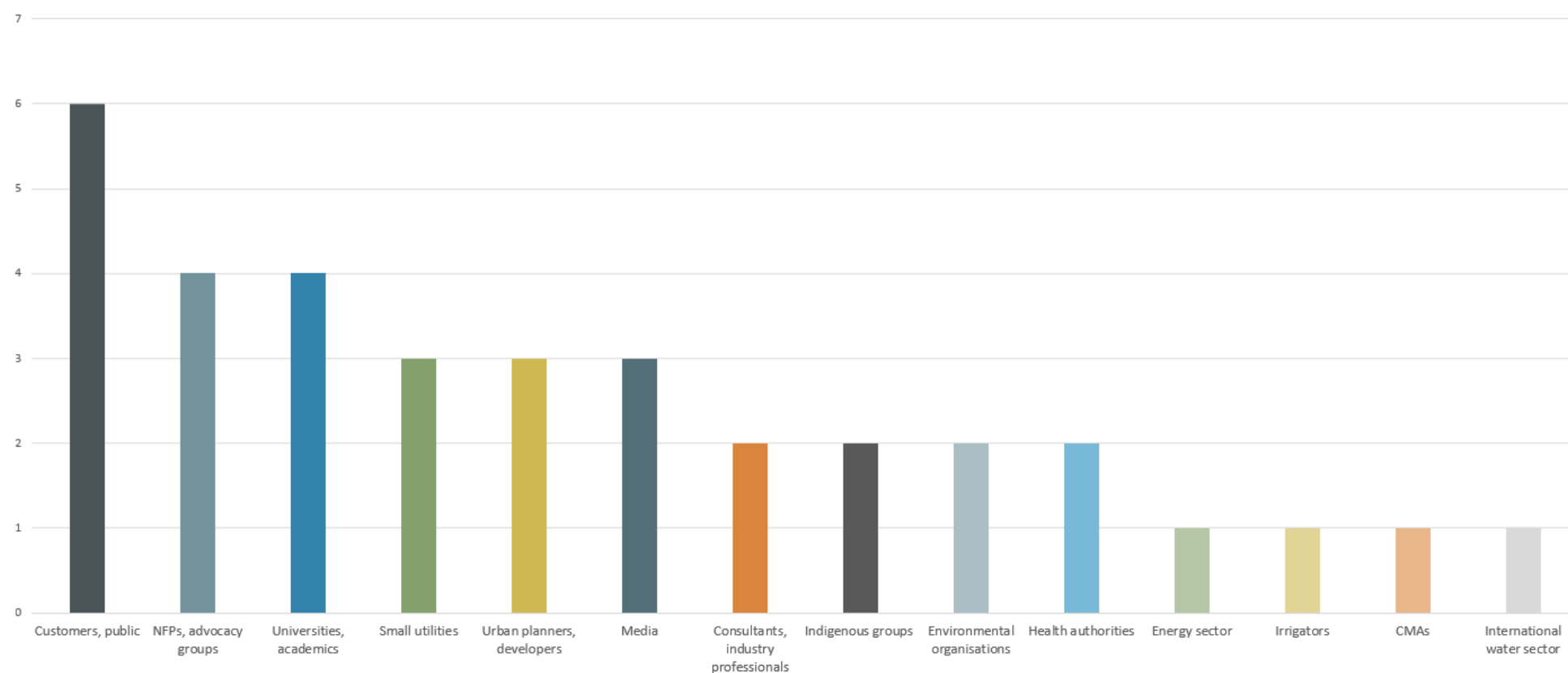
Source: Responses to Question 9 in written submissions template provided by stakeholders.

Figure D6 Count of responses to other sources of reporting or data used by respondents

10.3.3. Additional sectors or user groups that could benefit from the Framework, and how

Written submitters identified a wide range of potential sectors or groups that could benefit from the Framework, although generally submissions were less specific about how they thought such users could benefit. Sectors or users that could benefit from the NPR from most mentioned to least mentioned are listed below and illustrated in Figure D7.

- Customers / the public (subs 5, 18, 19, 11, 6, 23)
- Not-for-profit organisations (NFPs), advocacy groups (subs 1, 4, 10, 21)
- Universities, academics (subs 4, 10, 16, 11)
- Small utilities under 10,000 connections (subs 19, 18, 22)
- Urban planners and developers (subs 4, 21, 19)
- Media (subs 4, 5, 18)
- Consultants, industry professionals (sub 10, 11)
- Indigenous groups (subs 21, 20)
- Environmental organisations (subs 6, 16)
- Health authorities (sub 5, 6)
- Energy sector (sub 19)
- Irrigators (sub 19)
- Catchment Management Authorities (CMAs) (sub 20)
- International water sector (sub 19)



Source: Responses to Question 10 in written submissions template provided by stakeholders

Figure D7 Count of responses to sectors or users that could benefit from the NPR

The most frequently stated sector or user that could potentially benefit from the NPR was customers or the public. A utility stated that it already uses 'the data for public education', implying that the public already benefits. The utility stated that 'the information is very useful to be able to share with the public to show where your town sits relative to other similar towns, particularly household water demand, CO2 equivalent per ML, leakage index. This helps the local water advisory committee make educated decisions on what demand management actions should be taken, and where the focus should be, i.e. customer side or utility side' (sub 6). Consistent with this, a regulator suggested that NFPs and consumer groups should use the NPR 'to inform their advocacy to policy makers' (sub 1). A local representative body from a different jurisdiction agreed that 'it could be used for transparent reporting by the community' (sub 18). However, this same stakeholder also implied that the current NPR is not tailored to meet community or customer needs: 'We don't think there is currently an audience outside of researchers and large utilities. It's not reported with a broad target audience in mind' (sub 18). The fact that the audience of the current framework is not sufficiently clear or inclusive was a common criticism of the current framework.

A few submitters mentioned the potential for smaller utilities below the current reporting threshold to benefit from participation in the NPR (subs 11, 18, 19). An industry group stated: 'It is the smaller utilities that really need this kind of transparent analysis to help close gaps in capacity and capability' (sub 19). However, it was noted that the approach for smaller utilities to participate in the NPR would likely need to differ from larger utilities given the costs and capacity required to complete the NPR details. '[Costs] may be beyond smaller utilities – an incentive-based support mechanism for these small utilities is required, ideally tied to infrastructure grants schemes' (sub 19).

Many other potential sectors or users that could benefit from the framework were mentioned by written submitters. An industry group stated that planners and developers could use the NPR 'to understand the opportunities and constraints within the urban water sector regarding water cycle planning in urban developments', the energy sector could use it 'to plan for future energy needs of the water sector and identify opportunities for energy recovery from water and wastewater production from energy', urban and rural irrigators could use it 'to plan for future urban irrigation needs and optimise opportunities for stormwater re-use and other decentralised water supply options...and understand consumption trends of urban towns and cities and relevance of this in rural water markets' (sub 19).

It was suggested by one stakeholder that an approach to identifying who is interested in the NPR is to 'ask people downloading the information on the BoM website to identify their sector/user group' (8).

10.3.4. What else the Framework could do to provide or realise value

It was mentioned by multiple respondents that the Framework could facilitate greater opportunities for collaboration (subs 4, 5), and do so by facilitating greater understanding or insights across utilities in factors influencing their performance (adding value through providing insights and analytics over data collection (sub 15). It was also suggested that it could provide best practice recommendations – 'highlight national and global leaders in specific fields, or provide more information on utilities that are performing well – what are their success factors?' (sub 10).

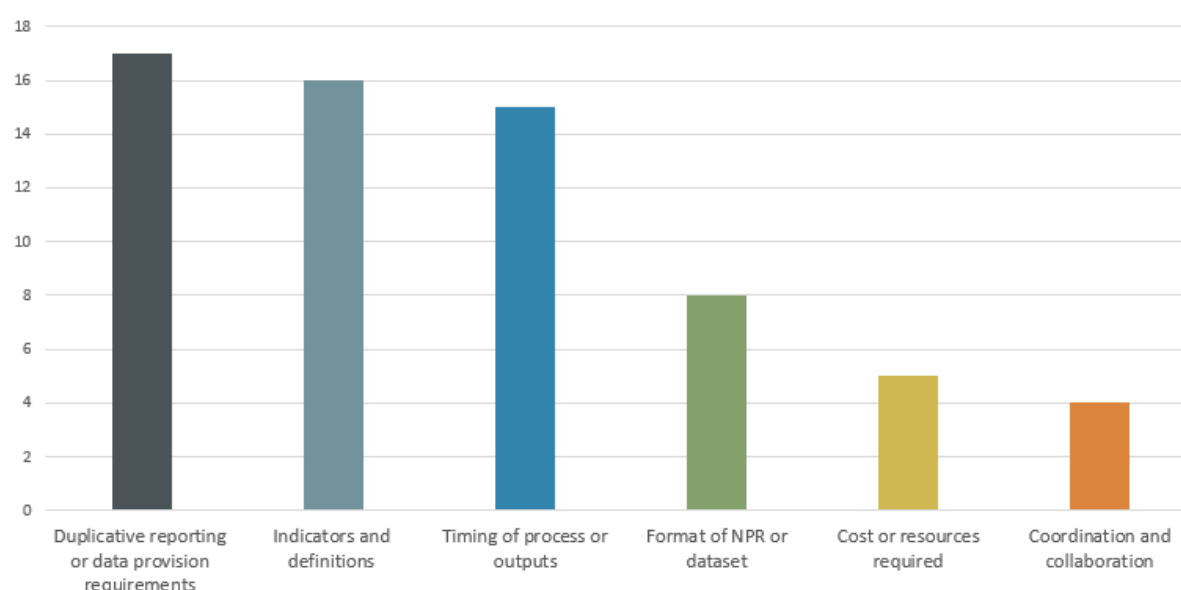
However, some countervailing responses included that: 'Reporting and data provision is the main value of the framework. It does not need to do any more than that. Fundamentally the NPR is a database which facilitates comparison of performance data over time and between utilities. It is questionable whether trying to make it into anything more than that would deliver any marginal net benefit' (sub 17).

As a potential option involving what could be a significant departure, one respondent suggested that ‘I think it would be more valuable to have WSAA or specific team from BoM auditing everyone across the country... Could provide shared knowledge across the industry if have consistent group performing the audits (sub 14).

10.4. Problems or shortcomings with the Framework, or its implementation

Written submitters identified a range of problems or shortcomings with the Framework or its implementation. Shortcomings most mentioned to least mentioned are listed below and illustrated in Figure D8. Each of these is explained further and elaborated on in the following sections (including in reference to specific submissions).

- Duplicative reporting or data provision requirements (17 submissions)
- Issues with Framework indicators or definitions (16 submissions)
- Timing of the process or publication dates of NPR outputs (15 submissions)
- Format of NPR report or dataset (8 submissions)
- Time or resource investment required in the process (5 submissions)
- Lack of coordination, knowledge sharing and collaboration (4 submissions)



Source: Responses to Questions 12, 13, 14 and 15 in written submissions template provided by stakeholders.

Figure D8 Count of responses for main shortcoming categories mentioned by stakeholders

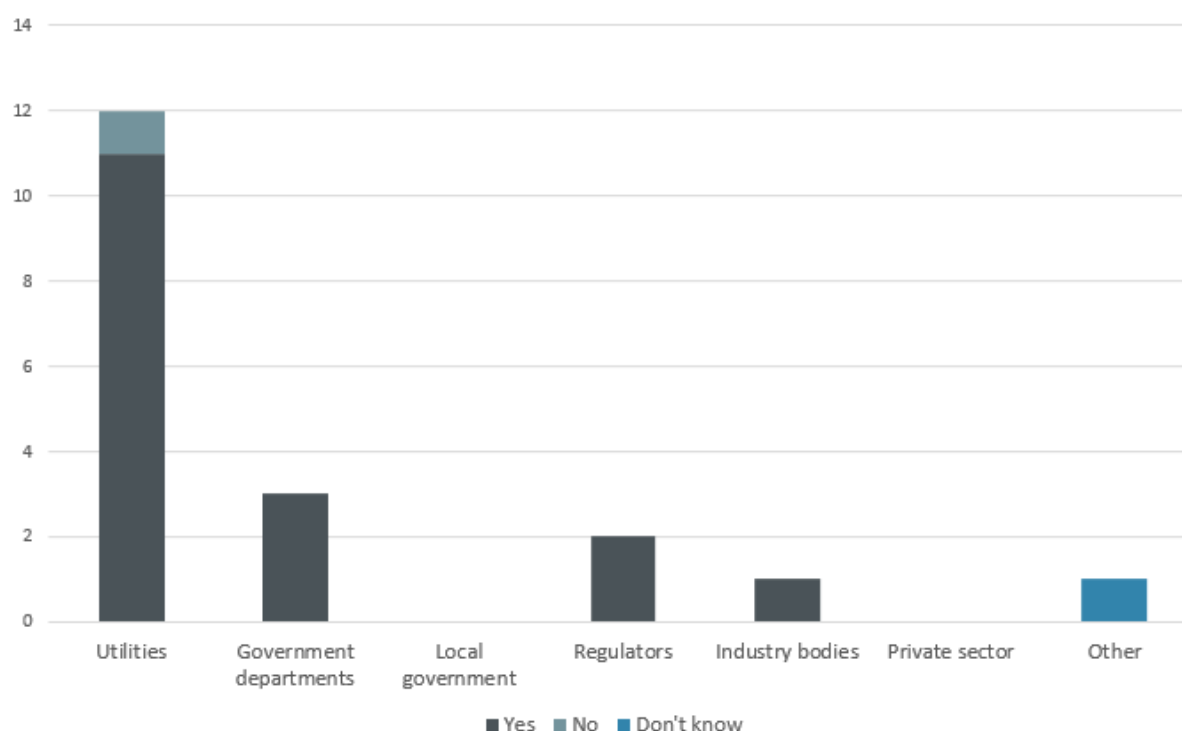
10.4.1. Duplication in reporting or data provision requirements

Of those that responded to this question, 74% indicated that they have other reporting or data provision requirements that are duplicative—and of this, 65% were utilities (Figure D9). In addition to reporting or data provision requirements, audit requirements were also mentioned within this as being duplicative. Requirements that were stated to overlap with NPR requirements include those of:

- Australian Bureau of Statistics (ABS) (Water Supply and Sewerage Services Survey) (subs 2, 6, 15, 16)
- Regulators (Essential Services Commission - ESC Water Performance Report Data Collection, ESC Regulatory Accounts) (subs 15, 16)
- State government departments or agencies (Victorian Auditor General's Office, DTF, DELWP) (subs 15)

A utility provided further detail around specific information requirements that are duplicative between the ABS survey and the NPR: 'As part of the ABS survey, I provide similar data (e.g. total revenue for water and sewerage and Operational and Capital costs) but with different parameters (e.g. focus on metro, rural and other areas) so the NPR requires a lot more intricacy however it feels like double handling. It would be good to only have to provide the one set of information in one way, once' (sub 6).

Duplication in audit requirements was most mentioned by Victorian submitters (subs 15, 16). A Victorian utility stated: 'there are several data points that we ultimately submit three times (ESC, Our Annual Report & NPR) these figures can also be audited twice, once in the Annual Report and again in the ESC WPR' (sub 16).



Source: Responses to Question 13 in written submissions template provided by stakeholders.

Figure D9 Do you have other reporting or data provision requirements that are duplicative?

While most submitters expressed a desire to reduce duplication, many also recognised existing limitations to streamlining these requirements. One regulator acknowledged that there are duplicate reporting requirements, but were 'not sure how this can be addressed given the different deadlines for outputs' (sub 1). A utility called attention to the fact that differing reporting boundaries would make streamlining difficult: 'There is a limited opportunity for synergies as the Framework requires us to report on towns. All other reporting is conducted on a scheme or sub-billing group level. As such the NPR reporting requirement is unique and requires significant manual data analysis to produce the results' (sub 4). A government department mentioned that even if attempts at reducing duplication are

made, agreeing to these changes will be lengthy, and it will not necessarily be quick and easy for stakeholders to adjust their reporting to these changes: 'In practice, national agreement is slow and often difficult. While reducing duplication is important, changing the NPR indicators has a flow-on effect. Time is required for each jurisdiction to replicate and adjust to the change through their own framework' (sub 11).

Despite this, many respondents offered potential solutions or identified streamlining opportunities that could assist in reducing duplication, which would in turn improve efficiency and reduce the costs associated with reporting or auditing requirements (subs 2, 4, 15, 20). A utility mentioned setting up a centralised, shared water utility performance reporting system 'to enable direct data input, where users can tailor the reporting output, as required. This would then allow utilities to avoid having to provide the same data for different reports multiple times. Having access to a shared performance dashboard would be very beneficial and provide timely performance information' (sub 4).

A Victorian utility stated: 'There is an opportunity to link in with the DELWP led project on performance improvement simplification which is also looking at reducing duplication and improving metric definitions' (15). Further information was provided on this by a Victorian government department: 'There is some overlap with ESC collected indicators and those internally collected DELWP indicators. DELWP are currently in the process of streamlining data collection between what is collected by the ESC, BoM and internally. We suggest the BoM consider aligning a new framework with the ESC performance reporting framework, not because this would reduce the reporting load for Victorian utilities, but because the Victorian model through the ESC is the national leader in regulation as well as water sector performance reporting' (sub 20).

10.4.2. Issues with indicators and potential solutions

A range of issues regarding indicators were presented in submissions. These are presented in Figure D10 and include the total number of indicators, relevance and appropriateness, ambiguity of definitions, contextual information, and gaps (including with respect to evolving drivers). Further detail on the nature of comments provided under each of the themes is also provided below.

In respect to the quantity of indicators, many submitters commented that there are currently too many indicators (subs 6, 7, 9, 18, 19, 22). A utility stated that 'the excessive quantity of current indicators may be reducing both the robustness of reporting and attention placed by industry on understanding performance drivers' (sub 9). In addition to placing a burden on industry, a local government organisation thought that 'the large number of indicators can be overwhelming and confusing for users that are not 'industry experts', making it an onerous collection and auditing process' (sub 22). To address this, a utility recommended that 'the quantity of metrics collected should be reviewed to ensure value to participating utilities' (sub 6), while an industry body suggested 'remov[ing] indicators that provide little value' (sub 7).

Statements regarding indicator quantity were often aligned with concerns regarding indicator relevance or appropriateness (subs 7, 8, 9, 18, 19). One industry body stated that 'the relevance of certain indicators is not apparent' (sub 7) and a different industry body commented that 'people are complaining they are reporting data that is not being used in any sort of way that they can see' (sub 18). Multiple respondents mentioned that 'some indicators are outdated and have not kept pace with changes in the industry' (subs 8, 9). In support of the above statements, submitters stated that the NPR 'needs to focus on limited indicators that are meaningful for different audiences' (sub 18) and that 'it is important that all indicators serve a purpose and this purpose is clearly defined for each indicator' (sub 9). An industry body recommended: 'there needs to be a better balance between the burden of reporting on 182 KPIs with the benefit of transparency across the urban water sector. There is scope for consolidating KPIs that are of little value with new KPIs that reflect emerging issues, i.e. customer centricity' (sub 19).

Many submitters also expressed concern about the ambiguity of definitions and resulting inconsistency of definitional interpretations, which has been thought to compromise data quality and reliability (subs 6, 7, 8, 9, 10, 15). This was clearly expressed by a utility: 'Ambiguity in definitions can lead to inconsistencies in the data being reported, reducing the ability to effectively compare performance' (sub 8). Similarly, an industry body stated that the 'existing framework and approach do[es] not provide satisfactory assurance to users that definitions have been consistency applied and the data presented on a consistent basis' (sub 7), and a utility suggested that 'there is a need for further detail (and maybe examples) in some of the definitions of the reporting metrics, so that there is no ambiguity when reporting and the report compares apples with apples' (sub 6). In response to this issue, one submitter suggested that 'the recent WSAA opex benchmarking project is a good example of well documented definitions' (sub 16).

Another key issue that was thought to compromise data reliability and usefulness was the fact that assessments and comparisons do not capture contextual factors and diversity of businesses (subs 4, 5, 6, 7, 8, 9, 13, 14, 15, 21, 22). One utility expressed that there is 'currently a lack of focus by stakeholders on understanding and recording the drivers and constraints to PWUs (relative) performance against specific indicators - e.g. geography, regulatory context and vertical integration' (sub 9). This indicator-related issue was the most frequently discussed and thought to be the most significant: 'While developing a consistent set of indicators and definitions is important, benchmarking also needs to give regard to the differences between businesses to ensure meaningful comparisons of performance' (sub 15). A utility offered a possible solution to address the above issues: 'We believe that an effective review would start with a 'clean sheet of paper' and seek to justify the addition of existing and new indicators to this sheet based on a clear purpose and (net) benefit' (sub 9).

A large number of respondents discussed the need to address this by including and acknowledging contextual factors and information, and recognising that evolving drivers will impact various utilities differently (sub 24; 4, 6, 8). A submitter commented: 'Climate change, demographic change and technological change will continue to be key drivers of water demand and water supply. For utilities with ageing infrastructure serving a small population, this will present real challenges. The challenge for the Framework is how to recognise and reflect these differences' (sub 22). Another shared an issue with a specific category of indicators due to contextual factors: '[the Framework needs to] provide a better measure of asset performance indicators, e.g. residential water use indicator during water restrictions can provide a distorted comparison between similar sized utilities that are experiencing different climatic conditions' (sub 6).

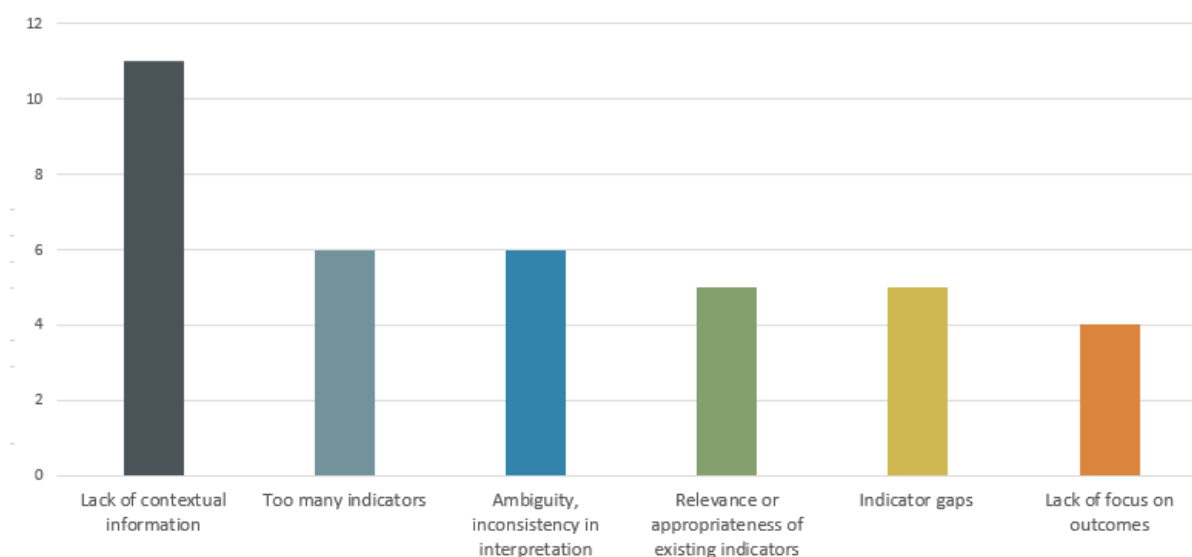
Additionally, missing indicators or indicator 'gaps' (themes, or indicators within them) including those connected to emerging drivers in the industry, was another issue mentioned by submitters (subs 6, 7, 9, 15, 16). Comments suggesting new indicators or indicator themes include:

- 'Having some evidence-based indicators of the progression of climate change would be beneficial' (sub 16).
- 'Water quality indicators are limited and should be reviewed with regard to the Australian Drinking Water guidelines to enable a benchmarking on performance and cost in ensuring safe and reliable drinking water' (sub 6).
- 'Water management is now broader than just water supply, sewerage and drainage and potentially encompasses a broader set of considerations for which some metrics are not included – e.g. regulated environmental flows from systems, stormwater capture and use, water for irrigation' (sub 15).
- '[The NPR] should examine the feasibility of broadening the suite to include measures of social responsibility' (sub 7).

- '[the Framework needs to] contain asset indicators that are transparent and potentially reflect customer outcomes relating to asset and service performance' (sub 9).

Another organisation felt that indicators relating to research investment and value delivered should be incorporated to provide a measurement of the level and focus of innovation within the sector (sub 24).

Finally, a few submitters discussed the need for indicators to focus on outcomes rather than outputs, and the need for 'leading vs lagging' indicators (subs 8, 20, 22, 24). A government department felt that the Framework should develop to emphasis outcomes in addition to outputs, and referenced an example to learn from: 'the Victorian approach to performance assessment is evolving to measure metrics such as affordability customer trust, value for money and satisfaction' (sub 20). A utility stated that there is 'opportunity to consider metrics that can demonstrate the performance of utilities against broader community objectives in relation to liveability outcomes, integrated planning, customer and community engagement and actions to mitigate and manage climate change' (sub 8).



Source: Responses to Question 14 in written submissions template provided by stakeholders.

Figure D10 Count of responses for key issues with Framework indicators mentioned by stakeholders

10.4.3. Other shortcomings or issues

In addition to the shortcomings and issues expanded on above, other shortcomings that were discussed or mentioned to some extent (refer back to Figure D8) include timing of the NPR process or outputs, the format, presentation and accessibility of information or data, a lack of coordination and knowledge sharing or collaboration, time or resource (cost) issues, a lack of relevance of content, and a lack of commitment or buy in (from partners). These shortcomings are expanded on below.

Timing of the NPR process or outputs

On timing of the NPR process or outputs, 15 submissions expressed discontent with the current arrangements, claiming that 'timing of the data makes NPR misaligned with key stakeholders' needs' (sub 4), and that 'March is too late in the financial year to use the information contained in the report for strategic planning' (sub 8) especially 'pricing information that is known nearly 24 months prior to publication of the NPR' (sub 9). Another utility agreed that 'the information can potentially lose some of its relevance...due to [the] lengthy lags between data provision and report formulation' (sub 10). An industry association stated that 'this lag may undermine ability to use the data effectively. There

appears scope for reducing this lag including utilising on-line reporting and dashboards to meet the needs and constraints of key users and stakeholders' (sub 19).

Some respondents expressed a need to balance timeliness with data quality assurance, stating that 'timeframes should not take precedence over good quality data' (sub 11), and that while 'it is good to be able to get the information out quickly and in relevant timing for the financial year... we have to be mindful of data verification and quality; enough time needs to be provided to be able to go through these processes' (sub 6).

Format of the NPR and accessibility of dataset

Eight submissions mentioned issues with the format or presentation of the NPR and its dataset and associated ability to interrogate or access data (subs 7, 9, 11, 15, 18, 19, 22). A local representative body stated that 'only a small number of service providers are included in the performance comparison tables, which means that the reader cannot readily compare their service provider's performance with others in the state or at a national level. The NPR Report length and the way the data is presented can also mean that key messages about the water industry are lost' (sub 11). Another respondent further criticised the size and accessibility of the current NPR: 'PDF Report and Data Spreadsheet is a relatively inflexible way of presenting 'open data'; its size can make it difficult to download; and it can be difficult to locate information' (sub 22).

Many respondents suggested the use of online, interactive platforms and dashboards to address this issue (subs 7, 9, 11, 15, 18). A government department recommended the 'implementation of an interactive data analysis platform and online report' which could improve 'usability of the report...by improving the presentation and readability of the graphs / graphics (i.e. have commentary alongside the bar charts) and consider colour selection' (sub 11). Many others agreed with this suggestion and expressed the desire for 'the ability to interrogate data using online analysis and presentation tools' (sub 7) 'rather than through traditional reports' (sub 15). A utility stated: 'The output of the NPR should be online and allow users to interrogate and analyse data. Dashboards should be used to present information in a variety of chart and table formats' (sub 9).

Coordination, resource requirements and commitment

Table D1 provides an overview of comments made by submitters on the remaining shortcoming areas.

Table D1 Additional shortcomings mentioned by stakeholders

Shortcoming	Quote / org
Lack of coordination, knowledge sharing and collaboration	<p>Key submitter quotes include:</p> <ul style="list-style-type: none"> 'There is no direct relationship with BoM only through regulator which creates administrative burden, for example utilities are reliant on their regulator's being a good communicator. [There is] no consultation or knowledge sharing among utilities' (sub 4). 'Issue is with the process of the request and provision of the data' (sub 6). 'Alignment of data submission dates between NPR and the State – when the data is required to be lodged – that gets some complaints. We think NPR is probably right (end October), State (beginning October) is probably wrong on that timing, but it is currently legislated. It's important to keep a dialogue going with the states and sectors that do run their own systems, to synchronise indicators and dates as much as possible' (sub 18).

	<ul style="list-style-type: none"> • ‘The state of the Bureau’s database on Climate Resilient Water Sources, which appears to be managed separately from the Water Performance Reporting System but should be brought within it’ (sub 19).
Time or resource investment required (cost)	<p>Key submitter quotes include:</p> <ul style="list-style-type: none"> • ‘Significant time/resource investment in producing the data – too many measures with no value’ (sub 6). • ‘Increased burden due to the regulatory and formal/auditable nature of Framework’ (sub 9). • ‘Number of indicators makes for an onerous collection and auditing process’ (sub 22). • ‘There are routine complaints about how much time it takes to gather data particularly if it comes from different parts of a single organisation, and is stored in multiple systems’ (sub 18). • ‘Smaller reporting entities almost certainly bear a disproportionate cost burden in collating and supplying data under the existing framework’ (sub 7). • ‘It is very important that costs be reduced to be no more than is absolutely necessary to achieve the key purpose of the Report. This means that any proposal to change must provide a clear marginal net benefit to customers and/or government. The existing cost sharing arrangement seems to be satisfactory’ (sub 17). • ‘The costs for capturing data: our system (SWIM) makes it really easy for people so they have minimal direct costs in actual reporting. However, there are routine complaints about how much time it takes to gather data particularly if it comes from different parts of a single organisation, and is stored in multiple systems’ (sub 18). • ‘We understand the value of auditing data for indicators to provide assurance on the reliability of the information, However, the cost of auditing data for indicators is significant for water corporations’ (sub 20). • ‘Members have reported mixed experiences with the costs imposed by reporting. Generally, these costs are seen to be lowest where the data requirements coincide with other reporting frameworks, such as through state-based regulators. Seeking to align reporting in this way would reduce the compliance burden while also better facilitating a process of data checking and assurance’ (sub 7).
Lack of commitment/ buy-in	<p>Key submitter quotes include:</p> <ul style="list-style-type: none"> • ‘[There is a] lack of buy-in from all jurisdictions regarding the value of the Framework. The level of commitment to national reporting is questionable’ (sub 1).

10.5. Changes to address shortcomings

Some submitters provided responses to this question that reflected solutions to specific issues discussed under other questions (e.g. specific indicator solutions) but others provided broader more

encompassing suggestions with some involving a much greater degree of change. Some also pointed to the need to ensure the benefits of any changes outweighed the costs. While another message that did come through here was a desire for more national collaboration and consistency, knowledge sharing, and knowledge adoption, which aligns in part with separate comments about the need for a concerted education campaign about the availability and potential uses of the NPR and data. In some cases, responses continued to highlight a difference in expectations and needs, and contrasts in the direction stakeholders think the Framework can or should go. Some quotes illustrating these themes include:

- 'We also need to ensure that the effort (cost) put in by businesses to collect and validate the inputs into the report is less than the benefits described' (sub 21).
- 'Members also identified a vision for the national monitoring report to be more timely and provide a greater level of explanation, context and insights as to what had happened across the sector during the year. This should be supported by online tools to analyse and present data in a flexible, reliable and user-friendly manner' (sub 7).
- A formal nationally coordinated reporting mechanism through COAG; an independent and well-resourced national water authority to administer the NPR in partnership with jurisdictions, A process for linking NPR KPIs and coordinating performance-based funding mechanisms for urban utilities (sub 19).
- 'The value of the NPR would be further enhanced by the creation of an independent national agency that has responsibility for the governance, collection and auditing of performance information. This independent national agency should report to COAG via a legislated reporting mechanism that could be included in the Water Act 2007 (Cth), and have responsibility for coordinating all of the water authorities and stakeholders. This agency must be cognisant that the primary stakeholders are the citizens of Australia and the ecosystems that all water resources are dependent on' (sub 13)
- 'Further value may be gained by ensuring that the NPR framework and outputs are used to their full potential by the whole water sector. This may entail undertaking an education campaign with water sector professionals, academics, consultants and local governments on the availability, quality and uses for the data' (sub 11).
- 'A single repository for data in the water sector would be a utopic idea, where all utilities provide their data, and BOM, ABS and relevant regulators pull what information they need from the shared data bank, without the need to duplicate reporting and data across the various interested parties' (sub 10).

10.6. Final comments

Some take out final comments provided by submitters included the following. One salient point in the context of this Review was the timeframes suggested by one submitter to be required to adapt to any possible changes in reporting requirements. This suggests that reforms, whether major or minor, will need to be carefully planned and implemented to ensure their success.

- 'Implementation of any changes as a consequence of this Review will be critical to ensure business have sufficient lead time to gather data in the new format. Ideally, business would be provided with 6-month notice to update their reporting systems. It will be critical to provide detailed commentary when changing to the new report how the definitions or scope of data has changed to enable meaningful comparison across the two different types of reports' (sub 21).

- 'Given the Framework's limited coverage, it should not be used or relied upon as the sole or primary source of information for determining national water policy. Information from other sources such as the detailed performance monitoring and reporting regime of the NSW Department of Industry – Water (DOI Water), should be also be incorporated and used to inform policy making' (sub 22).

Appendix E – Synthesis of interview results

The following sections provide a synthesis or summary of key messages or results from targeted interviews undertaken, under each area of the assessment framework.

11.1. Vision, objectives and outcomes

Vision, objectives, and outcomes includes matters related to why the NPR exists and what it is trying to achieve, including what problem or drivers it responds to, the objectives it is trying to achieve, and the overall outcome that achieving the objectives should lead to.

- Most stakeholders were interested in, and able to engage with questions about the vision, objectives and outcomes of the Framework, to a greater or lesser extent.
- Views did vary somewhat across stakeholders on this matter, but there was generally consensus that the vision, objectives and outcomes are not sufficiently clear, agreed, or understood (or simply do not exist).
- Several stakeholders suggested that the material in the briefing paper was largely accurate with respect to the vision, including characterisation of the ambiguity but also the potential direction for or of a draft vision (noting that we are not explicitly proposing that as a draft vision).⁵⁵
- While not explicit in consultation questions, there was no discussion of or attempts to characterise the problem the NPR is trying to address, or substantive discussion of the key drivers for it existing.
- In many cases, stakeholders were less clear about what the NPR is now, but more able to speak their views about what it could or should be.⁵⁶ For example:
 - Many respondents in consultations were forced to ‘make it up as they went along’, in terms of trying to define the current purpose and objectives. Some said they had no idea what the NPR was for, but when asked to describe what they think it did, could make reasonable approximations.
 - People could (and generally did) articulate that they see an important policy (and general public interest / confidence) element in having a national ‘point of truth’ that gives an answer at a national levels, or at a state by state / utility by utility level, to questions related to water security, levels of service, prices, financial performance, environmental performance, etc.
 - Some believe it is meant to be achieving such aims, and seek to use data to do this, but run into issues associated with comparability, data quality, and whether current indicators actually get to the key issues.
 - Some people think the Framework becomes additionally important if a new national water reform proceeds related to urban water. The Framework will be helpful to both argue for and inform that, as well as help provide the evidence base for monitoring and reporting on reform.

⁵⁵ See Section 2.1, p. 5, of Aither and HARC, *Review of the National Urban Water Utility Performance Reporting Framework: Discussion paper to inform consultation*, December 2018.

⁵⁶ In written submissions, stakeholders were more explicit and clear in their views about the potential future vision and purpose of the Framework.

- There is still a notion of the Framework driving 'performance improvement by comparison' thought it is difficult to confirm whether this really occurs. There is an element of education and insight that is helped by comparing results, including understanding why the differences that are there exist.
- Some consultations revealed a more detailed perspective in terms of the potential for the Framework to inform policy matters and also broader discussion. Many had a clear understanding around its value in informing utilities, and regulators had a pretty clear sense of the value (or not) it provided to them in terms of their ability to benchmark against others.
- Conversations generally did not yield any great insights or vision about the future of the Framework. There were plenty of discussions around it generally having broad value, and detail in terms of specific complaints or improvements, but no vision for the future emerged.
- Some (although very much the minority) did have some clearly defined and strongly held views of its purpose, for example that it should provide a level of transparency over the performance of water businesses, but that ultimate responsibility for explaining any differences, should lie with the businesses themselves.
- There is some debate around whether its purpose includes actually improving utility performance and in what way (e.g. efficiency of water businesses as an outcome seems to be contentious). This reflects some confusion about what the 'end game' for the NPR is, and whether this should be defined or not, given it is not (or stakeholders believe it should not) be a policy making instrument.
 - For example, should the Framework seek to drive economic efficiency improvements in water utilities and should such improvements be an outcome of the Framework, or should it seek to support users in making decisions (which might include decisions about economic efficiency, with an outcome being well informed users who are able to make decisions based on up-to-date knowledge and data), given that it is up to state governments (in the main) to set policy.
- The NWI provides a vague sense of purpose, including (somewhat vaguely) presenting it as benchmarking and improved performance, particularly on pricing. This may not reflect current users needs or the vision for the future, however, and the Framework may not be meeting this intent (e.g. many state pricing and/or financial indicators as a problematic are for comparison).
- It was suggested by certain stakeholders that if benchmarking was the vision, that it's never been truly achieved by the Framework, given the inability to truly compare utilities on specific indicators without having to make adjustments or caveats in accounting for geographic differences or other characteristics. However, view was balanced by several other stakeholders who see considerable value in the Framework as a general benchmarking tool even if such limitations exist.
- Some stakeholders suggested it is not strictly a decision-making tool, but rather is about informing, providing and comparing information and outcomes across utilities, because it doesn't provide data that drives decision-making. However, this view was countered somewhat by others (in particular some smaller state regulators) who suggested they rely heavily on it for various purposes (maybe not operational decisions, but certainly informing regulatory approaches or decisions).
- While people seem to see the NPR not as a policy making or setting tool, they do see that it should be capable of informing policy development. Some stakeholders were particularly keen for the Framework to be able to monitor and assess the impact of policy decisions or changes implemented, including over time.
- A broad sense of driving or providing transparency and facilitating comparisons seems to be core to most people's understanding or characterisation of the Framework's purpose, but there is debate about whether it should and the extent to which it can provide true detailed benchmarking

in a federated environment (particularly in the absence of nationally consistent regulation, and geographic differences).

- It appears that general knowledge and awareness of the Framework, the reports, and their purpose, may actually be declining (or has declined) among stakeholders.

11.2. Partners, stakeholders and users

Partners, stakeholders and users includes those who own or manage the Framework, are otherwise directly or indirectly involved in the Framework, as well as who the specific audience or users for whom the Framework is intended and their needs.

- The distribution of types of entities consulted or submitting appears to provide some indication of the current user base of the NPR. Partners can clearly be defined by the formal governance arrangements and documents (which are basically regulators and government departments), while they mainly appear to be utilities or other regulators, or industry and representative bodies.
- Overall, those consulted were somewhat dispassionate about use and value. The most enthusiasm about utilisation came from smaller regulators, largely as they had no benchmarks within their own direct regulatory purview, and some utilities, depending on the individuals being consulted.
- Most discussions did not get into the specific details of how the NPR was used within the organisations being consulted. However, comparing performance, and improving performance, by identifying opportunities for improvement, or watch points, were all raised.
- There are clearly issues around the Framework not meeting some user needs. For some users this is a significant issue or problem. For example, industry bodies such as WSAA are undertaking specific benchmarking activities with and for their members. In other cases, users do not source data from the NPR even if it is supposed to be the same as other sources, with users preferring to go to their own source or point of truth for the data.
- Some stakeholders or partners do not appear to be committed to the Framework, with one having withdrawn their support for or participation in the Framework, while some others, reading between the lines, do not appear committed to it.
- This is in contrast to others, who appear very enthusiastic and strong defenders of the need for it to continue. Some utilities said the Framework provided value to them, even if it wasn't critical to their decision-making, and re stated their willingness to be part of the process.
- Consistent with some comments under the vision, some utilities confirmed they do not use the Framework for decision-making, but to flag areas of concern or possible improvement. Although some representative bodies suggested a local government water manager could potentially use the Framework to convince a council to make certain operational decisions.
- One private utility consulted suggested they did not really use the Framework and did not derive significant value from it, but that it was of some general interest.
- There was generally less discussion about if or how policy making agencies do or might use the Framework to inform policy making, although some suggested the need for the Framework to be able to monitor the impact of policy decisions.
- There were also some success/value stories in certain government departments and economic regulators stating that the Framework provided substantial value to them in helping improve their approach to sectoral performance and economic regulation generally.

- Most stakeholders did not highlight alternative potential users who may have an interest in or gain utility from the Framework. However some suggestions included not for profits, consumer or advocacy groups (one of which was interviewed), universities, local government, media, and planners or developers (some written submissions have also highlighted a range of potential users, but we have no evidence about any of them actually using the Framework).
- There does appear to be a gap, and a potential source of value, in better meeting the needs of or representing smaller utilities in the Framework. In particular in Queensland (and potentially NSW), as it was stated that 51 out of 77 councils in Queensland are not represented in NPR reporting. Discussions with Queensland representatives suggested the Framework doesn't work as well as it could, but there was strong interest in the potential to do things differently so it does.⁵⁷
- While references were made to the general public, very few consultations were able to confirm if or how the general public would use the Framework. Where this was discussed it was often suggested they would use in the same way as a utility (e.g. to compare performance, perhaps to question their bills, for example).
- When talking about customers, many pointed to the need for transparency for the public, but few could identify any particular stakeholders of customer groups that paid attention to the report. This in several instances led to discussions about the media, which was highlighted as a user group (but one which was largely only interested in creating a headline about someone's poor performance).
- Bulk water entities are a potential source of confusion as a user or data provider. There is a lack of relevance in the current Framework for some bulk suppliers, but at the same time there was a degree of interest in the Framework evolving in a way to meet their needs (yet an acknowledgement of how challenging this could be, given the considerably different nature of their businesses).
- There is a real issue or question around whether it should, and to what extent the NPR can meet specific regulatory information needs. This includes whether it can act as a conduit for the information requirements of all the different state regulators (as opposed to a recipient of information collected for or by regulators), or if it can effectively adapt to changing requirements of regulators over time (the Victorian PREMO framework was frequently cited in this context).
- Some stakeholders expressed very strong support for its use in informing national assessments of reform progress and that they derived a great deal of value from it existing for that purpose.
- There are some international stakeholders with knowledge of the Framework, who had the view that many countries elsewhere are still 'playing catch up' and look to frameworks like the NPR as a leading example, and stated that they see value in it continuing, subject to what they say as a natural need to 'reset' or Review it to ensure relevance and utility.

11.3. Services

Services includes the main outputs or services the Framework provides, including the actual performance reports and the dataset, as well as how, to what extent and why they are used.

⁵⁷ We note that this broadly accords with the recommendation of the Productivity Commission review of the NWI, which is explored in more detail in Attachment C.

- In consultations, services was largely characterised as being about the NPR report itself, and the dataset, or other products or services that could be developed to increase value, as well as how the report or dataset could be improved to provide more value.
- On the report, there have been a range of criticism levelled. There seems to be broad consensus that the report is delivered too late to be of much use for different stakeholders, including that when report comes out, the data is almost out of date.
- There appears to be a lack of awareness of the report, beyond those ‘inside the tent’.
- There are some reasonably strong views that it is too long and trying to do too much, which may contribute to the timing issue and issues of relevance (as it’s not detailed enough to fulfil a specific purpose, but so broad and long as to make production slow). A general sense pervades that the report is too long, too laborious, takes too long, goes into too much detail, and is maybe not being authored with sufficiently specific end uses or purposes in mind.
- Some other comments included that the key issue was just the length of the report itself, including that sometimes the key messages get lost. Stakeholders reflected on the drive within their own organisation to shorten their reports, and that much shorter reporting could be of greater value.
- This reflects that some found the narrative to be quite useful, and could draw useful information for briefing executives and others about the general state of the sector. However, in contrast, others suggested that if the narrative was omitted, it could probably result in publishing the report much more quickly.
- Other stakeholders provided some detailed ideas around how the report could be transformed into something much shorter (i.e. effectively an executive summary length), which was faster to produce and which could act as a useful briefing to a variety of stakeholders. Some thought this would be quite valuable.
- This was supported by some views that there was value in at least publishing something, but there is some work to do on what the something is – potentially something that provides a casual reader with the ability to broadly understand what is going on without doing analysis of the data.
- In terms of formatting of the reporting there were several suggestions that nobody felt the need for having big printed report (or big pdf report)
- Some other criticisms include the fact that information is presented only normalised by number of connected properties is a real challenge for many stakeholders.
- Regarding the data there are also concerns about timing. People generally want to be able to access the data as soon as possible, and for many, much sooner than they currently can. They also want it in formats or specifications they can readily do analysis on themselves. Stakeholders want access to data electronically, so they can do their own analysis of it.
- A view tended to emerge around having the raw data and being able to interrogate that efficiently as being where the real value lies. Stakeholders frequently seem to want more opportunities to do more with data themselves. For industry, and regulators particularly, there appears to be more value in the data. A lot of people want more timely access, and better access, to QA’d data.
- But some questions were raised around ensuring data is both timely and effectively QA’d especially in the absence of reporting. It was noted that historically reporting was a method by which to help do QA on the data, e.g. when doing graphs and charts errors might be found. However, another view was that current data validation may be more mature, and not producing the report (or a vastly streamlined version) could save a lot of time and bring publication dates much further forward.

- Data quality issues were discussed in the context of services, and highlighted the issue that despite investment in auditing, there is still a view that fundamental data quality issues exist. Some suggested more basic issues with addressing data quality needed to be fixed before paying for an audit.
- On the potential for new/other products or approaches around access, this included discussion about the idea of, or preference for moving to a business intelligence and/or dashboarding approach. Similarly, suggestions were made that providing basic infographics could be useful for things the media or ministers would be interested in.
- Some suggested the complete dataset could or should be considered an output with more ready access made available. Although others suggested they wanted to use the tool interactively online, rather than waded through a dataset.
- In general stakeholders have been identifying some alternative sources of data or information they are using if they are not using the NPR (or it is not fully meeting their needs) including state based reporting or data, other representative body tools (e.g. WSAA), consultants, ombudsman's, audit offices, and direct information from utilities that is publicly available.

11.4. Framework design and functions

Framework design and functions includes the indicator set and its definitions, and the requirements or obligations imposed by the Framework, including reporting thresholds and requirements.

- Framework design and functions was largely characterised as or involved discussion of indicators and their definition or interpretation, although there was also some discussion of reporting thresholds. We acknowledge auditing is a key part of the Framework design (and that issues are known to exist with auditing), but this issue was only discussed in a few consultations to date.
- There was generally no shortage of criticism levelled at indicators, from a variety of stakeholders for different reasons. There is a general sense, and a degree of consensus around the indicators generally not meeting needs of users overall, although this may also reflect relatively noisy concerns about specific areas (e.g. they may generally be providing some overall benefit, but there are some specific and significant issues in many areas). Several stakeholders suggest a major review of the indicators is warranted.
- However, there seems to be little recognition of acknowledgement of the changes that have been implemented, including knowledge of the actual current number of indicators (and the difference between those actually reported vs being derived from reported data), or improvements made to definitions and the handbook. There appears to be a disconnect between stakeholder understanding or opinion, and reality.
- Broadly criticisms relate to currency and relevance; definitions and interpretations; lack of true comparability and ability to properly benchmark including the need to caveat or adjust for differences; accuracy and reliability issues given varying interpretation, and; the large number of indicators (many suggesting they could not all possibly be relevant or useful, and the large number makes it difficult to 'cut through'). Timing was also mentioned again in indicator related conversations.
- Most stakeholders agree the indicators have not kept pace with the evolving needs and interests and changing drivers in the sector, with specific areas of indicators (like customers, community, environment, SDGs, liveability) serving as illustrations. It was suggested that the indicators are not effectively capturing the ability of providers to meet the requirements of communities, or the demands on the providers in terms of achieving those outcomes.

- Customer indicators have been repeatedly raised, by a variety of stakeholders, although we understand that stakeholders been given opportunities to address issues with these indicators and have not done so. Examples such as the duration to answer a phone were provided and suggested to be inconsistent with how utilities now engage with customers (e.g. social media, internet are more dominant forms), and not representative of the issue (a utility can answer a phone quickly, but this doesn't mean they've addressed a problem). Broadly there is a generally held view of the need to focus on customer experience and outcomes, not inputs.
- Environment indicators are raised as being problematic, including being inconsistent or incorrectly interpreted, and also duplicative in reporting requirements, specifically around emissions.
- Financial and economic indicators were often criticised, maybe more so by more sophisticated utilities and/or regulators, who suggested 'they are not economic', or not robust financial and pricing indicators, and could not be used for the specific purposes the regulator may have, or to make proper comparisons with respect to pricing or other financial matters.
- Asset related indicators were criticised by some, including inability to make proper comparisons between utilities, or the metrics being dated and not reflecting contemporary practice in this area.
- Bulk water related indicators were suggested to be problematic and difficult to compare effectively.
- Stakeholders suggested that for the data to have real value, there needs to be confidence that utilities are interpreting the data requirements correctly, particularly where there is the potential for subjective interpretations (such as about cost allocations).
- Issues around indicator design or definition and true comparability appear to be challenging. For example, whether to have indicators where no re-interpretation is required to 'adjust' for different characteristics, which implies a more difficult indicator to design and report on, or to have more straightforward indicators to collect and report on, which will necessarily require interpretation and explanation of the factors driving differences.
 - An example is pumping costs, which are driven by topography of each utility, but which can also be a key driver of emissions outcomes. To design indicators that account for all these matters would be more difficult.
 - Stakeholders seem to be split on how this should go. Some are very keen to minimise caveats, i.e. create a more standardised benchmarking, while others suggest differences will always exist and utilities should be responsible for explaining them.
- There are some specific concerns and/or suggestions about a desire to do more leading than lagging indicators, but the detail or substance of this hasn't been explored in detailed yet. Similarly, there is a general sense of interest in reporting more on outcomes than inputs, but not much detail in conversations about how this can be achieved.
- Some stakeholders suggested the main indicators reported on in the NPR report (top 20) could arguably be the basis for the most or mainly relevant indicators going forward, although there was by no means consensus around this.
- Naturally stakeholders vary in their views of what groups of indicators and themes are most important, and in the context of seeking to reduce the number of indicators, this could be a challenge to address.
- There is generally value seen in consistency and time series of data as was noted earlier, but stakeholders acknowledge it's difficult to cull indicators and keep adding to time series data.
- Some stakeholders suggested there is less duplication of reporting effort or burden than there has been previously, and some positive examples of coordination or streamlining were provided (e.g.

SWIM in Queensland). International observers commented on the benefits of having a single national dataset collected and reported on but acknowledged the difficulty in achieving this. One stakeholder suggested that WSAA and NPR benchmarking should be streamlined and unified so as to ensure more value to all users.

- Some suggested IT and technology solutions are not being harnessed sufficiently to speed up collection, and improve quality associated with data capture. An example was provided in an international jurisdiction where data is collected directly and automatically from water utilities' administrative and operational systems.
- There are a range of further specific issues yet to be explored sufficiently and which are coming through in written submissions, including using connected properties as a basis for many indicators or reporting, and boundary issues.
- Some stakeholders have pointed to governance as a key weakness or challenge in managing indicators properly, including inability to reach consensus or make decisions about change, delays in making decisions, or lack of appropriate representation in decision-making forums. It was suggested this has constrained the ability to drop or add indicators, particularly where representatives are wedded to particular indicators or approaches.
- Some stakeholders point to the heavy bias of the framework to the upper end of the industry due to the 10,000 connection threshold. This excludes most of Qld which has 51 councils out of 77 that are not represented in the NPR, meaning that much of the industry is excluded. Comparisons therefore cannot be made and an opportunity is potentially being lost to drive performance improvements, including among those that from a policy, performance and customer interest perspective probably have the most concerns (e.g. smaller utilities and local council's performance in regards to water security, quality, etc.). Others simply stated that the 10,000 number is arbitrary and has no real basis.

11.5. Governance

Governance includes the formal and informal instruments and arrangements used to govern and operate the Framework, including coordination, decision-making, and accountabilities.

- Governance was not explicit in the consultation briefing paper or written submission template questions, but came up during the course of conversations in interviews regardless.
- We are beginning to make inferences related to Governance based on comments and assessments made against other framework elements, in addition to any specific statements made or issues raised on the topic.
- With respect to the consultations undertaken to date, some of the concerns or issues raised include:
 - the RTG not being effective in various ways such as being too slow to make decisions, difficult to reach agreement, parties not turning up and resulting in delays (examples given of indicator review processes where quorums on proposed change could not be achieved, or absentees oppose changes decided in their absence)
 - a lack of accountability with the RTG
 - the mandate being to deliver on the framework of the NWI objectives, which is probably not consistent with the framework that exists now
 - changes to indicators being impeded or prevented by the governance arrangements

- there not being 'the right people around the table' in terms of governance and decision-making, including whether 'mid level bureaucrats' are best placed to do the job that's assigned to them (or if they've been assigned the right job)
- whether the structure for governance and decision-making is right – e.g. is the RTG the right structure or approach, the role and effectiveness of sub-committees, etc.
- there not being the right representation – that is key groups or interests being excluded from participating in some way or making decisions – including representatives of community interests, and of local government and/or small providers, but also a broader representation of industry
- the apparent or actual lack of commitment by some partners to the NPR, despite the agreement, and historical issues with commitment

11.6. Operational tasks and infrastructure

Operational tasks and infrastructure include the actions, activities, systems, processes, and infrastructure to operate the Framework and deliver the services.

- Conversations to date have not included much coverage of operational tasks and infrastructure related issues. This was partly to be expected given it was not a focus of consultation questions. This gap will need to be filled by reviewing documentation, potentially by workshops, and by further targeted consultations with specific stakeholders, including the Bureau, as the review progresses.
- However, some topics that have been discussed so far include:
 - There has been some discussion around the potential for duplication in data collection efforts, but it's not clear if this is a significant problem or not.
 - Some comments were provided by one stakeholder suggesting there were significant errors in the NPR data, and that whoever was the data's custodian hadn't picked up on these. We could not verify this, and it is unclear if this was the result of operational issues, or definitional issues.
 - Some comments have been provided about auditing, with some very mixed views. Some seriously question the value proposition, including in the context of other potentially more pressing issues or lower cost ways to achieve data quality and assurance. One went so far as to say that auditing will not really do anything positive but just add cost and time to the process (suggesting if you see a number you don't trust, it's usually pretty obvious).
 - However others have pointed to the audits as being critical to data quality and assurance. Some suggested transparent and consistent auditing schedule or methodology that is used across the program should give confidence that we are really using like for like data.
 - Some regulators pointed out data they require from their utilities is audited separately and so data provided to the NPR had already been audited.
 - One suggested auditing was a key area for improvement overall, including investigating how best to ensure quality data. While another provided some specific comments about this, including a preference for an industry body to lead or be responsible for the audits, pointing to weaknesses in results from consultants who arguably don't know the water sector sufficiently not doing the job correctly.
 - Some have complained about excessive iteration between themselves and the Bureau, or between the data coordinator and data providers with questions and validation checks.

- A suggestion has been made that the process of having data coordinators appointed in each State and Territory acting as a conduit for information may not be operating as well as it could in all jurisdictions.
- Some comments also question that whether this approach is the best way to deliver or handle information, including whether the Bureau (or whoever is running the Framework) and utilities should interact directly.

11.7. Resource requirements

- Consultations to date generally did not include much discussion on resourcing requirements in general. However, some comments were provided or matters discussed, including:
 - An acknowledgement by some that providing data certainly had resource impacts, but some saw this as being offset by the benefit they received by having access to data
 - Some stakeholders confirming that they did feel there were duplicated requirements in their jurisdiction which did have some negative consequences for resourcing.
 - Comments provided by some appeared to suggest the reasons for some partners wanting to or actually withdrawing from the Framework were driven by a view that it was too resource intensive, or not a good use of resources if they wanted to head in a different direction or didn't derive value from access to NPR data. Although we have not been able to adequately determine the veracity of this at this stage.
 - There has been discussion about the costs of audits being prohibitive.
 - There were some suggestions made that the benefits of the Framework should outweigh the costs of data collection and provision (and preparation or management).
 - There was some interest in gaining a better appreciation of the true costs to different types of utilities or the current data provision requirements. E.g. how much time does it take different types of utilities to prepare and provide the data, and does this vary markedly across different utility characteristics. Further to this, there was interest in what the financial cost of this time might be.
 - One bulk utility provided an estimate that the effort required was approximately 2-3 days per team across 4 teams that contribute to the dataset.
 - Suggestions were made that an outcomes focused, graduated approach to reporting with differential requirements for different utilities could potentially reduce the resourcing requirement substantially, as would a general reduction in the amount of data (number of indicators).
 - There was some discussion about the potential to align the NPR auditing with state based requirements that may be similar, but this is not sufficiently clear yet and obvious solutions were not presented.
 - Some stakeholders suggested they do not have any costs associated with the NPR other than data provision.

11.8. Cost sharing

- Cost sharing arrangements were not raised by many stakeholders as a significant issue.

- Only one jurisdiction expressed discontent with the cost sharing model, while all other jurisdictions did not voice a problem with it.
- Four jurisdictions thought the method of cost sharing is fair and in line with other COAG agreements.
- Three jurisdictions did not feel it appropriate to express a view on cost-sharing, as they do not contribute heavily financially.
- The cost-sharing formula has some basis in connected properties, but some stakeholders have presented potential issues with this as a determinant for indicators and reporting.

Appendix F – Summary of past reviews

The following sections provide a synthesis and summary of relevant reviews or inquiries related to urban water reform that have been undertaken in the past.

12.1. Productivity Commission Inquiries

The Productivity Commission (PC) has undertaken two separate reviews of Australia's urban water sector since 2011, which have both included recommendations relevant to the process and outputs of the NPR Framework. The first is *Australia's Urban Water Sector* published in 2011, and the second is the *National Water Reform* report published in 2017.⁵⁸⁵⁹ Both make recommendations relevant to performance reporting in the urban water sector.

12.1.1. Australia's Urban Water Sector Report 2011

The PC released its final inquiry report into *Australia's Urban Water Sector* on 31 August 2011. The Inquiry was conducted to fulfil the statutory requirement for the first of the PC's triennial assessments of progress towards achieving the objectives and outcomes of the NWI required by section 88 of the *Water Act 2007*.

The report makes a number of recommendations for the urban water sector, including several relating to the reporting and disclosure of information for performance and transparency. Recommendations of relevance to this analysis are summarised below.

The PC lists four overarching actions that need to be undertaken to support its universal recommendations. The last of these actions directly calls on performance monitoring and reporting to support reform:

- *To implement the recommended universal reforms, governments should:*
 - *clarify that the overarching objective for policy in the sector is the efficient provision of water, wastewater and stormwater services so as to maximise net benefits to the community*
 - *ensure that procurement, pricing and regulatory frameworks are aligned with the overarching objective and assigned to the appropriate organisation*
 - *put in place best practice arrangements for policy making, regulatory agencies, and water utilities*
 - *put in place performance monitoring of utilities and monitor progress on reform.* (PC 2011 p. XVI).

⁵⁸ Productivity Commission (PC) 2011, *Australia's Urban Water Sector*, Productivity Commission Inquiry report no. 55, Final Inquiry Report, Canberra, available at: <https://www.pc.gov.au/inquiries/completed/urban-water/report/urban-water-overview.pdf>

⁵⁹ PC 2017, *National Water Reform*, Productivity Commission Inquiry report no. 87, Final Inquiry Report, Canberra, available at https://www.pc.gov.au/data/assets/pdf_file/0009/228177/water-reform-overview.pdf

Recommendation 10.5 and 10.7 call specifically for statutory reporting obligations for water quality and transparent performance charters to be established for utilities (and report against):

Compliance with the Australian Drinking Water Guidelines (ADWG) (or equivalent regulations) should be a legislated requirement for all Australian urban water utilities. Specifically, utilities should be required to:

- *develop, implement and adhere to an approved drinking water quality risk management plan*
- *comply with relevant standards for drinking water*
- *disclose (and report on) water quality information.*

Public provision of information on the microbiological and chemical quality of drinking water is critical. Where utility performance against these measures (as defined in the ADWG) is not already publicly reported on (for example, by the National Water Commission), utilities should report on these measures.

State and Territory Governments should draw up charters for urban water utilities incorporating best practice governance arrangements and governments' requirements for the performance of utilities.

The charter would set out details about:

- *obligations to serve (security of supply and obligation to procure)*
- *obligations regarding public health and the environment*
- *transparent processes and procedures for supply augmentation and economic assessments (public consultation, tenders for supply, public reporting of the decision, and monitoring of the process by an independent body)*
- *principles for pricing and service offerings*
- *transparent processes and procedures for setting prices that involve public consultation, public reporting of decisions and periodic review by an independent body*
- *borrowing and dividend policies*
- *customer service standard/hardship policies*
- *risk allocation (between consumers, the government shareholder and private suppliers)*
- *clearly specified and fully funded Community Service Obligations*
- *annual performance reporting requirements and provision for independent reviews*
- *sanctions for underperformance against the charter. (PC 2011 pp. 292-293).*

The PC report also touches on the role of 'yardstick competition' and its potential to drive efficiency in the urban water sector (including with reporting and benchmarking against the charter recommended above). The National Performance Report series (then completed by the NWC and WSAA) is cited throughout and the following key observations are made:

Yardstick (or comparative) competition and competition for the resource (trade or exchange of water) also have the potential to deliver material efficiency benefits, and can be achieved at relatively low cost (at least in the case of informal trading). There is scope to capitalise on yardstick competition and competition for the resource (to varying degrees) (PC 2011 p. 332).

Benchmarking the performance of all Australian urban water utilities is unlikely to be a cost-effective or particularly informative exercise under the current arrangements due to the (large) number and (small) size of utilities in some areas of regional Australia, and the sensitivity of individual utility performance to respective local conditions. (PC 2011 p. 402).

...the value of performance benchmarking is highly dependent on the extent to which utilities can be meaningfully compared on a common set of metrics. To the extent that aggregation produces fewer utilities of larger scale, the case for undertaking comprehensive national benchmarking of regional water utilities is likely to improve (and the charter reforms (chapter 10) will ensure that necessary performance information is readily available). (PC 2011, p. 402).

12.1.2. National Water Reform Report 2017

The PC released its *National Water Reform* report on 19 December 2017, spanning rural and urban water sectors. In the report, the PC advocates for increasing the scope and consistency of public reporting to promote ‘competition by comparison’ (Recommendation 6.5):

Recommendation 6.5 of the PC report states:

To promote competition by comparison, Australian, State and Territory Governments should ensure that performance monitoring data are publicly reported for providers of all sizes and subject to independent scrutiny. (PC 2017, p. 37).

The PC report found that the scrutiny of financial reporting could be improved by refining the approach and metrics used in the National Performance Report. The PC report identified it as a priority that:

State and Territory Governments, through the National Performance Report and state-based reporting processes, require providers to report a financial return metric that excludes developer charges and contributed assets alongside the economic real rate of return metric. (PC 2017, p. 37).

Another key issue was transparency of performance monitoring of regional utilities, and reporting requirements for smaller utilities, particularly in NSW and QLD (Section 6.5):

- For smaller providers the costs associated with formal economic regulation outweigh the benefits. Instead, the PC report suggests improving existing performance reporting processes to promote greater transparency and efficiency. Improvements included making performance data publicly available and ensuring that the data was appropriately assessed.
- In particular, the financial reporting in Queensland required reform. The PC Report recommended that the Queensland Government extend public reporting requirements to service providers with fewer than 10,000 connections.
- The PC report also recommended that independent bodies review the NSW and QLD financial performance frameworks to ensure that the pricing practices of regional service providers are monitored for consistency with NWI pricing principles.

This content echoes the earlier 2011 PC report which touched on better defining reporting arrangements and considering reporting requirements for smaller utilities (where reporting may not be cost-effective).

12.2. Infrastructure Australia reports

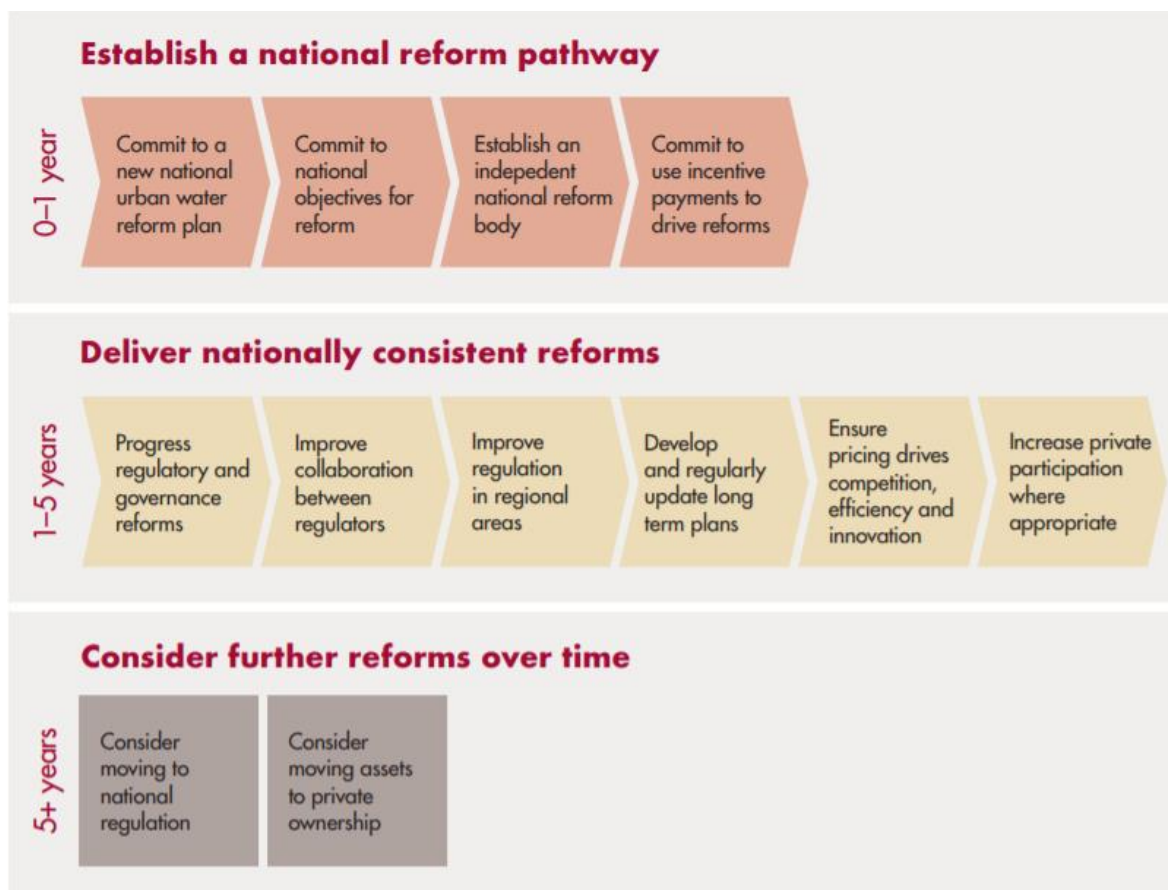
12.2.1. Reforming Urban Water Report 2017

In December 2017, Infrastructure Australia (IA) released a report titled *Reforming Urban Water: A national pathway for change*. It recognises the emerging pressures that could challenge the urban water sector in Australia: meeting needs of growing population, improving resilience and managing impacts of climate change, dealing with ageing infrastructure, reflecting changes in community expectations and keeping services affordable for customers while minimising costs to taxpayers. The report asserts that 'clear, user-focused national objectives should underpin reform efforts', and it identifies four national objectives for the sector:

- A focus on long-term interests of users
- Efficiency and affordability
- Independence, transparency and accountability
- Security and resilience.

The figure below shows short, medium and long term actions that are proposed as a pathway for national urban water reform.

Recommendation 11 of the report proposes that *once nationally consistent reforms have been rolled out across all jurisdictions, all governments should consider moving to a system of national regulation* (IA 2017).



Source: Infrastructure Australia 2017.

Figure F1 Proposed pathway for national urban water reform

12.3. National Water Commission Reports

12.3.1. Urban water in Australia Report 2011

In 2011, the National Water Commission published its report titled *Urban water in Australia: Future directions 2011* in response to concerns about the state and direction of urban water reform in Australia, and acknowledgement that the NWI did not provide sufficiently clear guidance and direction.⁶⁰

The report underscores the importance of performance reporting and cross-references information from the *National Performance Reports*, and acknowledges the inability to have oversight of performance for small and fragmented water service providers (essentially those who do not report under the NPR). However, the report does not make specific recommendations regarding improvements of changes to performance reporting.

⁶⁰ National Water Commission 2011, *Urban Water in Australia: future directions*, Australian Government, available at http://pandora.nla.gov.au/pan/123802/20141214-0001/archive.nwc.gov.au/_data/assets/pdf_file/0016/11293/Future_directions.pdf

12.4. Other relevant reports

In addition to the main reports covered above, a few other high-profile reports have dealt with the issue of water reform. Most notably, the Water Services Association of Australia and Infrastructure Partnerships Australia (IPA) 2015 report titled *Doing the important, as well as the urgent: Reforming the urban water sector*⁶¹ and the 2015 *Competition policy review*.⁶² Relevant elements from both reports are summarised below.

12.4.1. Doing the important, as well as the urgent: Reforming the urban water sector (2015)

IPA and WSAA's report calls for clearer objectives, improved governance arrangements, resolving competition issues, and better economic regulation. While the report does not delve deeply into benchmark reporting, it does underscore the importance of performance monitoring to drive improvements.

The report makes a number of specific suggestions around performance monitoring being undertaken through a specialist monitoring body, as well as setting effective reward and sanction mechanisms to incentivise performance. The report has a strong focus on improving competition and better allowing private sector participation.

12.4.2. Competition policy review (2015)

The *Competition policy review* recommends full implementation of the principles contained in the National Water Initiative across States and Territories. The report does not specifically mention performance reporting or monitoring, but does outline the importance of strengthening economic regulation and improving pricing practices to increase private sector participation.

The report makes a number of suggestions for a more national approach to water reform, including the collective State and Territory development of best-practice pricing guidelines.

⁶¹ Water Services Association of Australia and Infrastructure Partnerships Australia 2015, *Doing the important, as well as the urgent: Reforming the urban water sector*, available at: <https://www.wsaa.asn.au/publication/doing-important-wellurgent-reforming-urban-water-sector>

⁶² Harper, I. et al 2015, *Competition policy review: Final report*, available at: <http://competitionpolicyreview.gov.au/%20final-report/>

Appendix G – Summaries of international approaches to performance reporting

13.1. Overview and summary

Relevant approaches to urban water performance reporting in other jurisdictions, including those suggested by stakeholders during consultations, have been investigated below. Table provides an overview of the case studies covered.

Table G1 International approaches to urban water performance reporting

Country / organisation	Description
New Zealand National Performance Review (NZ NPR)	The NZ NPR reports annually on performance of drinking water, wastewater and stormwater service provision in New Zealand. Reporting is voluntary and used for benchmarking service provision.
Water Services Regulation Authority of England and Wales (Ofwat)	Requires companies to submit an annual performance report to demonstrate compliance with their separate price controls to Ofwat, the economic regulator for English and Welsh water sector.
Vewin (Netherlands)	Reports annually on performance of drinking water businesses in the Netherlands.
European Benchmarking Co-operation	International benchmarking programme for water services (formed by The Netherlands and Nordic Countries).

13.1.1. Themes and observations

While each case study is covered separately below, key themes and observations from across case studies have been included in this section – drawing out common traits and potential insights for improving Australia's NPR.

In general, there are a range of models for performance reporting, as well as a range of objectives. In some jurisdictions the focus may be on monitoring performance and sharing between utilities to improve operation, while in others it is more about transparency and disclosure of information to customers. This in turn links to different models for reporting, e.g. open access public reports with raw datasets typically compiled by government organisations, or short public factsheets with internal datasets available to industry only typically coordinated by industry bodies or not-for-profits.

Of the examples below, approaches in the United Kingdom and New Zealand are of particular interest. Both countries have focused on providing transparency to customers as well as driving performance and have developed online platforms which allow simple sorting and analysis of data (by users) and comparison across utilities.

In the UK performance reporting is closely tied to the regulatory framework and a focus on customer service and outcomes-oriented regulation has led to utilities reporting annually against their performance commitments (which financial incentives attached to performance levels). The UK regulator also provides a Service Delivery report summarising performance across utilities.

New Zealand has annual benchmark reporting in conjunction with an online data portal. Reporting by utilities is voluntary and not directly linked to regulation, however reporting across the country has been the norm since reporting commenced in 2008.

13.2. New Zealand National Performance Review (NZ NPR)

13.2.1. Vision, objectives and outcomes

The NZ NPR is an annual benchmarking exercise that provides comparative performance information to:

- Assist water managers identify [sic] improvement opportunities;
- Provide a transparent snapshot of sector performance; and,
- Reduce the number of requests for information to councils.⁶³

The review process aims to support protection of public health and the environment through considering reliability, resource efficiency, customer focus, resilience and economic sustainability.

13.2.2. Partners, stakeholders and users

New Zealand's water services are provided by councils and council-controlled organisations, with these organisations having voluntarily contributed to the NZ NPR since 2008. The NZ NPR is coordinated by independent not-for-profit organisation Water New Zealand. Water New Zealand represents water professionals and organisations with over 1500 members.

Development of annual reporting is overseen by a project advisory group consisting of representatives from participating entities. Water New Zealand along with Water Services Managers Group and Water Utilities Association assist with delivery of industry-wide improvement initiatives (identified through the review process).

13.2.3. Services

Water New Zealand produces an annual report in two volumes. Volume 1 contains a snapshot of the status of performance across the 'three water services' (as defined by Water New Zealand). The 'three water services' are defined as potable water, wastewater and stormwater.

Volume 2 of the annual report provides performance data on each of the participants. Supplementing this is a public data portal which allows users to generate charts and statistics for the various metrics

⁶³ Water New Zealand 2017, *National Performance Review 2016-2017*, Volume 1, available at https://www.waternz.org.nz/Attachment?Action=Download&Attachment_id=3142

reported against (this is comparable to the analysis that can be undertaken manually using data provided in Australia's NPR Part B dataset, but online and automated).⁶⁴

Data from the NZ NPR is also included in the International Benchmarking Network for Water and Sanitation Utilities (IBNET) database, allowing for simply benchmarking against international performance. Indicators in the NZ NPR do not always match IBNET indicators exactly. A Frequently Asked Questions sheet outlining the assumptions that have been used to map NPR indicators with IBNET can be accessed on the NZ NPR home page.

Drinking water quality issues and freshwater quality issues are not covered in the NZ NPR. They are covered in the Annual Report on Drinking Water Quality (published by Ministry of Health) and the Environment Aotearoa report (published by Ministry of Environment).

13.2.4. Framework design and functions

Framework design

Water New Zealand measures performance across six categories, with 25 sub-categories. Sub-categories are informed by one or more indicators. The six categories are listed below, with sub-categories in parenthesis:

1. Public health and environmental protection (boiled water notices, wastewater overflows)
2. Customer focus (response times, charges)
3. Economic sustainability (revenue, opex, capex, capex vs. dep, cost coverage, debt servicing, balanced budget)
4. Reliability (interruptions, pipeline age, pipeline condition, inflow and infiltration, water losses)
5. Resource efficiency (water supply to participant system, water metering levels, energy use, residential water efficiency)
6. Resilience (backup generation, fire hydrant testing, reservoir levels, flooding events, stormwater standards)

To facilitate comparisons of like-sized entities, participants are grouped into small (fewer than 20,000 connections), medium, and large (more than 90,000 connections). As noted previously, reporting is voluntary but has been widely undertaken since the NZ NPR was first completed in 2008.

Auditing approach

The NZ NPR includes several elements to quality assure the data or information contained within it, this includes the following:

- Data quality assurance processes
 - Confidence grades – as each performance indicator is assigned a confidence grade of 1 to 5. This is used to understand how robust data is and, where data confidence is low, confidence grades are included on comparative performance figures.

⁶⁴ Water New Zealand n.d., Participant Data Portal, available at https://www.waternz.org.nz/Category?Action=View&Category_id=966.

- Commentaries
 - A field is provided for participants to include a description of anomalies, and the audit process follows up with questions on major outliers.
- Automated data checking
 - Submitted data is run through an automated review process to highlight anomalies such as data that is out of historic range of values, has changed significantly from previous years, or fails a set of basic log checks.
- Multiple review cycles
 - Participant data reviews are conducted following automated data checks and publishing of comparative benchmark tables. Both reviews are used to highlight anomalies, and give participants an opportunity to correct any data points that appear to be in error.
- Third party scrutiny
 - An external auditor is employed to conduct an external audit of submitted data. The audit focuses on measures which have been recently introduced, previously inconsistent, or difficult to report against. External audits are rotated around participants each year, and target 20% of those involved.

13.2.5. Governance

Benchmarking and the development of the report is coordinated by Water New Zealand. Water New Zealand prepares the report with support from a 'project advisory group' comprised of individuals from councils and council owned organisations that deliver water services. Funding for the report comes solely from the industry, from participants themselves.

New Zealand's urban water sector consists of many relatively small service providers and has been critiqued as fragmented and lacking clear governance.⁶⁵ This may partially explain how current performance reporting arrangements have come to be.

13.3. Ofwat reports for United Kingdom

13.3.1. Vision, objectives and outcomes

Performance reporting in the United Kingdom⁶⁶ is coordinated by the economic regulator Ofwat (short for Office of Water Services and now officially the Water Services Regulation Authority). Reporting is heavily embedded in the regulatory process with the objectives of demonstrating performance against regulatory determinations and providing transparency and disclosure to the general public (with utilities in England and Wales privatised in 1990s).

⁶⁵ See for example <https://www.harrisingrierson.com/hg-perspective/water-reform-lessons-from-england-and-wales>)

⁶⁶ Scotland's water services are largely provided by Scottish Water and are managed through a separate regulatory framework (Scotland did not sign on to the privatisation reforms in the 1990s and is not regulated by Ofwat).

Customer service is a key focus in measuring performance, and reporting requirements (and results) are also linked to financial incentives for utilities (e.g. penalties or rewards).

In addition to these reporting requirements, a performance dashboard has been developed, in partnership with industry, Ofwat and the government, called 'Discover Water'.⁶⁷ The dashboard is pitched primarily at customers to demonstrate performance and requires regular reporting by all utilities.

13.3.2. Stakeholders, partners and users

Water utilities in England and Wales were privatised in the 1990s and are subject to economic regulation by Ofwat. There are 32 utilities in England and Wales.

Additionally, Discover Water has been developed in partnership with Water UK, water utilities, the Consumer Council for Water, Defra, Drinking Water Inspectorate, Environment Agency, Natural Resources Wales, Ofwat and the Welsh Government.

Most performance reporting appears to be targeted at customers whilst also demonstrating utilities performance against their regulatory performance commitments. There is less of an emphasis on benchmarking absolute metrics, with much of the reporting listing compliance with (in per cent terms) individual utility commitments.

13.3.3. Services

Water utilities prepare and publish annual performance reports. The reports are used by Ofwat to assess water utilities' performance, and are available publicly to provide transparency and disclosure to customers. Ofwat also compiles a Service and Delivery Report that covers performance of the 17 largest water and wastewater companies. Most reporting metrics report on the level of compliance with performance commitments set by each utility (rather than providing benchmarking or reporting on absolute metrics).

Discover Water provides an online dashboard with overall sector performance and then individual utility performance by metric.

13.3.4. Framework design and functions

Framework design

The annual performance reports provide information on four key categories which report against performance commitments set in each utility's regulatory determination:

- Regulatory financial reporting – baseline historical cost information
- Price control and additional segmental reporting – further disaggregation of revenue and costs
- Performance summary – high level report of the performance of the business
- Additional regulatory information.

⁶⁷ The Discover Water dashboard is available at <https://www.discoverwater.co.uk/>

Discover Water requires reporting across:

- Drinking water quality
- Environmental performance
- Supply network efficiency
- Customer satisfaction
- Wastewater
- Pricing / value for money.

Auditing

As the regulator, Ofwat's role is to ensure that utilities' performance reporting and information is transparent and accurate. Ofwat also provides guidelines on annual performance reporting requirements. Each utility's performance is assessed annually and Ofwat assigns a level of assurance depending on the historical integrity of the utility's reporting and information.

Discover Water receives information from water utilities and industry organisations and undertakes its own quality assurance.

13.3.5. Governance

Performance reporting appears to be largely tied up in regulatory process administered by Ofwat. Changes to the regulatory regime have seen an increased focus on customer services and outcomes and with this, a shift in focus on reporting to support greater transparency and performance to customers (more so than benchmarking and competition between utilities).

In addition to Ofwat, the Discover Water initiative is providing a separate platform for rapidly comparing performance across key metrics and is a joint initiative with multiple stakeholders.

13.4. Vewin reports for the Netherlands

13.4.1. Vision, objectives and outcomes

The purpose of the Vewin benchmark report is to provide transparent information on the Dutch drinking water industry to stakeholders and consumers, and to support policy decisions.⁶⁸ The report provides data on the sector as a whole and on individual companies.

13.4.2. Partners, stakeholders and users

Vewin is the national association for water companies in the Netherlands (representing the views and needs of their members). Dutch drinking water companies participate in the benchmark report, which is coordinated by Vewin. The reporting is intended for use by stakeholders and customers, as well as

⁶⁸ Vewin 2015, Dutch Drinking Water Statistics 2015, available at http://www.vewin.nl/SiteCollectionDocuments/Publicaties/Cijfers/Dutch_Drink_water_statistics_2015.pdf

by third parties outside of the water sector, such as ministries, the European Union, companies, institutions and consumers.

13.4.3. Services

The benchmark report has been published in varying forms since 1997. The report provides data on the Dutch water sector as a whole and on individual companies.

The depth of reporting varies significantly from year to year. Some years only relatively short 'factsheets' are published, with more substantial 'drinking water statistics' reports published intermittently. The most recent available report in English is the 2017 Dutch Drinking Water Statistics report.⁶⁹ The report largely includes aggregate data for the urban water sector in the Netherlands, spanning economic and environmental performance and reporting on current and future water resource availability.

Statistics that are broken down by utility are descriptive (for example area or population served) and there is little to no information on the performance of individual utilities or relative performance between utilities. It is understood that Vewin also maintains a drinking water database, however this does not appear to be publicly available.

13.4.4. Framework design and functions

Framework design

The reports use data provided by the ten companies in the Netherlands to report across four performance categories including water quality, services, environment, and finance and efficiency, with more detailed metrics reported within each.

There does not appear to be the same level of consistency between year of reporting. Information included in reports appears to largely focus on selling achievements and positive contributions of the industry more so than driving performance and identifying areas for improvement.

The Vewin benchmark database may be used for more robust benchmarking and improvements in the sector but this does not appear to be reported publicly (and certainly not in English).

Auditing

There is no clear process for auditing or ensuring information credibility.

13.4.5. Governance

Vewin compiles and publishes its reports on behalf of its members.

⁶⁹ Vewin 2017, Dutch Drinking Water Statistics 2017, available at <http://www.vewin.nl/SiteCollectionDocuments/Publicaties/Cijfers/Drinkwaterstatistieken-2017-EN.pdf>

13.5. European Benchmarking Cooperation (EBC) reports

13.5.1. Vision, objectives and outcomes

The EBC program's overarching objective is to enable utilities to assess their performance, learn from colleagues and thus improve their services. The program offers benchmarking and evaluation support for participants, builds networks for utilities and publishes public reports on performance.

13.5.2. Partners, stakeholders and users

The EBC is an industry-based, not-for-profit benchmarking initiative for drinking water and wastewater services. It was initiated by a collective of utilities from the Netherlands, Nordic countries and 6-Cities Group utilities. The primary audience of the EBC reports and data is the participant utilities who have signed up for the benchmarking service and contribute their data to the program.

Participation is on a subscription basis starting at approximately 10,000 euros for a single year subscription (for 2017). In 2018, 44 utilities participated representing 20 countries from across the globe.

13.5.3. Services

The EBC publishes an annual public report that summarises the annual benchmarking exercise of participant water and wastewater utilities. The public report provides a subset of the available performance indicators to illustrate key findings. The most recent public report was 46 pages long and included many graphs.

The public report does not include a lot of direct comparisons of individual utilities but provided aggregate data for benchmarking. Individual utility case studies (positive examples) are also included.

Individual confidential assessment reports are provided by the EBC to each water utility, which includes comparison to other participant utilities.⁷⁰ Additionally, participants attend a benchmarking workshop each year which is likely to be a value 'service' or exercise.

13.5.4. Framework design and functions

Framework design

The assessment focuses on five categories and provides comparison against other utilities. The five performance categories are:

- water quality
- reliability
- service quality
- sustainability

⁷⁰ EBC Tools, available at <https://www.waterbenchmark.org/content/tools>.

- finance and efficiency.

Participants may choose one of three reporting levels, basic, standard or advanced. The advanced reporting level requires approximately 240 data elements (for drinking water only) across the five categories listed above – and it is estimated by EBC that this takes 2-3 weeks of labour for most utilities to produce. The basic level is considerably more straightforward.

Auditing

There are no clear auditing requirements, however this appears consistent with the nature of an opt-in benchmarking process (where utilities have little incentive to game the reporting).

13.5.5. Governance

Benchmarking and the development of the report is completed by EBC. Funding for the program comes from subscription fees and sponsors.

Appendix H – User needs analysis

This section provides an analysis of the needs of users, in order to inform questions around value of the Framework and how its value may be enhanced in the Future. It identifies users of urban water performance information, discusses the decisions these users are likely to be making and their associated information needs, with a view to identifying ways in which the Framework could add the most value.

14.1. Overview and purpose of user needs analysis

A central question regarding the future of the Framework is if and to what extent it is currently providing value, and if it is not or is not sufficiently doing so, how its value can be enhanced in the future. Core to its value proposition is its users, because if users do not value and use the Framework and its products or services, it has significantly diminished (or potentially no) value (unless it has intrinsic or existence value). Given this, it is necessary to understand what users' needs are, and whether and how they can be met by an enhanced Framework. User needs analysis provides an opportunity to identify users and interrogate their needs in a logical way. The user needs analysis broadly involves:

- Identifying current (and prospective) users of the Framework, and grouping or characterising them for further analysis.
- Seeking to understand and articulate the decisions they are likely to be making, or functions they are fulfilling, and the information needed to support those decisions.
- Considering what the Framework might best focus on in this context, given other sources may be more relevant or appropriate, and recognising the Framework generally cannot be expected to be 'all things to all people'.

14.2. Identifying individual users and user groups

A broad range of individual users access different sources of urban water performance information for a variety of reasons, from public officials making policy decisions, to utility employees operating works or making planning decisions, to consumers checking water restriction rules or storage levels for their local area. Informed through the consultation for this review, current individual users of urban water performance information were considered to fall under the following broad user groups:

- Water utilities (public)
- Government agencies and departments
- Local governments, councils and their representative bodies
- Economic, health or environmental regulators
- Industry bodies and advisory groups
- Private sector participants or representatives (e.g. private water service providers)
- Public interest and advocacy groups

- Academia and research institutions or individuals
- Customers (of utilities) and the general public

The identified user groups are broadly supported by the results of the stakeholder questionnaire and individual consultation interviews, but were disaggregated further to consider potential differences in their needs.

14.3. User decision-making or functions and information needs

To better understand the identified broad user groups, it is important to consider the types of decisions they are likely to be making in relation to urban water. Once the types of decisions that the different groups are making are understood, it is easier to contextualise the nature of information they require.

Informed by written submission results and information obtained through stakeholder interviews, as well as previous work undertaken by Aither on this topic⁷¹, Table H1 below provides a high-level indication of the potential types of decisions being made by the respective broad user groups identified above.

Table H1 Decisions being made by user groups

Group	Example areas of decision-making related to urban water
Utilities (public)	<ul style="list-style-type: none"> • Strategic and operational decisions about how best to operate and manage the utility and provide the services and service levels it is regulated or contracted to deliver to its customers • Infrastructure investment and management decisions • Collection and provision of water data • Water resource managers (water planning) in some cases
Government agencies and departments	<ul style="list-style-type: none"> • Policy, legislative and regulatory related decisions about how urban water utilities should be governed or operated, and the roles and obligations that should be provided or imposed • Urban water infrastructure investment programs • National competition policy • National reform policy issues (e.g. National Water Initiative and Murray-Darling Basin Plan) • Supply augmentation and major infrastructure investment • State urban water policy and water planning • Collection and (in some cases) provision of water data • State legislative and regulatory direction
Local governments, councils and their representative bodies	<ul style="list-style-type: none"> • Generally similar to water utilities (public) in this context, given many are water service providers • Representative bodies interested in trends and drivers in relation to operational performance or policy and regulator obligations or conditions

⁷¹ Aither 2014. Scoping opportunities to better meet water market information user needs. Aither, Canberra.

Economic, health, or environmental regulators	<ul style="list-style-type: none"> • Whether or not utilities are compliant with the regulations and operating conditions that are imposed on them • Economic regulators are frequently reviewing or determining prices, and determining consistency of operations with licenced obligations • Health and environmental regulators focused on compliance with guidelines or licence/discharge requirements
Industry bodies and advisory groups	<ul style="list-style-type: none"> • The nature and significance of current or emerging trends • Supporting the general performance and capacity or operation of members • Ensuring members interests are represented in policy and other discussions • Developing, supplying and maintaining various forms of infrastructure or equipment • Represent and coordinate members (such as utilities) and make advocacy decisions on their behalf • Inform or shape policy and programs at national and state levels
Private sector representatives	<ul style="list-style-type: none"> • Similar to public utilities
Public interest and advocacy groups	<ul style="list-style-type: none"> • Whether and to what extent customers interests are being reflected by utilities
Academia and research, consultants	<ul style="list-style-type: none"> • Could be any valid contemporary research questions relevant to the urban water sector, including economic and financial, environmental, or public health related matters • Analysis and advice to a wide range of other participants in urban water (governments, utilities, industry), in various areas (e.g. investment, water planning, policy and legislation) • Research and development in the urban water sector • Various types of analysis (e.g. economic, modelling, monitoring and compliance, and social research) • Collaborators on various projects with all levels of government and industry
Customers or the general public	<ul style="list-style-type: none"> • Decisions about household water management such as extent of consumption and use, or whether to recreate in water bodies or dependent environments • Whether or not their water utility is providing an acceptable level or service at acceptable costs

Table H2 Information supporting decision-making

Group	Indicative or likely information required to support decisions
Utilities (public)	<ul style="list-style-type: none"> • Data on factors influencing supply and demand, such as long-term climate trends, rainfall and inflows, policy changes related to supply obligations, and customer preferences • Information on the performance and cost of a range of supply and treatment infrastructure under utility control, and alternative or new infrastructure or supply and treatment system related options

	<ul style="list-style-type: none"> • Wide range of operational information to operate the assets in its control (which is likely sourced internally) • Comparative information on performance of other utilities (potentially), for benchmarking and increasing performance • Information about regulatory and compliance requirements and issues or changes at a national and state level
Government agencies and departments	<ul style="list-style-type: none"> • Evidence of the nature and extent of supply and demand challenges – including geographically specific data or information to support this • Information on progress towards and compliance with reform commitments made by states • More geographically specific information to support targeted policy or program related decisions (such as infrastructure investment) • Information on future supply and demand conditions, such as projected rainfall temperature and inflows, climate change, population growth, changes in demographics that may influence demand • Availability, cost and feasibility of various different water supply and treatment options, such as alternative solutions • Trends in urban water over time • Information on the financial, economic, environmental and public health performance of regulated entities
Local governments, councils and their representative bodies	<ul style="list-style-type: none"> • Information on supply and demand issues at very local and specific scales, similar to state governments • Trends in supply and demand at local level – including current and future drivers influencing this • Information about regulatory compliance requirements and issues • Information to support operational matters (e.g. dam levels and system inflows) where local governments act as utilities
Economic, health, or environmental regulators	<ul style="list-style-type: none"> • Information on the financial, economic, environmental and public health performance of regulated entities • Detailed information on past, current and proposed activities and costs associated with running the utilities (operational and capital expenditure) • Information on the economic, financial and customer service performance of the sector, and the nature and extent of competition • Monitoring data on various aspects of licensed conditions, such as quality of drinking water provided, quality of wastewater discharges, and recycled water quality
Industry bodies and advisory groups	<ul style="list-style-type: none"> • Industry wide information to gain an understanding of industry performance trends and drivers over time • More technical information on specific issues to support industry member decision-making • Information about policy and regulatory developments, and changes at a national and state level
Private sector representatives	<ul style="list-style-type: none"> • Information on policy and regulatory environment affecting their operations

	<ul style="list-style-type: none"> • Other data similar to public water utilities for operating their business (assuming these are private utilities)
Public interest and advocacy groups	<ul style="list-style-type: none"> • Information on the existence and nature of customer protection frameworks • Data on customer performance • Data on key performance metrics impacting the public or consumers
Academia and research	<ul style="list-style-type: none"> • Disaggregated information at a national, state, local and utility level so as to undertake own and targeted analyses • High-level national and state information can be important to provide research background and purpose
Customers or the general public	<ul style="list-style-type: none"> • Local information about current conditions and rules or regulations related to water consumption and recreation • Information on water related services and pricing at the local (relevant utility) level • General interest in storage and consumption information and comparisons • Easy to comprehend information (no or little analysis required)

14.4. Implications for the NPR Framework

In reflecting on the above information, some observations can be drawn:

- There is a wide variety of users, with varying needs. While a generally common interest in urban water management appears to tie them together, they remain diverse in their specific interests and needs.
- There are a range of decisions and information needs far beyond any broadly accepted interpretation of the meaning of performance reporting – i.e. the roles or decisions and information required to support them are far in excess of what the NPR could ever be expected to directly inform or support in its own right.
- Some of the user groups have geographically specific needs (local, state, individual utility), and some of them have technically specific or very detailed needs (such as the case of specific regulators needing very specific data on individual utilities). On the other hand, some may have much broader or higher-level interests.

In seeking to move towards an increased value proposition, some matters to consider include:

- Whether the scope, depth or breadth of the Framework should increase, in an attempt to meet the diverse needs and interests of this broad group of users, or whether it should contract in some way (or maintain its current scope) and focus on better meeting an existing or smaller subset of user needs.
- Where there is commonality and alignment between the user needs – for example which areas of information can be drawn on and used by the greatest number of users, given aligned interests.
- What is most relevant nationally, including most relevant and important to be able to compare or analyse at a national level. This is important given the NPR is supposed to be a national framework, and because policy and regulatory approaches are state based and are likely to have state specific needs and requirements for the foreseeable future.

- Where there may be gaps in current information provision that are likely to persist, and whether the NPR is the right Framework for addressing or meeting those needs.

Appendix I – Analysis of Framework funding arrangements

Note on confidentiality

Aither notes that several aspects of the information contained in this attachment is confidential. The information will be used to inform judgements, findings or recommendations by the Review Team, and will not be included in draft or final reports unless requested by the BoM.

This section provides an overview of cost sharing arrangements for the NPR. It identifies the nature of costs involved in the NPR Framework and reporting for different entities or jurisdictions over time, and provides a summary of observations on these arrangements. Commentary around analysis of funding arrangements will be included in the body of the report, but this attachment will not be included as an Appendix in the report. The costs associated with auditing are not included in this analysis.

15.1. Cost sharing arrangements

The Framework is funded and resourced through a mix of cash and in-kind resources. Cash payments are made by the agreed funding partner in each state and territory to the Bureau.

The current quantum of cash support is based on the historical cost of the consulting and contract services used by the National Water Commission to deliver the annual Framework outputs at the time of the transition to the Bureau.

Funding is shared between States and Territories based on their proportion of the total number of connected properties serviced by reporting utilities.

BoM manages and utilises these funds in conjunction with additional in-kind staff and ICT resources to support the Frameworks operational activities. In summary, operational activities include:

- Project management;
- Data management—database hosting, administration, management and support;
- Annual data collection, analysis and reporting
- Urban NPR release activities, promotion, media management and report hosting;
- Support and maintenance of the Framework’s annual reporting memo, indicators and definitions and audit handbooks; and
- Roundtable Group participation and secretarial duties—preparation and coordination of papers, correspondence, meeting logistics, attendance at meetings, including an annual face to face meeting.

State and territory funding member cash contributions, do not include their in-kind support. Both funding and non-funding members of the Roundtable Group provide in-kind support for the Framework. This in-kind support includes:

- Participation in the Roundtable Group, including sub-committees and an annual face to face meeting;
- Support, maintenance and advice on the Framework's indicators.
- Data coordination activities;
- Communication with reporting utilities;
- Review and comment on the annual Urban NPR; and
- Responding to media enquiries.

In-kind contributions from state and territory Roundtable Group members have, to date, not been tracked or quantified.

Data reporting and auditing costs, borne by utilities, are a further in-kind contribution adding to the total cost of the Framework.

In 2016-17, the Bureau made an in-kind contribution towards the production and publication of the NPR, estimated at \$60,000. This included:

- Maintenance of NPR database
- Hosting NPR on website
- Supporting review of NPRs audit framework
- Production of infographics
- Ministerial briefing and dealing with inquiries
- Promotion, including social media advertising.

Based on data provided by the BoM, Table I1 has been generated to illustrate cost sharing arrangements over time.

Table I1 NPR funding arrangements

Funding body	Funding contribution							
	2013-14	2014-15 and 2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	State/ territory Total
ACT	\$1,644	\$2,203	\$2,269	\$-	\$2,337	\$2,407	\$2,479	\$13,339
SA	\$11,314	\$10,240	\$10,574	\$-	\$10,863	\$11,189	\$11,525	\$65,705
TAS	\$2,049	\$2,727	\$2,809	\$-	\$2,893	\$2,980	\$3,069	\$16,527
VIC	\$60,000	\$34,114	\$35,137	\$-	\$36,191	\$37,277	\$38,395	\$241,114
QLD	\$16,570	\$20,752	\$21,375	\$-	\$22,016	\$22,677	\$23,357	\$126,747
NSW	\$60,000	\$36,550	\$37,647	\$-	\$38,776	\$39,940	\$41,138	\$254,051
WA	\$11,668	\$12,511	\$12,886	\$-	\$13,273	\$13,671	\$14,081	\$78,090
NT	\$700	\$905	\$932	\$-	\$960	\$989	\$1,018	\$5,504
Jurisdictions	\$163,945	\$120,002	\$123,629	\$0	\$127,309	\$131,130	\$135,062	\$801,077
Commonwealth / DA	\$-	\$-	\$60,000	\$250,000	\$-	\$-	\$-	\$310,000
BoM	\$-	\$-	\$-	\$-	\$77,250	\$79,568	\$81,955	\$238,773
WSAA	\$-	\$-	\$-	\$100,000	\$-	\$-	\$-	\$100,000
Non-state/ territory funding total	\$-	\$-	\$60,000	\$350,000	\$77,250	\$79,568	\$81,955	\$648,773
Total	\$163,945	\$120,002	\$183,629	\$350,000	\$204,559	\$210,698	\$217,017	\$1,449,850

Aither notes this information is confidential.

Source: Financial documents provided by the Bureau of Meteorology.

15.2. Implications for the NPR Framework

In reflecting on the above information, as well as reflections from consultation, some observations can be drawn:

- Total costs are generally fairly stable, but have increased over the period.
- The total annual funding costs of having an NPR appear to be quite modest.
- Consistent with this, the amount of funding contributed by each jurisdiction seems extremely modest.
- While this is the case, many users have stated that they don't get value out of the Framework (or sufficient value). So even if costs are low, the Framework is not cost-effective currently.
- It does not appear that funding is as much of an issue to the NPR at present as other issues.

Not surprisingly, there was across the board support for the Framework to operate in the most cost effective and efficient manner. However, the overall cost of participation was not identified as a major barrier to the continuation of the Framework. While it was raised in a small number of specific cases, the weight of the review responses focused on maximising the value derived from the investment in the Framework and reducing costs through automation and the rationalisation of Framework outputs.

The manner in which cash contributions are shared between state and territory funding partners was raised, however, the majority of funding members reflected that relative proportionality is an accepted means of cost sharing in many other whole of government arrangements and the overall cost of patriation was small in the context of departmental budgets.

Appendix J – Workshop outcomes summary

The below includes the workshop worksheet that guided discussions during workshops, and was filled out by remote participants. For each priority area, most frequently stated responses or key words have been identified, and select participant comments have been included.

16.1. Priority 1

Vision and objectives of the Framework need to be determined, agreed and more clearly stated.

1. Please note your ideas on the following areas, and the ways in which they should be revised, agreed and documented:

A concise vision statement for the NPR

Most frequently stated key words included: Reliable, trusted, enduring, nationally-relevant, transparent, independent. During these discussions, participants were also adamant to convey that the Framework is valued and should continue. It was stated that if the Framework no longer existed, the States or industry associations would have to create something to replace it (but likely don't have the resources to do so).

Participant comments provided include:

- 'It should focus on the whole sector and include stormwater, recycling, desalination.'
- 'It should be for all of sector—utilities under 10,000 connections, LWUs, private and aboriginal communities.'
- 'It should clearly identify primary users (government + water sector operators).'
- 'Think we should change the title to 'National Urban Water *Industry* Performance Report'. It's the numbers for the whole sector.'
- 'I don't believe changing the vision/objectives leads to a valuable change.'

A set of objectives for the NPR

Most frequently stated objectives included: Generate national awareness, have appropriate parameters, inform policy and analysis, one 'point of truth', drive continuous improvement.

Participant comments provided include:

- 'There's value in stating what the objectives *aren't* also. Need to set parameters and expectations. Should not be used as actual benchmarking (direct comparison) for instance.'
- 'It shouldn't be best/worse, it should just point out differences in performance.'

- 'It shouldn't be about performance of businesses, it should just state what happened in Victoria from a water business perspective for instance, or from a regulator perspective, or from customer perspective.'
- 'Most contentious debate is 'is it benchmarking or just provision of data?''
- 'Does the NPR have an information sharing role? Doesn't necessarily have to be measures reported on, but information collected across the country, and use the framework to share that information and build the broader picture. And how should it fulfil this role? Through what formats/technology?'
- 'It should be ad-hoc reporting for national priorities/policy decisions.'
- 'I don't believe changing the vision/objectives leads to a valuable change.'

An outcome/set of outcomes for the NPR

Most frequently stated outcome (which was frequently confused with 'output'): Objective, consistent, simple and reliable dataset.

Participant comments provided include:

- 'Could have an online dashboard or phone application.'
- 'Could have different outputs tailored for different audiences – factsheets, summary documents, reports, etc.'
- 'The outcome it should aim for is to provide a reliable, meaningful dataset that can be used for a range of purposes.'

16.2. Priority 2

The audience(s) of the Framework need to be better defined, and services or outputs better tailored to meet a realistic and achievable subset of their overall needs.

2a. Which users should the NPR focus on or be tailored to? Why?

- Utilities
- Customers / the public
- Government agencies and departments
- Local governments, councils and their representative bodies
- Economic regulators
- Industry bodies and advisory groups
- Private sector representatives
- Other (public interest and advocacy groups, academia and research, etc.)

Many participants agreed that the groups listed above are users of the NPR, and expressed that these groups should/could continue to be users to some extent, if can use the same data or report

to provide value in different ways. Most agreed that the primary users are utilities, government and regulators, and secondary users are customers, the media and international sector. It was reinforced that bulk water authorities don't derive any value themselves from the indicators to meaningfully compare each other. Yet it is still important to collect contextual data on bulk authorities to build the picture of the sector as a whole.

Many also suggested that different outputs (apart from the dataset and in place of the report) could be considered for different groups – i.e. a simplified, graphic output for the public; a short memo on key policy implications for govt/regulators; and utilities mainly just use the dataset anyways and don't even look at the report.

Some suggested that the Bureau may not be the appropriate entity for producing the report given its focus on infrastructure, economic, public health and environmental regulation and performance, among other things which could be contributing to the report's lack of value.

Participant comments provided include:

'The NPR should focus on the whole sector and include stormwater, recycling, desalination.'

'The NPR should be for all of the sector—utilities under 10,000 connections, LWUs, private and aboriginal communities.'

'Councils already have a lot of other reporting, and it would be a hard sell to get Councils on board with NPR' (SA) (pointed out difference between how councils are regulated in QLD and NSW compared to SA).

'If no metrics are changed, the NPR only really provides value to Utilities, Regulators and Government. I believe that the purpose of the NPR should be more broadly communicated across industry (i.e. manufacturing/processing), irrigators, the community and all above listed parties.'

2b. What specific needs of the user groups identified above should the NPR focus on? Why?

Participant comments provided include:

'The NPR is an important input to assess how jurisdictions are going on the NWI in urban water, the PC use it for the NWI triennial assessments. While an academic, used it significantly, and use it as a Director to see how businesses are going. Some of the indicators to measure Australia's performance against SDG6 came out of the NPR.'

'If as utilities, we accept that simplistic direct comparison is not possible, is there use in using the data as a flag? As an indicator in being too far one way or another? Could still drive behaviour.'

'If an indicator starts a reasonable conversation about why a utility is unique in a specific area, that isn't something for the utility to be afraid of. It's a good thing to have that discussion. Don't want to have a conversation where everyone consistently gets something wrong, but if raises a few questions then that's transparency at work.'

'At SouthEast Water, we refer to the ESC performance report for comparison rather than the NPR. Use the NPR for the dataset, but not for performance measures. It doesn't tell us about the business from a performance perspective. Don't see much value in it as a comparison of how the business is performing against others.'

'When see you are the worst in something, it triggers you to do deeper dive on why that is the case' (City West Water).

SA Water use NPR to explain / compare SA Water context and why they are different to other utilities. Also use it to look at best performing utilities (in particular areas) and then get in contact with utility to find out what they are doing.

'There is value in having the dataset released earlier, without the commentary/report. In November/December – which would be feasible, as it's the reporting that delays the delivery by so long.'

'Further value could be gained from sharing best practice in the industry—if one utility is performing really well on something, it could be good to include commentary or a case study on why that is the case.'

'The NPR should provide guidance on which utilities can be compared and for what basis.'

2c. Which option(s) do you support? Which seem most viable?

- ☐ An enhanced data set **(ticked or mentioned by many)**
- ☐ Web-based comparison and analysis tool/s and dashboards **(ticked by the most)**
- ☐ An annual summary statement **(ticked by a few)**
- ☐ Other modifications to existing reporting (scope, timing) **(ticked by a few – timing mostly)**

16.3. Priority 3

Framework design and functions should be updated to reflect changes, including necessary modifications to indicators.

3a. Which option(s) do you prefer? Which should be the highest priority?

- ☐ Shift to outcomes-based reporting, with consequential changes to themes and indicators **(ticked by the most, and mentioned by multiple as top priority)**
- ☐ Modify or enhance existing indicator approach and themes to better address current and emerging needs / trends **(ticked by many)**
- ☐ Significantly reduce the number of indicators **(some discussion around this, but not so much a problem about the number of indicators, as the frustration around the difference in calculation required to measure the same thing across multiple reporting or data provision requirements)**

- ☐ Consider merits of, and design an approach to include more utilities in reporting (**many think that all utilities should be included, that the NPR should capture the whole sector**)
- ☐ Consider changing frequency of reporting (**frequency not much discussed, but earlier release of dataset noted as beneficial**)
- ☐ Improve approach to auditing and data quality assurance (**ticked by many**)
- ☐ Other

3b. Please justify or describe your answer to the above.

Participant comments provided include:

'Where there are state-based indicators, the NPR should try to have alignment with them.'

'Time series data is valuable – informs policy. Historical data, including past performance maps, is useful and should continue to be accessible and online. It needs to be timestamped and not indexed, so that we have a snapshot in time that we can refer back to. And so that when we write reports using that data, the data can't be changed.'

'We need tight, consistent definitions that are standardised.'

'Prioritisation of metrics would be good.'

'Need to have simple base metrics only that don't involve calculations. Need to remove opportunity for interpretation or calculation error.'

'Include forward-looking or leading indicators – data and trends around what utilities are likely reporting to their Boards already.'

'Include metrics for new emerging areas/trends, such as water security and socio-economic indicators.'

'Could start with outcomes being sought, then design indicators around that. Essentially start with a blank slate, but use existing indicators where possible and appropriate.'

'People say there needs to be more context in the measure across States/Territories. I think this is a good case to have measures that need to be caveated, only be measured on state-basis by a state entity (like QldWater or the ESC).'

'Need to be able to flexibly change indicators over time, to be responsive to changes and emerging trends in the industry. Otherwise it will continue to lose value for users.'

'For threshold for reporting – could have a tiered framework – base set of indicators that everyone reports on (general industry information), but then indicators that are for less than the cut off – so there would be different indicator 'cut offs' for different groups. Class of indicators, which would reflect maturity of different utilities and areas they need to work on.'

'I believe that BOM should be responsible for auditing rather than independent third parties. I believe if BOM were to audit all utilities participating in the NPR, then there would be a greater degree of consistency across audits.'

16.4. Priority 4

Governance arrangements should be updated to reflect other changes, but also in their own right to improve accountability and decision-making.

4a. Which option(s) do you prefer? Which should be the highest priority?

- ☐ Revise and improve governance framework generally
- ☐ Develop and agree a clear TOR for the Round Table Group (RTG), and clarify accountability **(received the most ticks)** (with operating TOR, not just a establishment TOR)
- ☐ Modify RTG membership **(received a lot of ticks)**
- ☐ Change decision-making and management process in more substantive way
- ☐ Consider feasibility and merits of pursuing a more robust legislative and regulatory basis
- ☐ Consider NPR in context of national urban water reform discussions **(received some ticks)**
- ☐ Other

4b. Please justify or describe your answer to the above.

Select participant comments include:

'Need an active custodian making decisions, and clear accountabilities.'

'Could make the RTG more of a technical support committee, and they would be responsible for modifying or changing measures when need changing, as sector evolves, and responsible for identifying those changes, and when necessary for change.'

'Could build the NPR into the Water Regulations and make BoM the formal owner for extended period of time or in permanence.'

'A legislative base would provide high level commitment to drive the process.'

'Need to include industry association members as observing members of the RTG, such as WSAA and QldWater.'

‘Could have the dataset continuing to sit with BoM, as owner of the dataset, but then have particular specialist outputs tailored for certain groups produced by specialists in those areas – by consultants, associations or govt bodies.’

Many like that the dataset sits with BoM, as BoM is the ‘reputable entity that is trusted and independent.’

‘States have more clout, but involving them would make the process longer. It would extend the communication channel.’

‘Historically, states have pushed back hard against Commonwealth collecting data or telling them what to collect—they want complete control over all data they collect, as cynical of Commonwealth motivations. Think this is another reason why all utility data should be provided to the state, who then feeds relevant data through to the NPR/responsible entity.’

‘Should consider rotating membership of decision-making body to get fresh ideas.’

One participant suggested that the governance model should be set up once the vision and objectives are formally defined and agreed.

16.5. Other priorities

5. Please provide your comments or suggestions for actions that should be pursued in the following areas:

Operational tasks and infrastructure (actions and services required to operate framework)

Select participant comments include:

‘States could fund a process for aligning their own state requirements with the NPR? Then states would be responsible or accountable for coming up with or running their own system – can streamline if desired, but regardless, at least have everyone report to one entity.’

‘Could perhaps have scalable reporting to state-level entity or NPR based on utility size or characteristics.’

‘NSW doesn’t have their own reporting mechanism like Qld, but want one, where local, state and national requirements are aligned or at least sitting with one entity. Wouldn’t care if the different data requirements were not aligned, if we only had to report to one entity.’ And possibly smaller utilities could report to state, which would feed appropriate level of data up to BoM/NPR.

‘NSW and Vic have best frameworks to get relevant data anyways. So why don’t they collect data for all sector in their state through their respective programs/systems? And then feed through relevant info to NPR.’

‘Spot audit?’ Could have random, rolling audits like New Zealand.

Resource requirements (financial & human capital required to operate the framework)

Select participant comments include:

'Once get definitions clear and number of indicators restricted (for NPR, can still collect large amount at state-level, or however many they want), then auditing won't be as high cost or difficult for NPR. And if utilities only report to one entity – like SWIM – then not costly or lengthy process for them.'

'Dashboards could be costly.'

Cost sharing (how funding requirements are met by partners or others)

'Some funding to align the ABS and NPR datasets should come from COAG or DAWR, since need those aligned for policy decisions.'

'Biggest investment would probably be upfront in redesigning or modifying the indicators and first round of collection – but then should be much more simplified data collection process in following years.'

Appendix K – Guidance and draft content for vision, objective and outcome statements

The purpose of the Framework should be to serve as a transparent ‘point of truth’ snapshot of provider performance that informs regulation and policy, drives continuous improvement, and supports awareness of sector developments both within and beyond the sector. The Framework seeks to enable national comparisons of key (though not all) elements of water service provider performance through measurement against selected indicators. It should encourage competition by comparison to lift industry performance overall.

The Framework should not seek to provide detailed benchmarking functions or outcomes given differences between institutional arrangements and geographic and contextual factors. The Framework also does not seek to meet all information needs of all its users, nor supplant or substitute for more detailed or specific needs or requirements at the state or service provider level, including the detailed information requirements of state regulators.

The core users of the Framework should be urban water service providers, and state, territory and Commonwealth Governments (which includes their respective government agencies, regulators, advisory bodies and the like). The vision and objective statements should give reference to the outcomes for each user group, and acknowledge water service provider customers and urban communities as indirect beneficiaries of the Framework, but not core user groups that the Framework directly engages with.

It was not the role of this review to establish statements of the Framework’s vision, objectives and outcomes, or to gain the agreement of stakeholders to any such statements. However, draft examples – informed by stakeholder consultation and consistent with the review findings – are provided for consideration and refinement, as required.

Vision

Support continuous improvement of Australia’s urban water sector through the collection and provision of relevant, accurate, and reliable performance data.

Objectives

The National Performance Reporting Framework should:

- provide a clear, consistent, transparent and accessible point of reference for the performance of water service providers across Australia
- support timely and straightforward access to robust performance data, facilitating analysis by users that helps inform their decision-making
- provide targeted, meaningful performance data clearly and consistently, without seeking to substitute for, or meet the needs of, detailed jurisdictional information requirements
- facilitate clear comparison – but not benchmarking – of key aspects of water service provider performance, primarily to:
 - encourage continuous improvement across the industry
 - create awareness of, and foster co-operation to achieve, improvement opportunities
- enable assessment of the performance of water service providers, supporting public confidence in the integrity and capability of the sector.

Outcomes

The National Performance Reporting Framework should support achievement of the following outcomes:

- Urban water service providers are able to compare their performance with that of similar providers, to learn from others, and to make informed decisions about optimising or improving their performance.
- Policy and decision-makers, and regulators are able to make informed judgements about performance, investment, and compliance, and the adequacy of policy and regulatory settings.
- Customers and communities have greater confidence in the management and delivery of urban water services.

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For information on this report:

Please contact:	Will Fargher
Mobile:	0402 336 614
Email:	will.fargher@aither.com.au

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