



# National Water Reform 2024

## Interim report

This is a draft report prepared for further public consultation and input. The Commission will finalise its report after these processes have taken place.

**The Productivity Commission acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, waters and community. We pay our respects to their Cultures, Country and Elders past and present.**

## **The Productivity Commission**

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website ([www.pc.gov.au](http://www.pc.gov.au)).

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## Opportunity for comment

The Commission thanks all participants for their contribution to the inquiry and now seeks additional input for the final.

You are invited to examine this interim report and comment on it by making a written submission by Wednesday 24 April 2024. Further information on how to provide a submission is included on the inquiry website National Water Reform 2024.

The Commission will prepare the final report after further submissions have been received and it will hold further discussions with participants.

### Commissioners

For the purposes of this inquiry and draft report, in accordance with section 40 of the *Productivity Commission Act 1998* the powers of the Productivity Commission have been exercised by:

Joanne Chong	Commissioner
Anne Poelina	Associate Commissioner

## Terms of reference

I, Senator the Hon Katy Gallagher, Acting Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998* and Section 88 of the *Water Act 2007* (the Act), request the Productivity Commission (Commission) undertake an inquiry into the reform progress of Australia's water resources sector.

The Inquiry should advise on the progress of all Australian governments in achieving the objectives, outcomes and timelines anticipated under the 2004 Intergovernmental Agreement on a National Water Initiative (NWI) and where practicable on key aspects of water security for Australia, as set out below.

### Background

Reform of the Australian water sector has been ongoing over several decades, reflecting the fundamental importance of water to all aspects of our society and environment, and the significant challenges involved in managing a shared natural resource impacted by climate change and periods of scarcity. A national approach to water reform started in 1994 through the landmark COAG water reform framework and has continued through subsequent initiatives such as the NWI (2004), *Commonwealth Water Act 2007* (the Act) and Murray-Darling Basin Plan 2012. The Australian Government has committed to renew the NWI. This inquiry provides an opportunity for the Commission to examine in more detail the issue of water security, as a key driver of national water reform.

### Scope of the inquiry

In addition to the requirements in the Water Act, the scope of the inquiry should examine whether the national water reforms agreed in the NWI, along with any other subsequent national water reforms collectively adopted by Australian governments, are achieving their intended outcomes.

In undertaking the inquiry, the Commission should assess:

- progress in jurisdictional adoption of NWI principles, objectives and key outcomes and, where not adopted, issues that may influence implementation, and the opportunity costs of not doing so
- outcomes to date of the NWI and related water reform efforts, taking account of other reform drivers
- where practicable, implications for key water security and management challenges for Australia, including economic, environmental, social and cultural.

The Commission should provide recommendations:

- on actions that the parties to the NWI might take to better achieve the objectives and outcomes of the NWI
- to support all Australian governments in efforts to progress national water reform in light of current priorities, including water security and the involvement of First Nations communities in water management.
- on how the Australian Government can better utilise the Act as a framework for guiding national water reform policy.

In conducting the inquiry, the Commission should consider:

- the objectives provided for in clause 23 of the NWI

- any current Commonwealth, state or territory reform initiatives relevant to the Inquiry scope
- the perspectives and cultural rights of First Nations Australians.

## **Process**

The Commission is to undertake a public consultation process including, where appropriate:

- establishing a stakeholder working group in accordance with section 89 of the Act
- inviting public submissions
- holding public hearings
- releasing a draft report to the public.

The Commission should consult broadly, including with Commonwealth, state and territory governments, relevant sectors and stakeholders and First Nations peoples.

**Senator the Hon Katy Gallagher**  
**Acting Treasurer**

[Received 22 December 2023]

## Disclosure of interests

The *Productivity Commission Act 1998* specifies that where Commissioners have or acquire interests, pecuniary or otherwise, that could conflict with the proper performance of their functions they must disclose those interests.

Anne Poelina has the following disclosable interests:

- Chair, Martuwarra Fitzroy River Council
- Member, Murray-Darling Basin Authority's independent Advisory Committee on Social, Economic and Environmental Sciences
- Member, Interim First Nations Water Working Group

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# Overview

## Key points

- \* The 2004 *National Water Initiative* (NWI) has served Australia well as a foundation for water management. But a renewed and updated NWI will help governments navigate growing water security challenges:**

  - Climate change is making rainfall as a water source increasingly less reliable.
  - Demand for water is growing and changing.
- \* Planning for water security should be a greater focus of a renewed NWI, in the face of an increasingly variable and changing climate.**

  - Jurisdictions need to plan for threats to water quality and availability from an increased risk of flooding, storms, bushfires and sea level rise, as well as drought.
  - Governments also need to collectively model and plan for the water demands of the transition to net zero emissions.
  - All options need to be on the table and transparently assessed, to ensure water security is achieved at least cost to the Australian community and to sustain the underlying health of water systems.
- \* A renewed NWI should improve and expand on the existing agreement while retaining its foundations.**

  - A recommitment to the core principles of the NWI will provide a consistent authorising environment for jurisdictions to implement and continue to improve on best-practice.
  - The current advice for renewing the NWI is consistent with advice provided in the Productivity Commission's 2021 National Water Reform Inquiry report.
  - A renewed NWI requires modernised and additional objectives that reflect community expectations for effective, efficient and equitable delivery of water services.
- \* A renewed NWI should include both an objective and a new element, recognising First Nations people's reverence and cultural responsibility for water and the continued involvement and participation of First Nations people in water management.**

  - The Committee on Aboriginal and Torres Strait Islander Water Interests should continue to lead the development of this new content in a renewed agreement.
  - Governments should ensure alignment with their commitments under the National Agreement on Closing the Gap.
- \* Many of the discrete actions under the NWI are complete, and most jurisdictions continue to make progress implementing their remaining and ongoing 2004 NWI commitments. However, gaps remain.**

  - Western Australia and the Northern Territory have not implemented statutory perpetual water rights.
  - Fully independent economic regulation of water utilities has not been adopted by all states and territories. In Western Australia, Queensland and Northern Territory, independent economic regulators do not have the power to set prices.
  - Although jurisdictions have developed various action plans and strategies to include First Nations people in water planning and decision-making processes, actual outcomes still need to be achieved.

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## About the interim report

This inquiry responds to the Australian Government's request for the Productivity Commission to undertake its third triennial assessment of jurisdictions' progress towards achieving the objectives and outcomes of the 2004 *National Water Initiative* (NWI).

The Commission was asked to make recommendations:

- on actions that the parties to the NWI might take to better achieve the objectives and outcomes of the NWI
- to support all Australian governments in efforts to progress national water reform in light of current priorities, including water security and the involvement of First Nations communities in water management
- on how the Australian Government can better utilise the Act as a framework for guiding national water reform policy.

Given the short amount of time that the Commission has been given to complete this inquiry (5 months), only items 1 and 2 are covered in this interim report, which contains a high-level overview of our key findings to date.

This interim document is structured as follows: it starts with a brief motivation for and description of the NWI. Then it discusses the case for reform of what is now a 20-year-old agreement, highlighting climate change and population growth. The subsequent sections of the overview, and chapter 1 of the report, outline how the NWI can be improved based on renewal advice the Commission provided in 2021, updated with interim 2024 findings and recommendations.

Improvements to the NWI should include a broader focus on First Nations people's water interests, as well as improvements to water security by taking a long term, integrated approach to water planning and service delivery. The overview covers these topics, and they are discussed in more detail in chapters 2 and 3.

The rest of the report summarises the Commission's interim assessment of progress of jurisdictions against the objectives and outcomes of the 2004 NWI and makes recommendations for how parties might better achieve those objectives.

## Conduct of the inquiry

This inquiry commenced on 22 December 2023. The Commission sought information from the Australian, state, and territory governments, and put out a call for submissions on 5 January 2024. The Commission received 55 submissions, 4 brief comments and held 25 formal consultation meetings (9 with jurisdictional water agencies, 16 with other participants including water regulators, water sector peak bodies, academics and First Nations people and organisations). The Commission also met twice with a stakeholder working group, established as required under the *Water Act 2007* (Cth).

The Commission thanks the state and territory governments, and the Australian Government, for their cooperation so far, and extends that thanks to all participants for their contributions to the inquiry to date.

The engagement process to inform this interim report has been constrained by the time available; the Commission seeks further engagement with participants in the coming weeks to continue this process.

## The National Water Initiative

Water is essential to the wellbeing of Australian communities, the environment and the economy. It is in the interests of all Australians that water is managed productively, efficiently and sustainably.

### The NWI laid strong foundations for water management

Recognising this, and with the challenges of ever-increasing demands on water resources, in 2004, the Council of Australian Governments (COAG) agreed to the NWI<sup>1</sup>, in part to build on the principles articulated in COAG's 1994 Water Reform Framework.

The NWI established reform objectives and outcomes with the overall aim of supporting a nationally compatible, market, regulatory and planning based system of managing water resources that optimises economic, social and environmental outcomes. The Parties agreed to implement the NWI in recognition of:

the continuing national imperative to increase the productivity and efficiency of Australia's water use, the need to service rural and urban communities, and to ensure the health of river and groundwater systems by establishing clear pathways to return all systems to environmentally sustainable levels of extraction.<sup>2</sup>

As the Commission wrote in 2021, most jurisdictions have largely achieved their 2004 NWI commitments. And because of this, national water reforms to improve water resource management and water services delivery, have resulted in material benefits to the Australian people and to the environment (PC 2021b, pp. 1–4).

That said, areas for improvement remain. Our interim assessment is that several key problems identified by the Commission in 2021 remain unaddressed, reflecting that until recently the national water reform process had stalled.

### There are compelling reasons to update the NWI now

The 2004 NWI has served Australian water users and water management well. While the NWI's fundamental principles remain sound, the agreement is two decades old and there is a need to modernise it to reflect the contemporary context and its challenges.

#### Supply (rainfall) is less reliable ...

Most of southern Australia has seen a decline in rainfall in the last two decades compared with the long-term trend between 1900 and 2000 (figure 1). Combined with that, the prevalence of extreme weather events – short, and intense, but variable rainfall events, bushfires, drought and heat events – has increased. These trends are driven by climate change and are forecast to accelerate further as the climate continues to warm (BOM 2022b). A warming climate and falling rainfall will impact the availability of water.

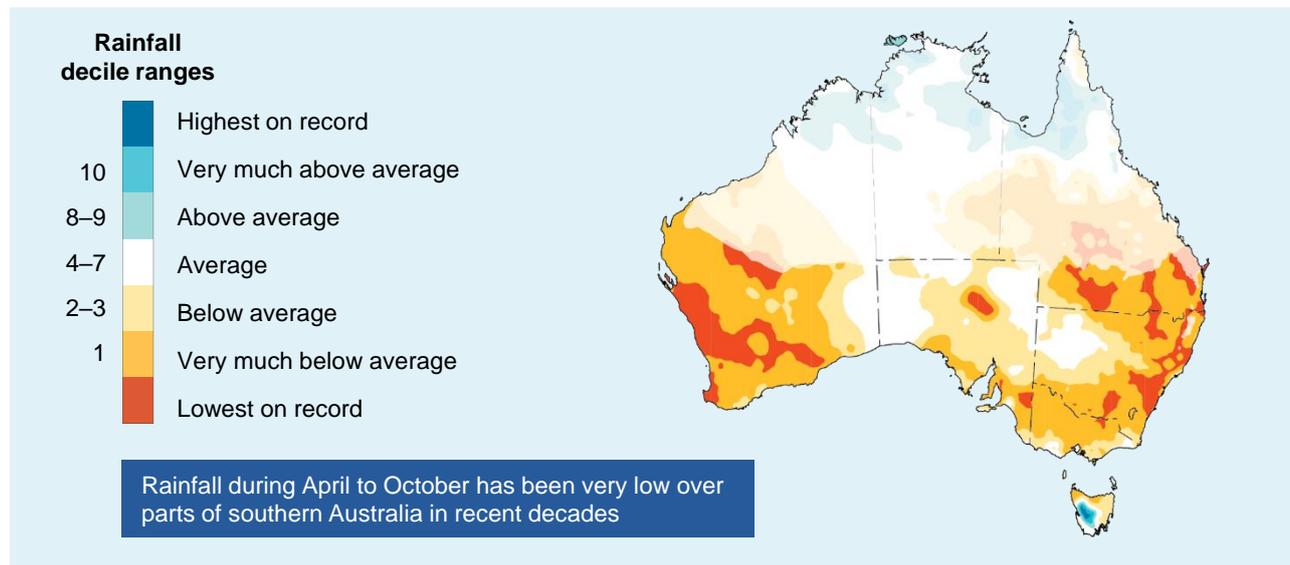
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<sup>1</sup> Tasmania and Western Australia did not become signatories to the NWI until 2005 and 2006, respectively.

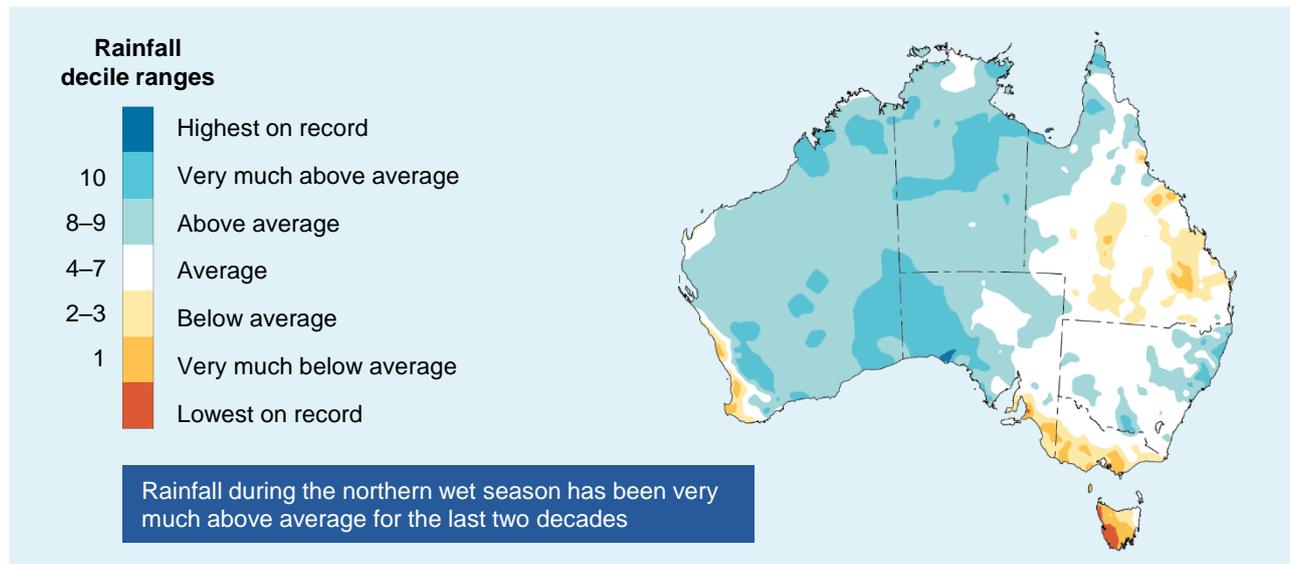
<sup>2</sup> NWI paragraph 5.

**Figure 1 – Australia’s long term rainfall pattern is changing**

**a) April-October long-term<sup>a</sup> change**



**b) October-April long-term<sup>a</sup> change**



a. Rainfall deciles in the period 2000–2022, compared to the long-term average rainfall records for Australia for the period 1900–2000.

Source: (BOM 2022b).

**... and demand for water is growing and changing**

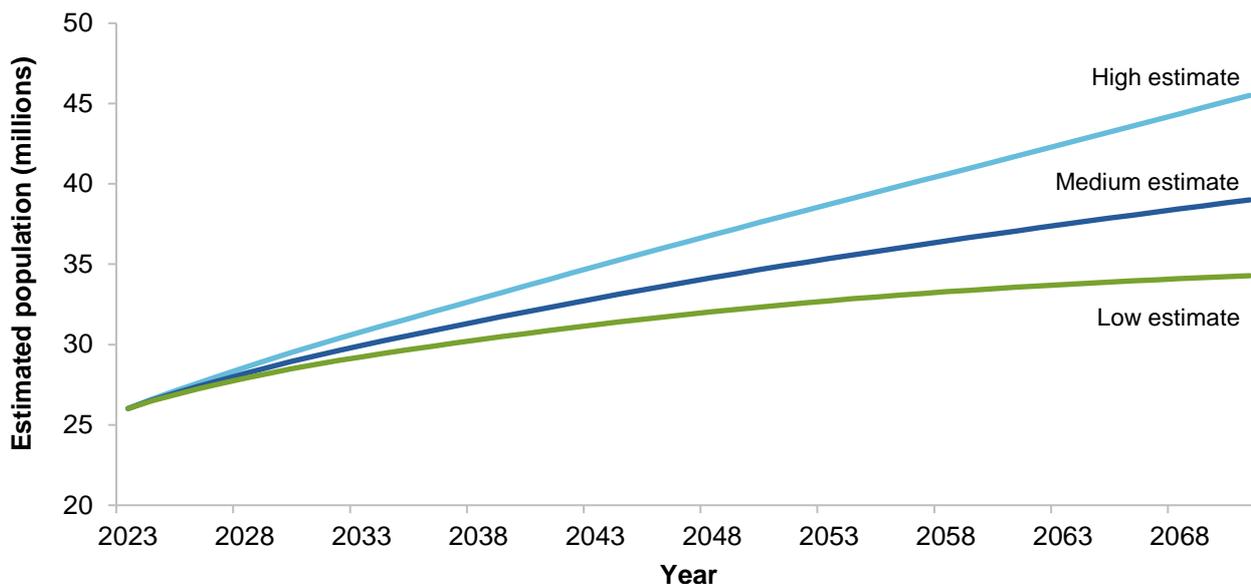
Australia’s population is continuing to grow rapidly (figure 2), particularly in major urban centres, increasing the pressure on water service systems and management.

Furthermore, there is increasing recognition of broader community needs and expectations with regards to water. High quality, secure, and integrated water services are essential to functioning communities.

With all governments signing onto the *National Agreement on Closing the Gap*, including its commitments to priority reforms and explicit water-related targets, the shortcomings in the original NWI are stark, including the lack of recognition of First Nations people’s water interests.

Our understanding of water science has improved, and so has our understanding of what best practice water management across Australia should look like.

**Figure 2 – Projected population growth in Australia, 2022–2071**



Source: (ABS 2022).

## How should the NWI be renewed?

The Australian, state and territory governments are negotiating a renewed NWI. Chapter 1 of this report discusses this process, including the Commission’s views on how a renewed NWI is needed to reinvigorate water reform that benefits the broader Australian community, and to avoid undoing decades of progress in water management. These views are summarised below.

### Cooperation benefits everyone

A renewed commitment to water reform, in the form of a renewed NWI should, like the 2004 agreement did, benefit the wider Australian community.

As the Murray-Darling Basin Authority explained:

... the NWI gives all stakeholders a common language to talk about water reform. A key part of a refresh is to ensure that key concepts that underpin water management and planning are contemporary, clear, and readily applicable to the current and future needs of water management. (sub. 36, p. 2)

In 2021, the Commission comprehensively reviewed the NWI and provided detailed advice for a refreshed agreement. Overall, that advice was to build on the foundations of the NWI, rather than start again from scratch. This inquiry has confirmed the continued relevance of that advice, and extended it in some areas.

A renewed commitment to cross-jurisdictional cooperation will increase certainty and help to ensure that the evolution towards sustainable and equitable management of water that the NWI encouraged continues on a national scale. It will promote best practice to be developed and shared, reduce duplication and improve efficiencies and outcomes.

## **The fundamentals should be retained**

The Commission has heard that jurisdictions broadly agree that the new agreement should include new priorities focusing on climate change and First Nations interests, and that there have been constructive cross-jurisdictional discussions about these areas.

However, the Commission has also heard some jurisdictions do not wish to retain some of the core NWI commitments in the new agreement, or wish to retain flexibility to 'select' which principles or objectives they agree to. This is typically because existing, often long-standing policy settings are at odds with these commitments.

There is a resultant risk that, for consensus to be reached between the parties, the new agreement may represent a weaker commitment to some of the fundamentals of water policy than the NWI. This could have negative implications for longer-term water security because an erosion of the authorising environment for implementation could lead to backsliding – a future risk even for those jurisdictions who have already progressed further in meeting their commitments against the NWI.

## **A comprehensive new agreement would improve and expand on the 2004 NWI**

A summary of the Commission's recommendations for a renewed and refreshed NWI follows, with our complete renewal advice at the end of this overview. The 2021 report provides more detail.

### **Modernised objectives and agreement structure**

The NWI is based on 10 objectives, and underneath the objectives, are eight elements that detail actions and commitments for parties to the agreement to implement.

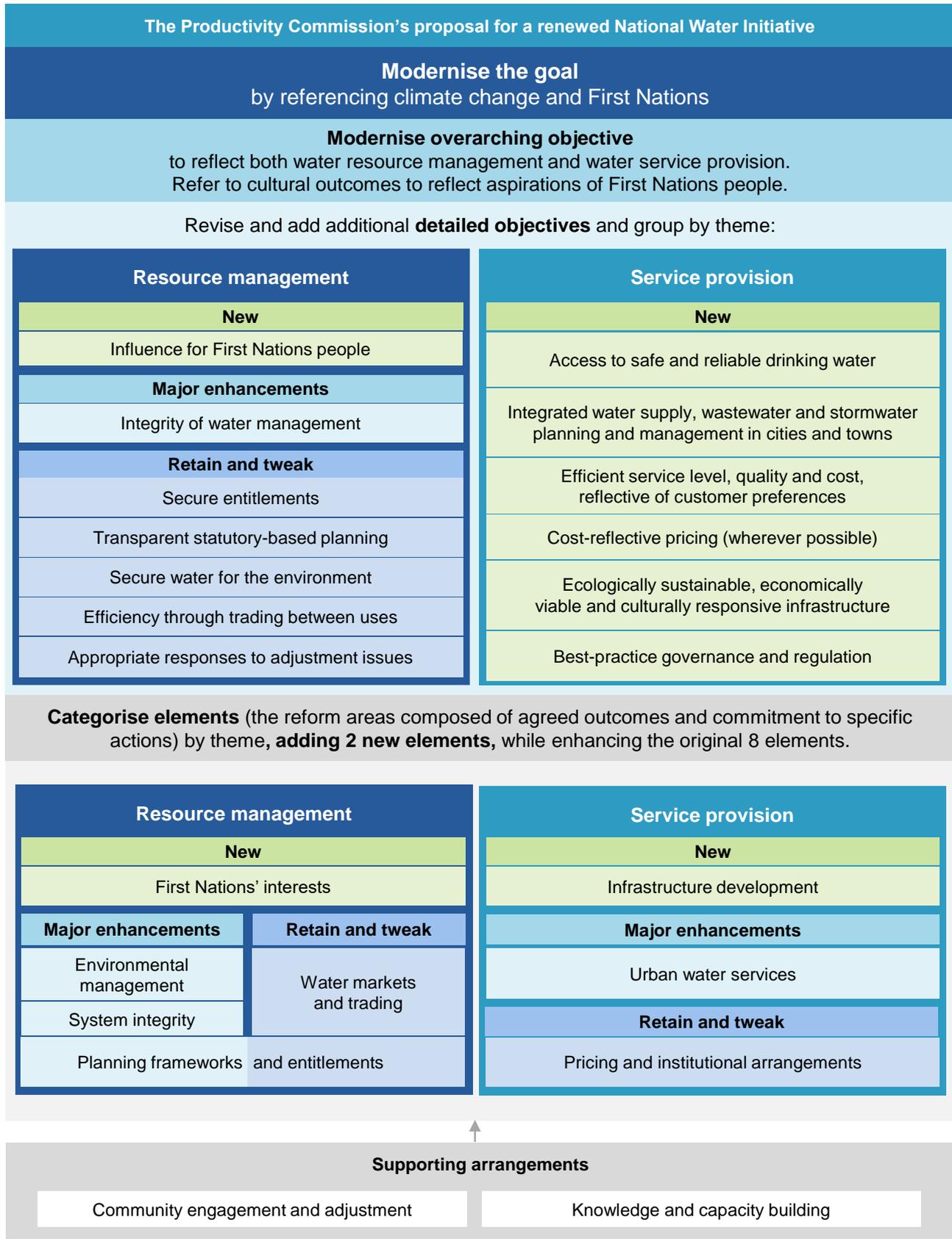
The Commission recommends retaining this broad structure, but with an updated goal and overarching objectives of the agreement to reflect the modern context (renewal advice 3.1 and 3.2).

The current NWI objectives are focussed primarily on water resource management. While this remains important, water service provision is largely overlooked and needs to be prioritised.

The Commission proposes a revised framework of objectives for a renewed and refreshed agreement that elevates water service provision – the outcome of good management – that is 'effective, equitable and efficient'. Within this context, the Commission recommends new objectives for the renewed agreement that cover water quality, supply management, infrastructure, and community expectations (renewal advice 3.3).

Figure 3 illustrates the Commission's proposed renewed NWI structure and objectives.

**Figure 3 – A renewed NWI needs to build on the 2004 agreement**



Source: Adapted from (PC 2021b, pp. 46, 49–50, 52–53, 55–56).

The Commission also proposed new and revised objectives to cover the shortcomings of the 2004 NWI (renewal advice 3.3).

- Processes for water planning, sharing and management that are focused on adaptation in a world characterised by uncertainty, climate change, and increasing physical scarcity of water.
- Improved recognition of First Nations people's aspirations, desire to participate and engage in water management and their cultural responsibility for rivers and groundwater systems.
- Better integration of environmental water protections with natural resource management activities.

### **New and enhanced agreement elements**

The objectives of the NWI describe 'what' will be achieved. The elements of the NWI outline 'how' the objectives will be achieved.

The existing NWI elements remain relevant and should be retained in substance, although they should be refreshed to reflect the contemporary context, and added to, to support the new objectives.

Figure 3 also illustrates the Commission's recommendations for new elements for a refreshed NWI, and how they relate to the proposed objectives.

### **Effective governance arrangements**

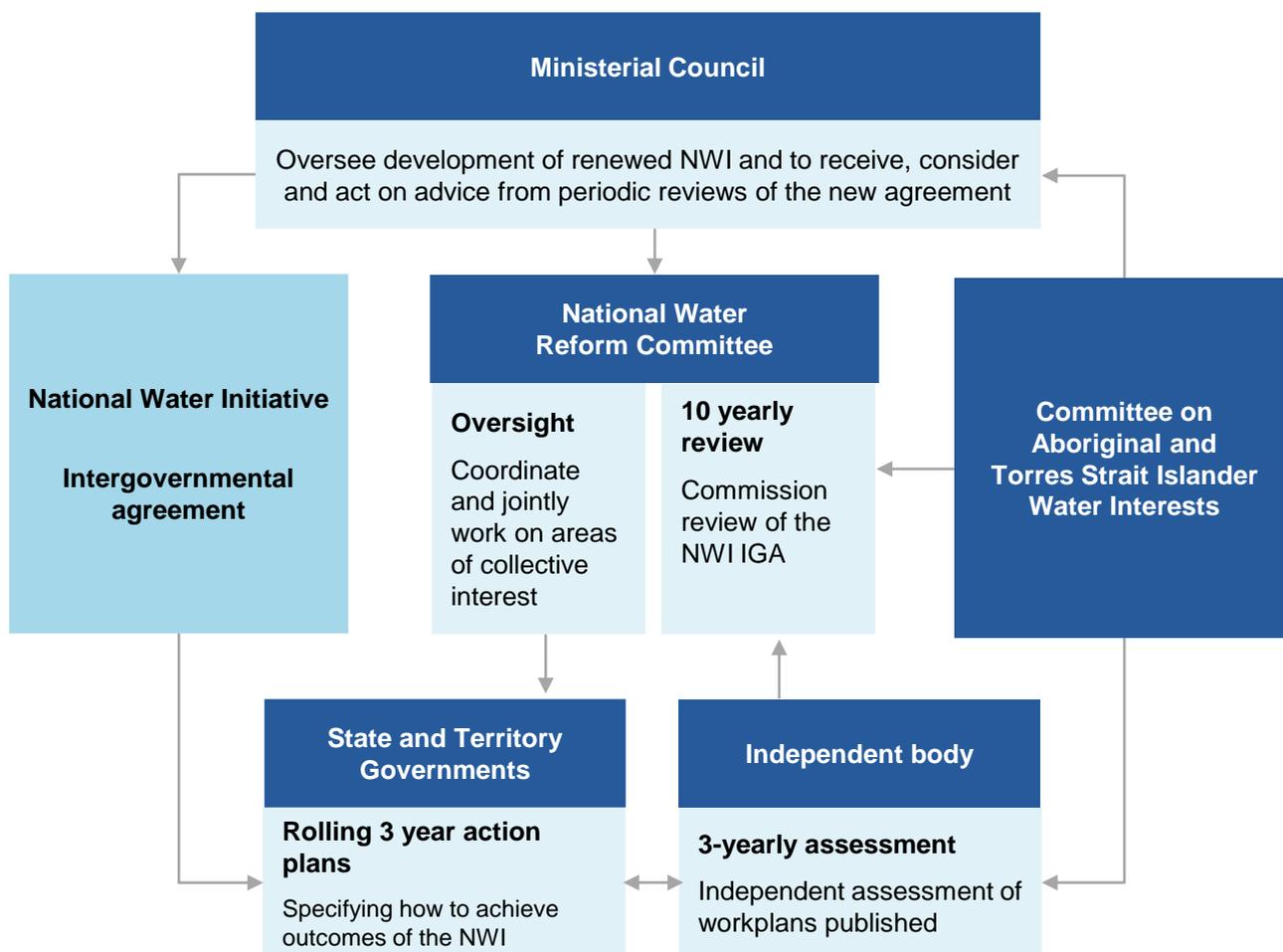
Australians' trust in governments' commitment to sustainable and equitable water management has been tested over the past decade. Erosion of governance institutions (particularly those specific to the NWI, such as the National Water Commission, which was abolished in 2015), poor water management in the face of drought, fires and floods and de-prioritisation of water reform have all resulted from a lack of nationally coherent policy and planning, in some cases resulting in poor outcomes for Australian communities.

Strengthened governance and institutional arrangements are a necessary condition to reinvigorate reform. The Commission proposes clear and transparent arrangements for governance of a renewed NWI, including:

- Ongoing leadership by ministers through the water ministerial council.
- Rolling three-year action plans to ensure a commitment to continuous improvement and progress.
- Independent and transparent assessment of progress.
- Clear roles and responsibilities for oversight, management and renewal of the agreement, potentially via a reinvigorated National Water Reform Committee (NWRC) process, and specific responsibilities for the Commonwealth.
- The incorporation of First Nations' interests directly into the governance of the agreement.
- Greater coordination of joint work in areas of collective interest.

Chapter 1 of this report expands on the Commission's recommended governance arrangements for a renewed NWI. They are also illustrated in figure 4.

**Figure 4 – Renewed NWI governance arrangements**



Source: Adapted from (PC 2021b, pp. 59–66).

## An enhanced commitment to First Nations’ participation in water management

### The NWI does not adequately recognise the water interests of First Nations people

The NWI has limited focus on the water interests of First Nations Australians. Element 1 focuses on ‘access to water resources’ via planning processes for water allocations for narrowly defined ‘cultural purposes’ only, and for incorporation of social, spiritual and customary objectives – and strategies for achieving them – in water plans, wherever they can be developed<sup>3</sup>. The NWI does not specifically address the achievement of First Nations’ economic objectives through water.

The Commission’s 2021 report noted the NWI’s shortcomings and pointed out that even with this lack of ambition, 17 years later the NWI actions had not been met (PC 2021a, pp. 42–44). Since 2021, and despite governments signing the National Agreement on Closing the Gap in 2020 and committing to implementing its four priority reforms, including reform one – formal partnerships and shared decision-making – engagement

<sup>3</sup> NWI paragraph 52

with First Nations peoples by governments continues to be criticised as a box ticking exercise, characterised by short notice and lack of information which makes meaningful involvement in water planning and management decision-making processes difficult. As the Dharriwaa Elders' Group stated:

Too often, the attitude is that if we can't meet their timeframes and paradigms our solutions are not considered (sub. 47, p. 3).

### **Engagement is steadily improving, but there is still much to do**

That said, all jurisdictions are planning, or are in the process of implementing, initiatives that better identify cultural outcomes in water plans and are taking actions to deliver First Nations' social, spiritual and customary objectives. Some are more progressed than others with implementation, in partnership with First Nations people.

The Commission reiterates its 2021 renewal advice 3.1, 9.1 and 9.2 that First Nations people's interest in water should be elevated to the overarching goal of a renewed NWI and by including a dedicated objective and element.

The Commission supported the establishment of a Committee on Aboriginal and Torres Strait Islander Water Interests (CAWI) in 2020 to guide and advise government on these specific NWI renewal issues. The Commission understands that CAWI is closely involved in negotiations to renew the NWI, including drafting of a renewed objective, and has regular discussions with the Australian and jurisdictional water ministers and the NWRC. Some jurisdictions have commented that drafting of First Nations content for the new agreement has significantly progressed because of CAWI's clear focus and commitment over the past 3 years.

CAWI has published an Insights Paper (CAWI 2023a) outlining its ambition for First Nations' water interests. It continues to build its reputation and profile as a strategic and influential First Nations voice on water issues.

The Commission supports CAWI's continuing involvement in the negotiations to develop a renewed NWI and as part of the ongoing water reform governance architecture (figure 4).

### **First Nations' water ownership**

On the issue of sourcing water for First Nations people, the Commission reiterates its 2021 renewal advice 9.3 that where agreement is reached between state and territory governments and Traditional Owners that consumptive access to water is an effective way to support the economic development of First Nations communities, access is provided by:

- sourcing water within existing water entitlement frameworks;
- ensuring adequate supporting arrangements (such as training and business development) are in place to enable First Nations communities to maximise the value of the resource for their needs and uses; and
- programs designed with First Nations communities.

The Commission recognises that in relation to reissuing this renewal advice, little progress has been made by governments to increase First Nations' water ownership despite policy commitments and (some) increased funding. The Commission also recognises that water can be a driver of economic development through holding water entitlements for consumptive purposes, or to underpin health of Country.

Chapter 2 of this report discusses these various issues in more detail, and also assesses jurisdictions' progress against the First Nations elements of the 2004 NWI.

## Water security in a changing climate

Australia is the world's driest inhabited continent, and a changing climate will reduce the reliability of water supply and increase the unpredictability and frequency of extreme weather events (BOM 2022b). In light of these issues, water planners need to take proactive steps to address future water security for Australia. Chapter 3 discusses these issues, which are summarised below:

### Addressing water security requires engaging with risk

There is no common definition of water security. Definitions are typically explained as broad goals e.g. referring to achieving reliable access to an adequate quantity and quality of water for a range of purposes (see for example UN Water 2013, p. 1). Whilst aspirational definitions are important to ensure ambitious directions are set, a practical, working definition of water security for planning purposes needs to articulate specific outcomes, and the risks that make achieving those outcomes difficult or costly.

To better incorporate water security within a renewed NWI, jurisdictions should agree a shared understanding or common definition of water security that sets out what achieving water security in Australia looks like (draft recommendation 3.1).

### The NWI has many tools to help water planners address water security...

In a drying and heating climate characterised by increasing uncertainty, the trade-offs between different water users are becoming starker. In this situation, adhering to the fundamentals of the NWI is important to help address planning for water security. NWI consistent statutory entitlements and high-quality water allocation plans, based on up-to-date science and effective community engagement, help to ensure these trade-offs and values are clearly understood by all stakeholders (i.e. by communicating the same information, and its relevance, to all parties), and addressed when making water planning decisions. NWI consistent trading rules allow water to be moved to its highest value use. And statutory water protections for the environment and other uses can support long-term intergenerational equity rather than a focus solely on today's water needs.

### but it can be further enhanced

The NWI focuses on managing the risks associated with drought and overallocation. This partly reflects that it was negotiated in 2004 in the early stages of the Millennium Drought, which severely affected the southeast and southwest of the country, urban and rural alike. It was also a period where in some jurisdictions, the first tranche of statutory water sharing plans to address overallocation were being negotiated with rural water users.

But despite the focus on drought in the NWI – which was further enhanced in 2017 in the form of a specific climate change and extreme events module – significant management shortcomings exist around the country. This is evidenced by inadequate water plans, compliance failures and incomplete water recoveries, which, during drought, put extreme pressure on landscapes and communities (PC 2021b, p. 33).

The Commission's 2021 renewal advice 3.3 and 3.4 said that water plans should include provisions to deal with water scarcity caused by drought, including priorities for water sharing and clear triggers to deal with extreme drought.

Since 2021, further challenges to water management, and water quality, as a result of a changing climate have been experienced. An increased frequency and higher unpredictability of extreme events (BOM 2022b), including flooding associated with storm weather and cyclones suggests that specific attention is warranted to address risks to water security from flooding, storms and bushfires, in addition to drought.

Jurisdictions should consider all forms of extreme weather events in implementing the Commission's renewal advice (draft recommendation 3.2).

### **Water for net zero**

The transition to net zero carbon emissions will impact water usage across Australia. The United Nations Expert Group on Water and Climate Change presented preliminary figures to COP28 in November 2023, indicating that by 2030 clean energy mitigation measures alone are estimated to require 900 teralitres of fresh water globally per year (UN Water Expert Group on Water and Climate Change 2023, p. 1). For comparison, global freshwater consumptive demand by agriculture, industry and domestic use in 2014 was 4000 Teralitres (Global International Geosphere-Biosphere Programme 2015). However, little attention is currently being paid to this aspect of Australia's climate change response.

A range of zero-emission technologies for energy generation exist with more becoming viable as technology improves. All possible solutions have water demands, some more than others (UN Water Expert Group on Water and Climate Change 2023). These demands are likely to become significant as Australia's energy transitions to new sources. But not all climate change response or mitigation will cost water – some measures to reduce emissions will also save water (chapter 3).

Attention needs to be paid to the water planning and modelling aspect of climate change management to ensure Australia will have sufficient water to achieve its net zero transition (draft recommendation 3.3).

### **Transparency and openness to consider all options will underpin value for money for water users**

Investing in new, climate-resilient water infrastructure is not the only driver of pressure on retail water prices. Communities across Australia will also need to invest, for example, in maintaining and upgrading ageing water infrastructure. Estimates suggest nationwide capital expenditure on water infrastructure is likely to double to over \$10 billion annually by 2027 (WSAA sub 15 p. 3).

This means that efficient investment, informed by rigorous benefit cost analysis, with transparent assessment of costs, benefits and risks under different scenarios, remains important. But where investment decisions in water infrastructure continue to be characterised by a lack of benefit cost analysis, achieving desired outcomes incurs higher than necessary costs. Government subsidies for water infrastructure projects are typically inconsistent with cost recovery principles under the NWI.

State and territory governments have developed water strategies to take a longer-term view to addressing anticipated challenges to water management, including taking an integrated approach to ensuring urban water security. This also requires coordination with broader urban planning to address land use for climate change response such as urban green and blue spaces that also require water. The development of water strategies is important to adapt to climate change and other pressures, and provides an opportunity to identify cost effective options for meeting water security objectives. However, all potential supply and demand options, scales, combinations and sequencing must be considered.

Under future climate scenarios and increased uncertainty that may mean decreased reliability of rainfall-dependent supply measures such as dams and groundwater systems, Australian governments need to consider a diversified portfolio of water supply options. However, policy bans constrain options, potentially resulting in outcomes that are not lowest cost or most efficient. Options that need to be considered, at different scales and combinations, include desalination, potable recycled water, managed aquifer recharge, scarcity pricing, water conservation and rural-urban trade.

## The 2024 NWI assessment of progress

A summary of the Commission's assessment of progress by jurisdictions against the objectives, elements and actions of the 2004 NWI follows. A more detailed assessment is contained in the chapters of this report (chapters 2, 4-11, and appendix B contains the assessment framework).

### Summary of interim assessment

#### Jurisdictions are making progress in some areas

Aspects of the NWI against which jurisdictions continue to make gains, improving their practices and better conforming to the objectives of the NWI include:

- Water planning processes and instruments are continuing to be developed and revised. Most jurisdictions are incorporating more sophisticated knowledge and are including or developing climate change projections into their processes. New South Wales, Victoria and Tasmania are most advanced in this area, but work is underway in most other jurisdictions to improve and incorporate climate modelling. Water plans in general include more detailed and measurable environmental and public benefit outcomes.
- Engagement of First Nations people in the water planning process is increasing, although the quality of that engagement is variable.
- Data, accounting, monitoring and reporting of water is becoming increasingly more sophisticated and user-friendly (e.g., automated reporting via telemetry), with many new tools, dashboards and reports released that can assist water users – users and consumers – to make more efficient decisions.
- Some progress has been made in water security planning for a future with more risks to supply. For example, some jurisdictions such as New South Wales and Victoria have created comprehensive water security plans for regions, guided by detailed climate and demand modelling.
- There has been significant improvement in compliance and enforcement activities, with most jurisdictions now closely aligned with the *National Compliance Framework*.

#### But key problems identified by the Commission in 2021 remain unaddressed

Some jurisdictions continue to not meet some – often fundamental – objectives of the NWI:

- Statutory, long term, water entitlements in Western Australia and the Northern Territory have not been legislated for. This increases transaction costs, reduces confidence and increases investment risk, threatens environmental outcomes and risks political interference in decision making.
- Victoria does not have a clear, legislatively defined risk assignment framework to guide potential future reductions in the availability of water for consumptive use. This negatively affects investor confidence and risks inequitable outcomes if the cost of reallocation due to climate change is borne by taxpayers, and not water users.
- Queensland continues to allow exemptions from water entitlements for mining and petroleum industries, threatening environmental outcomes and distorting the water market.
- Some jurisdictions have not implemented independent economic regulation of water utilities or full cost recovery practices. In Western Australia, Queensland and Northern Territory, independent economic regulators do not have the power to set prices. Opaque cross subsidies exist where beneficiaries of water use do not bear the costs. Where price signals do not reflect full costs, investment decisions may be distorted towards higher water consumption than would be efficient or ecologically sustainable.
- Access to quality water supplies, in a manner consistent with the *Australian Drinking Water Guidelines* (ADWG) remains problematic in some remote communities both during and outside of drought conditions, particularly as a result of colour and palatability of the water supplied. The ADWG highlights how the

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provision of unpalatable drinking water risks public health outcomes where consumers seek alternative sources, that may not be as safe (NHMRC 2011, p. 104).

- There remains limited coordination of, or investment in, knowledge and capacity building activities to support water planning decisions.
- Monitoring and evaluation of community assistance programs is still lacking. Without this, the effectiveness of assistance programs to address social impacts, for example, agricultural areas in which voluntary water purchase programs might occur, is difficult to assess for both policy makers and those likely to be affected by those policies.

### **And in other areas there remains more to be done**

- First Nations people are under-represented, and not meaningfully engaged by governments, in water planning and management decision-making processes. Governments are not meeting their commitments made under the *National Agreement on Closing the Gap*. First Nations' access to water, including ownership, remains low according to available data.
  - With respect to meaningful engagement, the Commission heard that government agencies are often well intentioned in making their many requests to engage with First Nations groups and people, but often do not coordinate their activities. This can cause duplication and consultation fatigue amongst First Nations people and groups.
- There is limited and inconsistent reporting, monitoring and transparent accounting for environmental water outcomes in most jurisdictions. Where it does occur, reporting often focuses on the amount of water delivered, rather than the environmental outcomes that were sought or achieved (e.g., a wetland inundated to facilitate a bird or fish breeding event).
- Progress in rolling out AS4747 compliant non-urban water metering, which when complete, would facilitate accurate measurement of water supply and demand – a fundamental requirement of good water management – is many years behind schedule. Governments' lack of practical implementation planning for this meter rollout is eroding trust by water users in water regulators and in other metered users.

# Draft recommendations, findings and information requests

## Draft recommendations and findings

### Water security in a changing climate



#### Draft recommendation 3.1

##### Incorporate a shared understanding of water security priorities in the renewed NWI

Parties should develop a shared understanding or common definition of water security that includes setting out what outcomes are to be achieved, recognising the risks to water security will differ between jurisdictions and within jurisdictions – which will be a matter for each party to transparently assess and communicate.



#### Draft recommendation 3.2

##### Consider all extreme climate events in water planning

Over the past decade, climate change has been associated with an increase in extreme weather events, which disrupt and damage water supply and infrastructure. Where the NWI Climate Change and Extreme Events Module focused on the risks from drought, greater focus should also be given to other events, such as flooding, storm, and bushfires.

In implementing the Commission's renewal advice 6.2 regarding water planning for climate change (including that historical climate outcomes may not be indicative of future outcomes), governments should adopt the principles set out in the National Water Reform report 2021, focusing on this broader range of events.



#### Draft recommendation 3.3

##### Water for net zero

All Australian governments should collectively model and plan for changed water demand as a result of necessary climate change mitigation measures. All solutions will have water demands that need to be estimated and planned for.

Findings should be integrated into both net zero strategies and sustainable water strategies to ensure sufficient water is available to enable Australia's transition to net zero emissions.

## Water markets and trading



### Draft finding 5.1

#### Trade registers are improving, but there is still significant potential for further improvement to provide necessary information to market participants

Most state and territory governments have implemented water registers that comply with the NWI outcomes and actions.

Further improvements, such as ensuring that water registers include current entitlement and allocation information, real time (or recent) trade data, and that registers are freely accessible by the public, and ideally, easy to search, would increase the efficacy of registers in supporting trade in water entitlements.

## Best practice water pricing and institutional arrangements



### Draft finding 6.1

#### Some governments have moved away from NWI commitments to deliver cost reflective and consumption-based pricing

Some jurisdictions have maintained or strengthened pricing regulation to focus on the long-term interests of end users, such as the Victorian Essential Services Commission's application of the PREMO water pricing framework (performance, risk, engagement, management, outcomes) and the New South Wales Independent Pricing and Regulatory Tribunal adopting a 3C's approach (customers, costs, credibility).

In some other jurisdictions, NWI pricing arrangements have been significantly eroded or remain well short of best practice. Jurisdictions that lacked independent economic regulation in 2021 have not taken steps to improve water pricing regulation. Further, a number of jurisdictions have weakened independent regulation through:

- applying discounts or price caps to independently determined consumption-based prices.
- issuing ministerial directions that affect the decision making processes of independent regulators.
- not using water price monitoring or review powers to determine if greater price regulation is needed.



**Draft finding 6.2**

**Some government decision making for major water infrastructure is not fully compliant with the NWI**

The NWI requires governments to be satisfied that infrastructure investments are economically viable and ecologically sustainable. To be consistent with these principles, investments should be rigorously assessed, comparing all options available to meet identified needs. Ideally, this would also involve a transparent, independent assessment of proposals.

This is currently not being achieved by all parties to the NWI, and the commitment to these principles appears to be waning:

- A significant proportion of major infrastructure developments funded by governments since 2021 have not been subjected to a transparent assessment of the costs and benefits of the proposal, or to independent scrutiny.
- Further, a number of successfully funded investment projects – including those funded under the Australian Government’s National Water Grid program – were funded even where the assessed costs of the project outweighed the measured benefits to the community.

## **Integrated management of water for environmental and other public benefit outcomes**



**Draft finding 7.1**

**Environmental and other public benefit outcomes are inconsistently specified**

There remain inconsistencies between jurisdictions about how environmental outcomes are defined in water plans, their level of detail and indicators.

Other public benefit outcomes continue to be undefined or defined only at a high level. While the achievement of environmental outcomes can also contribute to other public benefit outcomes, such as recreational opportunities, amenity benefits and public health, the Commission has found no clear long-term performance indicators specified linking these outcomes.



**Draft finding 7.2**  
**Reporting on environmental outcomes is overall inadequate, particularly for planned environmental water**

Jurisdictions generally report on how much environmental water was delivered, and there is reasonable reporting of outcomes by some environmental water holders. However, there is very little reporting on:

- what both held and planned environmental water achieved in terms of outcomes
- the counterfactual – that is, what would have happened if the water hadn't been delivered, and,
- whether the environmental water allocations are sufficient to achieve environmental outcomes specified in water plans.

In many jurisdictions it remains unclear how reporting arrangements for environmental water subsequently feed back into their water planning process and support adaptive management.



**Draft finding 7.3**  
**Independent review of environmental outcomes is absent in many jurisdictions**

There is no consistent basis for independent audit of whether environmental and public benefit outcomes from environmental water have been achieved, the adequacy of water provision for these objectives, or the performance of environmental water managers. While most jurisdictions have built-in reviews of their water management plans, these are not always undertaken in a timely manner or by an independent body.

## Water resource accounting



**Draft finding 8.1**  
**Jurisdictions are not projected to meet their AS4747 metering installation commitments**

No states or territories are on track to meet their commitment to have all new and replacement meters AS4747 compliant by July 2025. This undermines the ability of states to conduct proper measurement of watering limits and increases the risk of unreported water use and overextraction.

The private benefits for water users to upgrade their water meters to AS4747 standard are low and therefore not a sufficient incentive to upgrade.



### **Draft recommendation 8.2** **Improving the rollout of AS4747 meters**

To better allow water users and the public to benefit from the improved AS4747 standard, jurisdictions should take steps to accelerate their rollouts.

Jurisdictions should:

- Report annually on non-urban water users' compliance with the AS4747 metering standards.
- Actively engage with non-urban water users to improve understanding of their metering compliance requirements.
- Set a higher bar when approving interim standard or grandfathered water meters.
  - For both interim and grandfathered meters, water users should be required to actively prove their meter is accurate to within  $\pm 5\%$  of AS4747 meters as is the requirement in Victoria, New South Wales and the Australian Capital Territory.

## **Urban water reform**



### **Draft finding 9.1** **Some regional and remote areas still do not have access to safe drinking water supply**

There continues to be drinking water quality issues in some remote areas of Australia caused by exceedances in the chemical health standards outlined in the ADWG. In addition, exceedances of aesthetic parameters such as colour, palatability have led to acceptability issues. This is leading to a loss of confidence in the water supply amongst the community in these areas.



### **Draft finding 9.2** **There continues to be a lack of consistency and transparency in relation to the publication of drinking water quality data**

The detail, consistency and availability of drinking water quality reports continues to vary for regional and remote areas.

There have been improvements to the publication of data across all ADWG standards for the regions and communities serviced by Power and Water Corporation in the Northern Territory. Also, from July 2024 service providers with under 10,000 connections will now report on the water quality risk management guidelines used as part of the National Performance Report.

Further development is required to centralise the reporting of drinking water quality indicators, such as percentage of the population where microbiological compliance was achieved, percentage of the population where chemical compliance is met and the number of boil water alerts issued.

## Information requests

### First Nations' Water Interests



#### Information request 2.1

What are the policy, administrative or other barriers to First Nations Peoples being able to access and own water, particularly from Strategic Aboriginal Water Reserves in Queensland, Western Australia and the Northern Territory?

### Water security in a changing climate



#### Information request 3.1

What nationally agreed priority outcomes of water security should form part of a renewed NWI? How should these outcomes be treated when considering trade-offs between competing priorities and the management of risk when addressing water security concerns?

### Water entitlements and planning



#### Information request 4.1

How can a renewed NWI assist jurisdictions in establishing a consistent approach to developing climate change triggers and rebalancing processes? How can common principles help manage uncertainty, and jurisdictional and regional differences?

## Integrated management of water for environmental and other public benefit outcomes



### Information request 7.1

Where water resources have been identified as overallocated outside of the Murray-Darling Basin and options identified to recover water to meet environmental outcomes, the Commission invites further information on:

- the estimated cost of the options considered
- reasoning behind the selection of the options implemented if not the most cost-effective
- any programs or measures implemented to mitigate any identified socio-economic impacts with the selected options

## Water resource accounting



### Information request 8.1

What are the main causes of the low uptake of AS4747 meters by non-urban water users for new and replacement meters, and what targeted interventions would be most cost-effective in addressing this low uptake?

What are the public benefits of metering?

The Commission has heard that there is a shortage of Certified Meter Installers and Duly Qualified Persons. What is causing the shortage, and how can it be overcome?

## Community partnerships and adjustment



### Information request 11.1

In the past three years, what, if any, improvements have been made by governments to improve community engagement processes?

Where engagement has occurred or feedback provided by community groups, do those groups feel they have a greater understanding of how decisions were taken and what consideration was given to community views?

## NWI renewal advice

This section contains the Commission's advice on what should be included in a renewed NWI. It is divided into the Commission's recommended elements of a renewed NWI (figure 3).

Most of this advice is drawn directly from the National Water Reform report 2021 and has not changed because, as this inquiry demonstrates, it remains relevant. The unchanged advice is indicated.

This section also includes new and revised advice from this inquiry. Where advice has been amended in this inquiry, this is indicated in **red text**.

### NWI renewal: a refreshed intent

#### NWI renewal advice 3.1: A modernised goal

UPDATED IN 2024

The overarching goal of the National Water Initiative remains sound but should be modernised through reference to adaptation to climate change and recognition of the importance of water in the lives of Aboriginal and Torres Strait Islander people. Suggested wording follows:

The Parties commit to this renewed National Water Initiative in recognition of the continuing national imperative to increase the productivity and efficiency of Australia's water use, to service the changing needs of rural, urban and Aboriginal and Torres Strait Islander communities and to ensure the health of river and groundwater systems and their surrounding landscapes whilst adapting to a changing climate.

In committing to this agreement, the parties recognise Aboriginal and Torres Strait Islander people's reverence and **ongoing** cultural responsibility for rivers and groundwater systems and their desire to participate in all significant processes and decisions informed by this Initiative.

### NWI renewal advice 3.2: Modernised overarching objectives

UPDATED IN 2024

The National Water Initiative has a strong focus on water resource management. A renewed agreement should give greater emphasis to water service provision and this should be reflected in the overarching objective. The objective should also include reference to cultural outcomes to recognise the aspirations of Aboriginal and Torres Strait Islander people, **where cultural outcomes may be inclusive of economic development outcomes**. Suggested wording follows.

The overarching objectives of the Parties in implementing this agreement are to:

- optimise economic, environmental, social and Aboriginal and Torres Strait Islander people's cultural outcomes through best practice management of Australia's water resources. In the process, this will provide certainty for investment, water users, the environment and Aboriginal and Torres Strait Islander people
- enable entitlement holders, communities and the environment to contend with climate variability and adapt to a changing climate
- ensure effective, efficient and equitable provision of water services that meet the needs of customers and communities in a changing climate.

### NWI renewal advice 3.3: Modernised objectives

UNCHANGED FROM 2021

Full implementation of this agreement will result in:

**A** — a nationally consistent planning, market and regulatory based system of **managing surface and groundwater resources** for rural, urban and remote use that:

- optimises economic, environmental, social and cultural outcomes
- enables entitlement holders, communities and the environment to contend with climate variability and adapt to a changing climate.

by achieving the following:

1. clear, nationally consistent statutory systems for secure water access entitlements
2. transparent, statutory based water planning that:
  - (a) is risk based, matching the level of management with the level of water extraction and complexity in a system
  - (b) includes all sources of water, recognises connectivity between surface and groundwater and takes into account water quality
  - (c) clearly identifies the agreed environmental, cultural and other public benefit outcomes to be met through the water planning process
  - (d) includes agreed processes for water sharing and management during periods of water scarcity
  - (e) includes clear pathways to an agreed and improved balance between the environment and consumptive water use in overallocated or overused systems

### NWI renewal advice 3.3: Modernised objectives

UNCHANGED FROM 2021

- (f) includes clear triggers and processes for reviewing the balance between water for the environment and consumptive use, such as in response to the effects of climate change
- 3. statutory water provisions for the environment which are integrated with complementary natural resource management to achieve agreed environmental outcomes and, where this does not compromise environmental outcomes, managed to also achieve cultural and social benefits
- 4. effective and enduring pathways to enable Aboriginal and Torres Strait Islander people to strengthen their influence in water planning and natural resource management that affect Country and access to water consistent with the 2020 National Agreement on Closing the Gap
- 5. the capacity to trade water between uses to promote efficiency within the physical, ecological and social constraints of water systems in an open, transparent water market with a level of regulation that is proportional to the maturity of market development
- 6. a fit-for-purpose system of water metering, measurement and accounting, coupled with effective compliance, that promotes water user and community confidence in the integrity of water management and water markets
- 7. clarity on the assignment of risk arising from future changes in the availability of water for the consumptive pool and how future adjustment should be managed.

**B** — effective, efficient and equitable **provision of water services** that meets the needs of customers and communities in a changing climate by achieving the following:

- 1. access to safe and reliable drinking water, including in remote communities
- 2. clear objectives for the level and quality of water services which reflect customer preferences
- 3. in cities and towns:
  - (a) integrated planning and management of water supply, wastewater and stormwater services
  - (b) efficient water services that deliver outcomes, including urban amenity and liveability, in line with customer preferences and willingness to pay
- 4. cost-reflective pricing of water services (including water supply, wastewater disposal and stormwater management) wherever possible, with transparent funding support through community service obligation payments targeted at bridging the cost of providing safe and reliable drinking water and service affordability in regional and remote communities
- 5. institutional arrangements that
  - (a) ensure the separation of policy setting, service delivery and regulation with clear roles for each
  - (b) incentivise water service providers to be efficient and innovative, and to deliver services in ways that are cost-effective and in the interests of their customers
- 6. processes that ensure that water infrastructure developments and major refurbishments are ecologically sustainable, economically viable and culturally responsive.

### **NWI renewal advice 3.4: Overarching principles**

UNCHANGED FROM 2021

In achieving the objectives outlined in previous advice, governments should agree to the following principles and seek to apply them across all key areas of water policy, planning and operations.

1. Capacity to contend with droughts, floods and shocks, and to adapt to a changing climate, is strong.
2. Regulation, governance and management are fit for purpose.
3. All decisions are based on the best available evidence and information.
4. Innovation and continuous improvement are encouraged and adaptive management is required.
5. Communities are engaged effectively before decisions that impact them are made.
6. Communities are provided with sufficient information to enable effective engagement.

### **NWI renewal advice 3.5: Elements of a renewed agreement**

UNCHANGED FROM 2021

The goal, objectives and principles should be delivered through the following elements:

#### **Water resource management**

1. Water access entitlements and planning frameworks
2. Water markets and trading
3. Environmental management
4. Aboriginal and Torres Strait Islander people's interests in water
5. System integrity

#### **Water services provision**

6. Pricing and institutional arrangements
7. Urban water services
8. Infrastructure development

#### **Supporting arrangements**

9. Community engagement, and adjustment
10. Knowledge, capacity and capability building

### NWI renewal advice 3.6: An updated statement of interactions

UNCHANGED FROM 2021

The current paragraph of the National Water Initiative covering interactions with other key initiatives needs to be brought up to date. Suggested wording follows:

Other initiatives with a significant water focus, subject to separate agreements by the Parties, include the *Water Act 2007* (Cth), the 2012 Murray-Darling Basin Plan, the Murray-Darling Basin Agreement and the 2020 National Agreement on Closing the Gap. These play an important and complementary role in improving the management of water in Australia. Continued linkages to the National Water Quality Management Strategy will also complement achievement of the objectives of this agreement. And the agreement should be the major policy vehicle for pursuing the water-related goals endorsed as part of the United Nations 2030 Agenda for Sustainable Development.

## Building in good governance for a renewed NWI

### NWI renewal advice 4.1: governance arrangements for a renewed NWI

UPDATED IN 2024

A strengthened governance architecture that transparently reflects the presence of national water policy leadership and ensures confidence in reform effort, needs to be included in a renewed agreement.

To that end, the Commission advises that:

- water ministers should convene periodically to oversee development of a renewed National Water Initiative, and to receive, consider and act upon advice that comes out of any periodic review of the new agreement
- the new agreement should clearly link desired outcomes to its objectives and limit prescriptive actions, instead setting out principles for best practice, and fit-for-purpose policy approaches to achieving outcomes
- each jurisdiction should commit to preparing publicly available three-year rolling ~~work programs~~ **action plans** setting out how they aim to achieve the outcomes set out in the renewed agreement
- there continue to be three-yearly assessment of the adequacy of these ~~work programs~~ **action plans**, with public reporting on jurisdictional progress against them, **their adequacy in implementing the outcomes of the agreement**, and the effectiveness of the agreement, as per the functions the Productivity Commission currently performs under the *Water Act 2007* (Cth)
- a requirement for a comprehensive review of national water policy every 10 years should be written into the agreement
- the National Water Reform Committee should provide transparent ongoing collective oversight of the agreement, initiating policy advice and guidance, if need arises, and commission the 10 yearly reviews of the agreement.
- **the National Water Reform Committee should commission joint projects in each action plan cycle on areas of mutual interest, to share learnings on best practice water management, enhance efficiencies and reduce duplication of effort.**

## Water resource management – a fit-for-purpose framework

### NWI renewal advice 5.1: Fit-for-purpose water resource management

UNCHANGED FROM 2021

Embedding the concept of fit-for-purpose water resource management in a renewed National Water Initiative would support governments in thinking about the level of effort and resources to devote to the different facets of water resource management across different water systems and across time.

## Water entitlements and planning

### NWI renewal advice 6.1: Managing water use under the entitlements framework

UNCHANGED FROM 2021

In renegotiating the National Water Initiative, jurisdictions should recommit to the key outcomes and actions related to water access entitlements, which have been fundamental to the integrity of water management and a necessary prerequisite for water trading and markets. This includes ensuring that entitlements are statutory-based, that they provide a perpetual or an open-ended share of the consumptive pool, and that they are separate from land.

Entitlements and access rights frameworks should be fit for purpose – acknowledging that fixed-term or other types of entitlements may be appropriate in some relatively undeveloped systems. However, as systems are being developed, fully NWI-consistent entitlements frameworks should be put in place.

To improve on the entitlements and access rights framework, jurisdictions should:

- remove the special provision for minerals and petroleum industries in water access and planning arrangements to support better incorporation of these industries into water access entitlements frameworks that apply to other consumptive users
- establish a process to determine whether alternative water sources (including stormwater and recycled water) can be incorporated into water access entitlements frameworks, and the extent to which current management arrangements for alternative water sources create barriers to investment
- adopt a risk-based approach to managing significant interception activities under water access entitlements frameworks with the expectation that these activities would be fully incorporated into entitlements frameworks in at least all fully and overallocated systems. In developing systems, a risk-based approach would include fit-for-purpose measurement and accounting of interception activities, and monitoring of the ongoing efficacy of the use of interim measures.

## NWI renewal advice 6.2: Water planning

UPDATED IN 2024

In renegotiating the National Water Initiative (NWI), State and Territory Governments should ensure that water planning provisions are maintained and enhanced.

Priorities to improve water planning are to:

- better specify measurable and well-informed cultural and environmental outcomes
- ~~and improve~~ engagement with Traditional Owners **and communities, including for governments to meet their commitments to priority reforms under the National Agreement on Closing the Gap and to develop partnerships for shared decision-making.**
- **include principles to frame the process for assessing and** reflecting the relative values placed by communities on environmental, social and economic outcomes to inform the trade-offs that have to be made in water planning. This process should be transparent, evidence-based and involve effective engagement with stakeholders.
- include principles for independent review of water plans. While the review processes would be determined by jurisdictions, the NWI could set out principles for reviews to promote their need to be robust and fit for purpose, focused on achieving the greatest net benefit and **how to apply effective stakeholder engagement** ~~involve community participation.~~
- **better take account of connectivity between systems.**

**Jurisdictions should continue to have discretion as to whether a plan is necessary and the effort put into its preparation, in accordance with paragraph 38 of the NWI. However, where a plan is not prepared for a water region, a renewed NWI should provide greater guidance on how contingent allocation frameworks are developed to be fit-for-purpose and appropriately manage the risk of overuse. In addition, where a water plan is not prepared, jurisdictions should:**

- **Publish a transparent justification of why the costs of a plan outweigh the benefits; and**
- **Set a clear trigger for developing a plan when circumstances change.**

Processes to better account for climate change are also required, including that:

- water plans include priorities, actions and rules that cover drought conditions, as well as mechanisms for dealing with more extreme scenarios, including clear triggers, roles and responsibilities for actions and a hierarchy of uses
- water quality issues are better incorporated into water planning, particularly in drought scenarios
- water planning processes in relatively undeveloped and developing water systems take climate change into account in ways that manage the risk of less water
- as water plans reach the end of their planning cycle, review processes promote improved water use and system operation to lessen risks in meeting the agreed environmental and consumptive objectives
- a process for rebalancing between environmental and consumptive uses as a result of climate change is developed. Rebalancing due to climate change should occur when there is sufficient evidence that the expected benefits will outweigh the likely costs. Where this occurs, governments should ensure that a water plan review assesses the feasibility of the objectives of the plan, sets new objectives that are realistic under climate change (including environmental, cultural and consumptive objectives), selects the most cost-effective option for meeting them and agrees a pathway to transition to the new balance. The process requires effective community partnerships and engagement, must be informed by the best available environmental, social and economic data and should be transparent
- there are clear provisions for allocating risk, with water access entitlement holders continuing to bear

### **NWI renewal advice 6.2: Water planning**

UPDATED IN 2024

the risks to the consumptive pool arising from climate change and periodic natural events (as reflected in paragraph 48 of the NWI)

- climate modelling is undertaken at the system scale, based on the best available data and subject to on-going reviews and refinements. The models and information should be made publicly available and be subject to independent peer review or accreditation.

## **Water trading and markets**

### **NWI renewal advice 7.1: The role and application of water trading and markets**

UNCHANGED FROM 2021

A renewed National Water Initiative should emphasise that the purpose of water trading and markets is as a tool within a water resource management framework to increase efficiency.

There is no guaranteed supply of water by location, time and quality. For given users, and trade-offs in the values people place on availability, markets can play an important role in allocating water efficiently.

The diversity of water system hydrology – regulated and unregulated surface water, groundwater and conjunctive (surface and groundwater) systems – coupled with other economic and institutional pre-conditions mean that the establishment of market arrangements need to suit their context. They need to be fit for purpose.

### **NWI renewal advice 7.2: Leading practice governance, regulatory and operational arrangements**

UNCHANGED FROM 2021

Recommitting to the original National Water Initiative water trading and market principles would support the objective that arrangements facilitate the efficient operation of markets, where system and water supply considerations permit.

Reshaped principles covering governance, regulatory and operational arrangements for water markets and trading would provide stronger foundations for developing markets.

- Roles and responsibilities of key parties involved in governance are clearly defined, and the parties' activities are effectively coordinated.
- Institutional arrangements are monitored and evaluated to ensure they remain in step with the level of a market's development.
- Trade is regulated to maximise overall community benefit (efficiency).

## **NWI renewal advice 7.2: Leading practice governance, regulatory and operational arrangements**

UNCHANGED FROM 2021

- Arrangements protect against negative third-party impacts of water trades on other water users and the environment.
  - The boundaries of water markets should be shaped by hydrology; trade between locations or sectors should not be limited by artificial administrative impediments.
  - Regulatory consistency and compatibility apply where it is hydrologically feasible for interstate trade to occur.
  - Where the changing of trading rules is necessary and well justified, the communication of these changes should be clear, timely and accessible to the market.
  - Where broader management and administrative decisions (such as processes for determining seasonal allocations) impact on water availability and therefore market dynamics, these processes should be transparent and their impacts well understood.
- Market access is open to all participants.
    - Development of an appropriate mix of tradeable water products is enabled.
  - Water market operations optimise transaction costs, including both monetary (for example, trade approval fees) and non-monetary (for example, from trade approval processing times and regulation of trade related services).
  - Jurisdictions could also consider integrating water trade monitoring with system management in highly developed systems. Such a role could focus on the long-term operation of the market within the water resource management system. In a changing climate, shared resources and connected systems will require consideration of the interaction between resource availability, system constraints and water trade; and the identification of risks as these interactions change.

## **NWI renewal advice 7.3: Information to support efficient water markets**

UNCHANGED FROM 2021

In efficient water markets:

- registers of all water access entitlements and trades are publicly-accessible, timely and reliable
- basic trade data – including on prices (clearly specifying reasons for zero-price trades), volumes, dates, locations and product types – are publicly available
- publicly-provided non-trade information covers market rules and the quality and accessibility of water resources.

## Environmental management

### NWI renewal advice 8.1: Best-practice environmental objectives and outcomes

UNCHANGED FROM 2021

Environmental objectives and outcomes agreed in water plans should be guided by criteria on the identification of key environmental assets (including dependent downstream estuaries and near-shore marine environments) and the values communities place on those assets.

- Waterways or water-dependent ecosystems should be considered high environmental priority if they have one, or more, of the following characteristics:
  - formally recognised significance (under Australian or State Government legislation)
  - the presence of highly threatened or rare species and ecological communities (under Australian or State Government legislation)
  - high naturalness values (for example, aquatic invertebrate communities or riparian vegetation)
  - vital habitat (for example, drought refuges or important bird habitats and key sites for connectivity).
- Environmental objectives and agreed environmental outcomes should then:
  - be set through a collaborative, stakeholder and community process that considers the relative community value of outcomes
  - be based on good scientific, objective and on-the-ground knowledge
  - clearly identify any risks and potential environmental trade-offs under different climate scenarios (including average and dry years)
  - be transparent, logical and easily understood by stakeholders
  - be specific and defined well, enabling clear long-term performance indicators to be set and monitored.

### NWI renewal advice 8.2: Integrated management

UNCHANGED FROM 2021

The management of environmental water should be integrated with complementary waterway management at the local level by ensuring that consistent management objectives govern both the use of environmental water and complementary waterway management activities.

### NWI renewal advice 8.3: Waterway oversight

UNCHANGED FROM 2021

Where not in place, State and Territory Governments should establish a formal institutional oversight responsibility for wetland and waterway management that provides an interface between the management of waterways and environmental water.

The roles and functions of a waterway manager should include:

- undertaking collaborative planning processes that result in clearly articulated environmental objectives, targets and priorities
- ongoing collaboration with Traditional Owners
- ongoing environmental risk assessment
- providing input to water planning processes on environmental priorities and impacts
- oversight of natural resource management actions to achieve agreed objectives
- working with the system manager to achieve agreed environmental outcomes
- facilitating on-ground delivery of environmental water management
- monitoring and reporting on environmental outcomes and risk management
- evaluation where environmental outcomes were not achieved
- providing opportunities for community participation, to facilitate change and awareness of waterway issues
- communicating policy changes to stakeholders.

### NWI renewal advice 8.4: Review processes for outcomes

UPDATED IN 2024

Jurisdictions should commit to a long-term, consistent national approach to monitoring environmental outcomes delivered from both planned and held environmental water. Clear processes should be established for reviewing progress on environmental outcomes, understanding their feasibility given climate induced changes in water availability and other factors (such as sea level rise and increased temperatures), ascertaining whether environmental water flows and allocations are sufficient to meet environmental objectives and determining if and when management objectives should be revisited within planning review processes.

To support this, there should be adequate resourcing of long-term monitoring programs that report against well-defined environmental outcomes indicators. These indicators should be determined by the best possible environmental science, including Indigenous Cultural Knowledges.

### **NWI renewal advice 8.5: Objectives and priority setting for held water**

UNCHANGED FROM 2021

The overarching objective for environmental water managers managing held environmental water is to make decisions on where, how and when environmental water should be used (or whether it should be traded or carried over) based on the best use for the environment over the long-term.

Criteria for prioritising environmental watering should be embedded in a renewed National Water Initiative and include the:

- extent and significance of environmental benefit
- likelihood of success
- longer-term benefits
- urgency of watering needs
- feasibility of the action
- environmental or third-party risks
- cost effectiveness of the watering action
- efficiency of water use
- additional cultural, economic, social and Traditional Owner benefits.

Objectives for seasonal environmental watering under different climate scenarios should be embedded in a new National Water Initiative such as:

- avoid critical loss, maintain key refuges and avoid catastrophic loss during drought scenarios
- maintain river functioning and high-priority wetlands and manage dry-spell tolerances during dry scenarios
- improve ecological health and resilience and recruitment opportunities for key species during average-climate scenarios
- restore key floodplain and wetland linkages and enhance recruitment opportunities for key species during wet scenarios.

### **NWI renewal advice 8.6: Transparent trade strategies**

UNCHANGED FROM 2021

Environmental water holders should have in place transparent and publicly reported trading and carryover strategies and reporting statements for entitlements and allocations that show the best use of water to contribute to environmental outcomes as opportunities arise.

Revenue from trading should be held in a dedicated, ring-fenced account with the ability to be carried over and devoted to activities that enable the best use of environmental water over time. And use of this revenue should be publicly reported.

**NWI renewal advice 8.7: innovative market approaches**

UNCHANGED FROM 2021

Environmental water holders should work with system managers and consumptive entitlement holders to pursue innovative market approaches.

**NWI renewal advice 8.8: Capacity to vary entitlement portfolio**

UNCHANGED FROM 2021

Environmental water holders should be enabled to vary their entitlement portfolio over time to match ecological requirements in a changing climate.

Environmental water entitlement trading should occur as part of a long-term environmental water portfolio management strategy. Governments should develop clear guidelines on the criteria for trading environmental water entitlements including cost-benefit analysis, consideration of possible consequential adjustments to catchment sustainable diversion limits and environmental provisions in water plans, a formal approvals process and publicly reported trade activity.

**NWI renewal advice 8.9: Actively pursue public benefit outcomes**

UNCHANGED FROM 2021

Environmental water holders should:

- give explicit consideration to other public benefit outcomes including cultural and social outcomes, where they do not compromise environmental outcomes
- improve collaboration and communication with Traditional Owners on cultural water decision making and outcomes in environmental water planning processes
- report on any instances where specific cultural outcomes were unable to be delivered because they were incompatible with agreed environmental outcomes
- build on their knowledge of the potential for environmental water to achieve shared community benefits under drying climate scenarios.

### **NWI renewal advice 8.10: Independent managers and auditing**

UPDATED IN 2024

Where governments own significant held environmental water that can be actively managed they should ensure that decisions on the use of this water are made by independent bodies at arm's length from government **the agencies directly managing environmental water.**

~~Governments with held environmental water entitlements should provide for independent auditing, on a three-yearly basis, of the adequacy and use of environmental water entitlements to achieve the best outcomes.~~

**Jurisdictions should commit to independent auditing, on at least a five-yearly basis, of the achievement of environmental outcomes resulting from both planned and held environmental water, including the adequacy and use of environmental water to achieve outcomes.**

**Where jurisdictions have independent environment commissioners or agencies with regular state-of-the-environment reporting, such as Victoria and the ACT, such auditing is ideally placed within the scope of their activities.**

### **NWI renewal advice 8.11: The system manager's role in environmental management**

UNCHANGED FROM 2021

Water system managers should be obligated to use their best endeavours, while protecting third-party interests, to achieve agreed outcomes.

State and Territory Governments should report and evaluate system managers' efforts at facilitating the achievement of agreed environmental and other public benefit outcomes.

### **NWI renewal advice 8.12: Commitment to adaptive management**

UNCHANGED FROM 2021

In planned environmental water systems, State and Territory Governments should:

- establish mechanisms to ensure that adaptive management is implemented consistently and explicitly in practice
- ensure adequate monitoring, evaluation and reporting efforts on agreed environmental outcomes, and report openly about instances where these outcomes are not achieved.

Environmental water holders should:

- use the results of monitoring, evaluation and research to improve water use as part of an adaptive management cycle and ensure that this is adequately resourced
- publicly report on environmental water use, the outcomes of watering events, the achievement of ecological outcomes, and monitoring of objectives.

## Securing Aboriginal and Torres Strait Islander people's interests in water

### NWI renewal advice 9.1: A new co-designed element

UPDATED IN 2024

The renewed National Water Initiative (NWI) should include both an objective and a new element dedicated to Aboriginal and Torres Strait Islander people's access to water and the involvement and participation of Aboriginal and Torres Strait Islander people in water management. The Commission ~~supports the~~ **advises that the** Committee on Aboriginal **and Torres Strait Islander** Water Interests **should continue to lead** ~~to development of~~ the new NWI element.

In developing the new element, the Committee should:

- ensure alignment between commitments under the National Agreement on Closing the Gap and new NWI content
- ~~• provide advice to the Coalition of Peaks, particularly regarding the design, implementation and monitoring arrangements for National Agreement on Closing the Gap inland waters target.~~
- **continue to engage with First Nations groups**
- report directly to water ministers.

**The NWRC should also support the Committee on Aboriginal and Torres Strait Islander Water Interests to lead the development of a monitoring, evaluation and reporting framework for this new element.**

### NWI renewal advice 9.2: Improving cultural outcomes using existing frameworks

UPDATED IN 2024

In developing a new National Water Initiative element, the Committee on Aboriginal **and Torres Strait Islander** Water Interests should consider content that ensures that:

- cultural objectives are explicitly identified and provided for in water plans and progress in achieving those objectives is regularly monitored and reported publicly
- environmental water holders seek to deliver cultural outcomes whenever consistent with their ecological obligations
- natural resource managers incorporate cultural objectives into river and wetland plans and work with Traditional Owners in on-ground management programs to achieve them
- Traditional Owner engagement in water planning, environmental water management and natural resource management is of high quality and fostered through the development of long-term relationships (NWI renewal advice 6.2, 8.3 and 8.9).

### NWI renewal advice 9.3: Improving access for economic development

UPDATED IN 2024

In developing a new National Water Initiative element, the Committee on Aboriginal and Torres Strait Islander Water Interests could consider content that ensures that, where agreement is reached between State and Territory Governments and Traditional Owners that consumptive access to water is an effective way to support the economic development of Aboriginal and Torres Strait Islander communities, access is provided by:

- sourcing water within existing water entitlement frameworks, such as by purchasing water on the market or as part of transparent processes for assigning unallocated water
- ensuring adequate supporting arrangements (such as training and business development) and information provision (e.g. about the costs of accessing, holding and trading water) are in place to enable Aboriginal and Torres Strait Islander communities to access water, and maximise the value of the resource for their needs and uses
- actively involving Aboriginal and Torres Strait Islander communities in program design.

The provision of water by governments to Aboriginal and Torres Strait Islander communities would be supported by:

- ~~specifying and implementing~~ governance arrangements for such water developed in partnership with First Nations groups
- regularly monitoring and publicly reporting on the inland waters target under the National Agreement on Closing the Gap.

Where governments invest in new water infrastructure, particularly in undeveloped areas, governments should consider whether reserving a share of any new water rights for Traditional Owners would be consistent with plans for future community development and assist in meeting targets set under the National Agreement on Closing the Gap.

## Ensuring the integrity of water resource management

### **NWI renewal advice 10.1: Building system Integrity through a renewed element**

UNCHANGED FROM 2021

A renewed National Water Initiative would be strengthened by acknowledging that ensuring the integrity of water resource management requires more than robust water accounting. To build integrity into system management, consideration should be given to broadening the water resource accounting element. The provision of credible and reliable information, and robust institutional processes, would provide assurance that:

- entitlement holders are operating in line with their rights and that water use is consistent with established rights and water plans
- water systems are being managed to best effect for all users.

The provision of information regarding the broader water context is also needed to improve understanding of key water resource challenges and potential risks, enabling entitlement holders, industry and communities to better plan for the future.

### **NWI renewal advice 10.2: Ensuring the integrity of water use**

UNCHANGED FROM 2021

To ensure the integrity of water use, a renewed National Water Initiative would be strengthened by requiring fit-for-purpose:

- metering and measurement of surface water and groundwater take and reporting on use
- registers that realise their potential benefits for water resource management and support compliance and enforcement systems as well as critical functions in supporting trade
- compliance and enforcement systems, including a focus on proactive regulation to increase entitlement holders' awareness of their obligations.

Inclusion of leading-practice compliance principles would also strengthen the agreement. Compliance framework requirements from the Murray-Darling Basin Compliance Review provide good foundation principles, but consideration should be given to augmenting them with requirements consistent with leading-practice governance.

### **NWI renewal advice 10.3: Ensuring the integrity of water system management**

UNCHANGED FROM 2021

To ensure the integrity of water resource management, a renewed National Water Initiative would need to require water system managers to:

- adopt a risk-based approach to developing and maintaining information and data collections necessary for effective water system management. These collections should include information about how much water is in a system, where it is, how much is extracted (including by interception activities), how much is carryover, and who gets what and when
- ensure that information and data sources are publicly available and information is accessible and effectively communicated. Where multiple agencies are responsible for a system's management, collaboration is needed to ensure that data and the language used for reporting are consistent and that information is accessible from a single online source
- implement quality assurance processes for information and data sources to enhance the credibility of information, including independent audits for fully developed and regulated systems
- ensure information about their decisions, operations and performance is transparent and that public concerns and information requests are responded to expediently.

Stakeholder engagement would improve information provision and help system managers determine if available information adequately demonstrates to the public that water systems are being managed to best effect.

### **NWI renewal advice 10.4: Ensuring information on the broader water context aligns with users' needs**

UNCHANGED FROM 2021

In renegotiating a renewed National Water Initiative, jurisdictions should commit to providing information on the broader water context that meets the needs of system participants (including water planners, managers, users and communities).

The scope of national water accounts should be reviewed. In undertaking these reviews, stakeholders must be engaged to ensure useful and meaningful information is reflected in accounts in the future.

A renewed National Water Initiative should acknowledge the utility of national water accounts and require their regular publication and avoidance of unnecessary duplication of effort in their preparation.

## Provision of water services

### **NWI renewal advice 11.1: Maintain key principles of service delivery**

UNCHANGED FROM 2021

Jurisdictions should maintain the core principle of cost-reflective, consumption-based pricing in a renewed National Water Initiative, with cost recovery from users. Jurisdictions should also update and recommit to the *National Water Initiative Pricing Principles* to provide guidance on achieving those pricing requirements, with direct reference to the pricing principles included in a renewed NWI.

Similarly, jurisdictions should maintain institutional separation of water resource management, standard setting and regulatory enforcement from service delivery.

### **NWI renewal advice 11.2: Principles for best-practice Independent economic regulation**

UNCHANGED FROM 2021

The following national best-practice principles would improve the quality and consistency of independent economic regulation of water service providers.

- Regulatory decisions are guided by the objective of promoting the long-term interests of customers.
- Utilities have incentives to innovate and improve their efficiency.
- Regulatory decision-making processes include effective customer and community engagement.
- Prices reflect the full efficient cost of service provision.
- Regulatory decisions consider the long-term financial viability of utilities.
- Regulatory processes facilitate effective competition in potentially contestable parts of the industry.
- Regulatory processes are transparent to allow scrutiny.
- Regulatory frameworks are adaptable and flexible.

### **NWI renewal advice 11.3: Improving pricing and service outcomes**

UNCHANGED FROM 2021

The National Water Initiative should include a framework to guide where different models of economic oversight can be applied, based on context. All large providers should be subject to best-practice independent economic regulation, unless a transparent analysis of regulatory costs and benefits shows that economic regulation imposes significant net costs. Where costs do outweigh benefits, jurisdictions should agree to a consistent assessment framework to inform decisions concerning the type of economic regulation to apply, based on the risk (and potential impact) of a provider exercising market power, and the cost of regulation.

Jurisdictions should commit to light touch independent economic oversight for small regional and remote urban water providers.

### **NWI renewal advice 11.4: Performance monitoring and reporting**

UNCHANGED FROM 2021

Water service provider performance monitoring and reporting should be maintained under a future NWI with agreed objectives. Monitoring and reporting should aim to:

- increase transparency of service delivery
- enable performance comparisons to support continuous improvement by providers
- feed into economic oversight
- contribute to State and Territory government policy decisions and performance oversight
- underpin regular assessments of progress of NWI implementation.

## Urban water services

### NWI renewal advice 12.1: Best-practice urban water system planning

UNCHANGED FROM 2021

Updating the *National Urban Water Planning Principles* and formally embedding them within the National Water Initiative would establish a standard for best-practice urban water system planning. A renewed National Water Initiative should include the following principles:

- Integrated management of water supply, wastewater and stormwater is embedded in urban water planning and management systems.
- Planning decisions align with system objectives for levels of water security, service quality, the environment and urban amenity.
- System objectives are discovered through a transparent and consultative approach and approved by governments in line with customer and community preferences.
- Urban water planning connects water planning across different scales and with land-use planning.
- All supply options are considered and their relative merits subject to a rigorous, consistent and transparent assessment of costs and benefits.
- Roles and responsibilities in the planning and management process are clearly assigned between relevant governments, utilities and other planning entities.
- Governments enable effective coordination between utilities, regulators, developers and land-use planners.

To support efficient service delivery by smaller providers, jurisdictions should consider developing national guidelines for both long-term system planning and contingency planning for regional and remote water systems.

### NWI renewal advice 12.2: Improving pricing and service outcomes

UNCHANGED FROM 2021

In updating the *National Water Initiative Pricing Principles* (NWI renewal advice 11.1), jurisdictions should:

- develop improved, practical guidance on funding stormwater management and incorporating stormwater into pricing frameworks
- recommit to the principle that developer charges are cost reflective.

### **NWI renewal advice 12.3: Improving pricing and service outcomes**

UNCHANGED FROM 2021

All urban water service providers, including those with fewer than 10,000 connections, should be subject to jurisdictional monitoring and public reporting.

Through the National Water Initiative, jurisdictions should recommit to independent, public and annual reporting of key pricing and service quality indicators at a national level for all major urban water service providers (consistent with the objectives outlined in NWI renewal advice 11.4).

### **NWI renewal advice 12.4: Ensuring access to a basic level of service**

UNCHANGED FROM 2021

A renewed National Water Initiative should include a commitment by State and Territory Governments to each develop a definition of, and to ensure access to, a basic level of water services for all Australians. At a minimum, this would include safe and reliable drinking water. The definition of 'safe' could be nationally consistent, while the definition of 'reliable' will vary according to local circumstances.

Cost-reflective user charges should remain the default arrangement, but some regional and remote services in high-cost areas will require operational subsidies to maintain a basic level of service to all customers. Any subsidies to those areas should be provided as transparent community service obligation payments. Payments to local government-owned providers should be:

- designed to ensure access to a basic level of service in those communities where such service provision would otherwise be unviable
- adequate to ensure a basic level of service is considered affordable
- based on credible data on efficient service costs, subject to a degree of independent oversight, following State or Territory government involvement in system planning
- calculated in a predictable fashion to provide a reliable source of funding
- conditional on ongoing operational improvements, such as improvements to utility governance, better service outcomes (based on performance monitoring), compliance with guidelines for system and contingency planning, or for pursuing collaboration.

### **NWI renewal advice 12.5: Governance of regional and remote services**

UNCHANGED FROM 2021

A renewed National Water Initiative should contain agreed principles for governance of regional and remote water services where local governments retain ownership of utilities. Financial separation should be maintained, with utility finances ring-fenced from local government finances. Clear roles for State and Local Governments during extreme events should be defined.

**NWI renewal advice 12.6: Monitoring and reporting on regional and remote service quality**

UNCHANGED FROM 2021

Monitoring and reporting of water quality and service outcomes in remote Aboriginal and Torres Strait Islander communities should be coordinated with the development of data collection required to measure progress against the community infrastructure target under the National Agreement on Closing the Gap.

**Water reform in rural Australia****NWI renewal advice 13.1: Helping communities deal with adjustment pressures**

UPDATED IN 2024

Inclusion of guiding principles in a renewed National Water Initiative would clarify how governments can respond to any significant community adjustment pressures resulting from policy-induced reductions in water availability.

- The socioeconomic impacts of any major potential policy change be assessed to identify possible community needs. Effective community partnerships and engagement are critical to understanding the wider context.
- Generally-available measures targeting the welfare and skills of individuals, and regional development planning and initiatives to leverage community capabilities and competitive advantages are usually the most appropriate responses to adjustment pressures.
- In rare circumstances, it may be appropriate to take additional steps to address adjustment issues if policy changes that are beneficial to the wider community impose increased risk of permanent disadvantage for groups of individuals. Where generally-available measures will be inadequate, more support could improve the efficiency of the adjustment process by addressing impediments to change.
- Where further support is warranted:
  - ~~consideration should be given to how existing regional development programs support the adjustment process and whether policies and regulations not directly related to water unnecessarily impede change~~
  - **assistance programs should be integrated with regional development strategies and frameworks**
  - options for further support need to be considered on a case-by-case basis and consider all factors affecting a community (not just changing water availability) and the chosen option should be the one that delivers the largest benefits relative to costs
  - measures that are likely to build adaptive capacity and secure employment or business opportunities should be the focus, and targeted to the most vulnerable individuals (those at risk of permanent disadvantage)
  - industry assistance and subsidies should be avoided
  - a commitment should be made to public monitoring and evaluation of the effectiveness of any assistance.

## Government investment in major water infrastructure

### NWI renewal advice 14.1: A New Water Infrastructure element

UNCHANGED FROM 2021

In renegotiating the National Water Initiative, jurisdictions should develop an element to guide investment in water infrastructure.

The new element should restate the high-level requirements for all infrastructure to be assessed as economically viable and ecologically sustainable prior to the commitment of funding, with cost recovery from users as the norm, and add a further requirement that infrastructure development processes are culturally responsive to the interests of Traditional Owners.

The new element should also include:

- an agreed framework to guide government investment in major water infrastructure, incorporating project selection and assessment processes and clear roles and responsibilities for governments and service providers
- principles for cost sharing (including government subsidies) and allocating water from new developments.

## NWI renewal advice 14.2: Assessment criteria for water infrastructure

UPDATED IN 2024

As part of the new infrastructure element, jurisdictions should agree to criteria on how major projects can demonstrate adherence to the NWI requirements for infrastructure.

Economic viability should be demonstrated by a positive benefit–cost ratio determined through a transparent and rigorous cost–benefit assessment, with:

- an assessment of a range of options, including non-infrastructure options where these can meet the investment objective, and selection based on the highest (positive) expected net benefit
- transparency supported by publication of business cases as a matter of course (except where commercially-sensitive data limits publication, in which case the business case should be reviewed by a qualified independent body)
- use of entitlement pre-sale to limit optimism bias
- robust estimates of social and distributional impacts.

Ecological sustainability should be demonstrated through environmental and social impact approvals, and compliance with a high-quality and NWI-consistent water plan that:

- establishes the environmental water provisions necessary to meet agreed environmental outcomes under a changing climate
- sets out the social, economic and cultural outcomes sought from the water plan
- clearly defines the expected reliability of water rights, taking into account the likely impacts of climate change
- is developed with robust community engagement to reflect community values.

Criteria for culturally responsive infrastructure development should be determined through the co-design process led by the ~~national~~ Committee on Aboriginal and Torres Strait Islander Water Interests. At a minimum, culturally responsive infrastructure processes would:

- incorporate deep engagement with the Traditional Owners of affected areas (both at the infrastructure site and downstream) as part of business case development
- comprehensively identify and manage impacts on cultural heritage in affected areas.

Costs should be recovered from users as the norm, with any government funding provided through a transparent subsidy. This should be limited to situations where:

- substantial public benefits associated with water infrastructure impose additional costs that are best borne by governments
- an equity argument exists (for example, to support access to an essential service in high-cost regional town water systems where the cost of supplying a basic level of services is considered unaffordable).

Governments should not subsidise major water infrastructure for strategic objectives, such as regional development, without first demonstrating that the project is the most effective means of addressing that objective. This requires alignment with broader high-quality and long-term strategic regional planning processes.

- Jurisdictions should maintain the principle supporting use of market mechanisms for allocating water, although they should consider allocating a share of new entitlements in undeveloped systems to Traditional Owners.

### NWI renewal advice 14.3: Institutional arrangements

UNCHANGED FROM 2021

A new water infrastructure element should clarify relevant institutional roles and responsibilities underpinning government investment in major water infrastructure, if and when it occurs.

- State and Territory Governments should have primary responsibility for proposing (and overseeing) government involvement in major water infrastructure developments in their jurisdictions.
- Any Australian Government funding should not exceed the contribution of the relevant State or Territory Government.
- Independent infrastructure advisory bodies should transparently review the business cases of major projects.

## Community engagement

### NWI renewal advice 15.1: Community engagement framework

UPDATED IN 2024

Australian governments should recommit to best practice, cost-effective engagement with their communities on all water matters. To achieve this, a renewed National Water Initiative should develop a community engagement framework focused on:

- continuously improving and sustaining government engagement effort across all aspects of water resource management and water service provision
- coordinating engagement actions between all levels of government, particularly in multi-jurisdictional activities
- ensuring that engagement effort and its resourcing are fit-for-purpose taking into account the scale of proposed change or reform, its sensitivities and its impacts
- ensuring that governments are clear about the purpose of their engagement, **and the role of communities in decision making, and transparently report on how communities' views have informed decisions**
- improving the effectiveness of community engagement through enhancing:
  - water information accessibility and comprehensibility
  - community water literacy.

This framework should adopt the characteristics of inclusiveness, timeliness, partnership, respect, access to information, transparency, responsiveness and continuous improvement as a best-practice foundation for effective community engagement and information provision practice in water resource management and water service provision.

## Knowledge, capacity and capability building

### NWI renewal advice 16.1: Effective knowledge generation

UNCHANGED FROM 2021

Commitment to a culture of evidence-based decision making, innovation and continuous improvement will underpin successful implementation of a renewed National Water Initiative. Inclusion of the following principles in a renewed National Water Initiative would bring that to effect.

- Knowledge building priorities are identified through processes that involve all jurisdictions and draw on input from the research community and research users.
- Governments invest in knowledge generation activities that align with identified priorities and serve the public good.
- Investments are streamlined through effective coordination between jurisdictions.
- Utilities are empowered to invest efficiently in knowledge generation.
- Strong, durable partnerships between decision makers and knowledge generators are developed and actively managed.
- Decision makers have the capability and capacity to use knowledge effectively in making evidence-based decisions.
- Water utility staff have the capacity and capability to discharge their functions.



# 1. Governance for a renewed national approach to water reform

## Key points

- ✳ **Governments should renew their commitment to national water reform, starting by building on the sound foundations of the *National Water Initiative* (NWI).**
  - A national approach provides a broad and consistent authorising environment for jurisdictions to implement and continue to improve on best-practice water management.
  - Greater coordination under a renewed NWI would improve efficiency and consistency and result in more widely shared benefits of learning among jurisdictions.
- ✳ **A renewed NWI should retain the core NWI principles that underpinned the realisation of benefits flowing from a nationally-compatible, market, regulatory and planning based system of managing water resources to balance and optimise economic, social and environmental outcomes.**
- ✳ **A renewed NWI needs to be sufficiently flexible, to allow governments to have discretion in designing tailored action plans for achieving agreed outcomes, to deal with particularities in their respective jurisdictions.**

**Added flexibility needs to be paired with public, measurable objectives and strong governance and accountability frameworks to ensure that hard-won benefits of 30 years of water reform are not lost.**
- ✳ **A strengthened and reinvigorated governance architecture for a renewed NWI requires national water policy leadership to empower and drive reform. The Productivity Commission's 2021 renewal advice on governance of a renewed NWI remains relevant.**
  - To signal the importance of water reform, ownership of the renewed NWI should sit with water ministers. They should meet regularly to oversee development of a renewed NWI, and to receive, consider and act upon advice that comes out of any periodic review of the renewed NWI.
  - The National Water Reform Committee, on behalf of governments, should provide transparent on-going collective oversight of implementation, initiating policy advice and guidance as the need arises, and commission 10-yearly reviews of the renewed NWI.
  - There needs to be three-yearly assessment of the adequacy of and progress against jurisdictions' action plans, as per the functions the Commission currently performs under the *Water Act 2007* (Cth).

## 1.1 Benefits of national co-operation in water

Responsibility for water management rests with state and territory governments. But a co-operative, national arrangement across the federation based on shared interests is also needed. The alternative, with every jurisdiction operating in isolation, would risk ad hoc, reactive, potentially costly responses.

A national approach strengthens the authorising environment for water management for each jurisdiction. It facilitates sound decision-making that reflects and balances community preferences to achieve sustainable use of the nation's surface and groundwater resources. In this way, a national approach enhances the overall wellbeing of the Australian community.

In design and conception, the original *National Water Initiative* (NWI) helped drive toward such an outcome. A renewed NWI should be used to confirm a continuing joint commitment to the best possible water future for Australia and would represent the continuation of a journey towards a cohesive and enduring national approach to water policy that began in earnest with the Council of Australian Governments' water reforms in the 1990s and the 2004 NWI. (The *Water Act 2007* (Cth) and the 2012 Murray-Darling Basin Plan have been other key milestones.)

### The core principles of the NWI should be retained and built on

The NWI provides a broad authorising environment, or policy 'scaffold', for jurisdictions to build towards best-practice water management. And as the Productivity Commission found in its 2021 review, even though not all jurisdictions have implemented all of the NWI, the benefits reaped so far are clearly apparent (PC 2021b, pp. 29–31).

It was on this basis that the Commission recommended in 2021, and still recommends in 2024, that a renewed national approach to reform should build on the content of the NWI. A renewed NWI can add additional 'layers' informed by 30 years of learnings, and encourage advancement to better practice in the future.

The core NWI principles benefit communities, economies and the environment in every jurisdiction. They include through the creation of:

- secure, perpetual water access entitlements
- statutory protections of water for the environment and other public benefits
- sustainable levels of extraction
- a user-pays pricing framework supported by independent economic regulation
- a framework for assigning risks from changes in water availability.

When these principles are embedded in legislation they provide for, amongst other things: sustainability of environmental systems to underpin uses and interests now and into the future; transparent, fair and consistent (including across state borders) business environments within which water users and service providers can invest and interact with confidence and certainty; efficiency of pricing and investment so that those who benefit from water provision are appropriately charged for it and to support the financial sustainability of water service provision; and the tools so water can be rebalanced fairly and transparently as supply, and our scientific understanding of complex water systems, changes.

### A principles-based approach can be flexible and fit for purpose

A renewed NWI that is principles-based and flexible would respond to jurisdictions' criticisms that not all the elements of the original NWI are relevant to all jurisdictions at a point in time, and that the NWI allows insufficient discretion to allow 'fit-for-purpose' tailoring of actions to deal with water management particularities in each jurisdiction (PC 2021b, p. 62).

Fit-for-purpose implementation means that across the diverse range of water systems in Australia, the level of effort expended by jurisdictions to manage them, should balance the expected costs and benefits of different management outcomes. However, while flexibility is important, it should not be used as a reason to avoid (politically) difficult reform.

With this in mind, the Commission in 2021 argued for a clear specification of outcomes in a renewed NWI linked to the principles, with flexibility for jurisdictions to implement and transparently define fit-for-purpose activities in their action plans. The outcomes and objectives need to be specific enough to be translated into action plans, so that it is practically feasible to assess how and to what extent jurisdictions' actions translate into outcomes.

A renewed NWI that builds on and reinforces the existing principles, with clear accountability, was overwhelmingly endorsed by participants in this inquiry (ACCC, sub. 11; ATSE, sub. 5; Aurecon, sub. 28; AWA, sub. 43; DEG, sub. 47; EA, sub. 34; EDO, sub. 50; Heather Ferguson and Carl Stephens, sub. 19; HiPCo, sub. 1; IA, sub. 9; LVW, sub. 21; MDBA, sub. 36; NFF, sub. 32; NIC, sub. 51; NLC, sub. 38; NSWIC, sub. 16; RGA, sub. 37; SACOSS, sub. 23; Sydney Water, sub. 41; WRA, sub. 49; WSAA, sub. 15; WSCA, sub. 45; WTA, sub. 35; WaterNSW, sub. 55).

## **Dilution of the fundamentals could threaten the benefits of water reform**

### **The NWI is being renewed**

The Australian, state and territory governments are currently negotiating to renew the NWI. The renewed NWI is expected to be discussed and ratified later in 2024, at a ministerial council meeting of all water ministers. This would be the first such meeting in over 10 years.

The Commission is not a party to these negotiations, but we have heard that jurisdictions broadly agree that climate change and First Nations commitments need to be strengthened in a renewed NWI.

The Commission also heard that some jurisdictions do not wish to retain some of the core NWI commitments in the renewed NWI or do want to retain outcomes that represented compromises in 2004. These jurisdiction-specific negotiating positions are a result of such commitments respectively, being at odds with or consistent with, existing, often long-standing policy settings. Submissions to this and previous inquiries have highlighted some of these:

- lack of full and independent economic regulation in several jurisdictions (ACCC, sub. 11, p. 6)
- no statutory entitlements for water separate to land in Western Australia and the Northern Territory (EDO, sub. 50, pp. 9, 20)
- exemptions from the entitlements framework for minerals and petroleum industries in Queensland (NFF, sub. 32, p. 23).

### **A renewed NWI weaker than the existing one would risk hard-won progress and result in opportunity costs to users, ratepayers, and the environment**

There is a resultant risk that, for consensus to be reached between the parties, the renewed NWI could represent a weaker commitment to the fundamentals of water policy than the original. This potential outcome would have negative implications for longer-term water security.

A key risk of an erosion of the authorising environment for implementation is backsliding, including in those jurisdictions which have already progressed further in meeting their commitments against the NWI. For

example, NWI-compliant jurisdictions that currently efficiently allocate the full cost of water use to users or otherwise apply transparent community service obligations, may face pressures to unwind these practices if they are no longer strongly embedded as commitments in a new national water agreement. This would result in overall more costly and less equitable and sustainable water services.

A renewed NWI weaker than the existing one would leave no driver for jurisdictions that have not yet met their NWI commitments 20 years on, to do so in the future. For example, in December 2023, the Western Australian Government walked back its commitment to introduce new water management legislation, stating:

The current laws are workable, and therefore legislative change is not required when there are other immediate, practical avenues to improve water security. (McGurk 2023)

There are clear opportunity costs borne by the communities in a jurisdiction (such as Western Australia, for example) with a government that does not adopt NWI-consistent water entitlement and planning mechanisms or lacks fully independent economic regulation of water services.

With respect to the former, the Commission heard from several inquiry participants that the implications include risks of overallocation of resources that puts environmental and First Nations' outcomes at risk (Alex Gardner, sub. 46; ASSC, sub. 25; DEG, sub. 47; EDO, sub. 50; IFNWWG, sub. 48; Terri Janke and Company, sub. 18). The consequences of a lack of independent economic regulation of water services, including price setting, have been assessed in previous Commission National Water Reform inquiries. Without independent economic regulation, there is a significant risk that the provision of water services will be more costly overall.

## **1.2 The Commission's 2021 NWI governance renewal advice is still relevant**

In 2021 (PC 2021b, pp. 59–66), the Commission provided detailed renewal advice on the governance structures needed to ensure ownership, accountability and transparency in a renewed NWI. This inquiry has validated that advice. The Commission's proposed governance structure is in figure 1.1 and is summarised below:

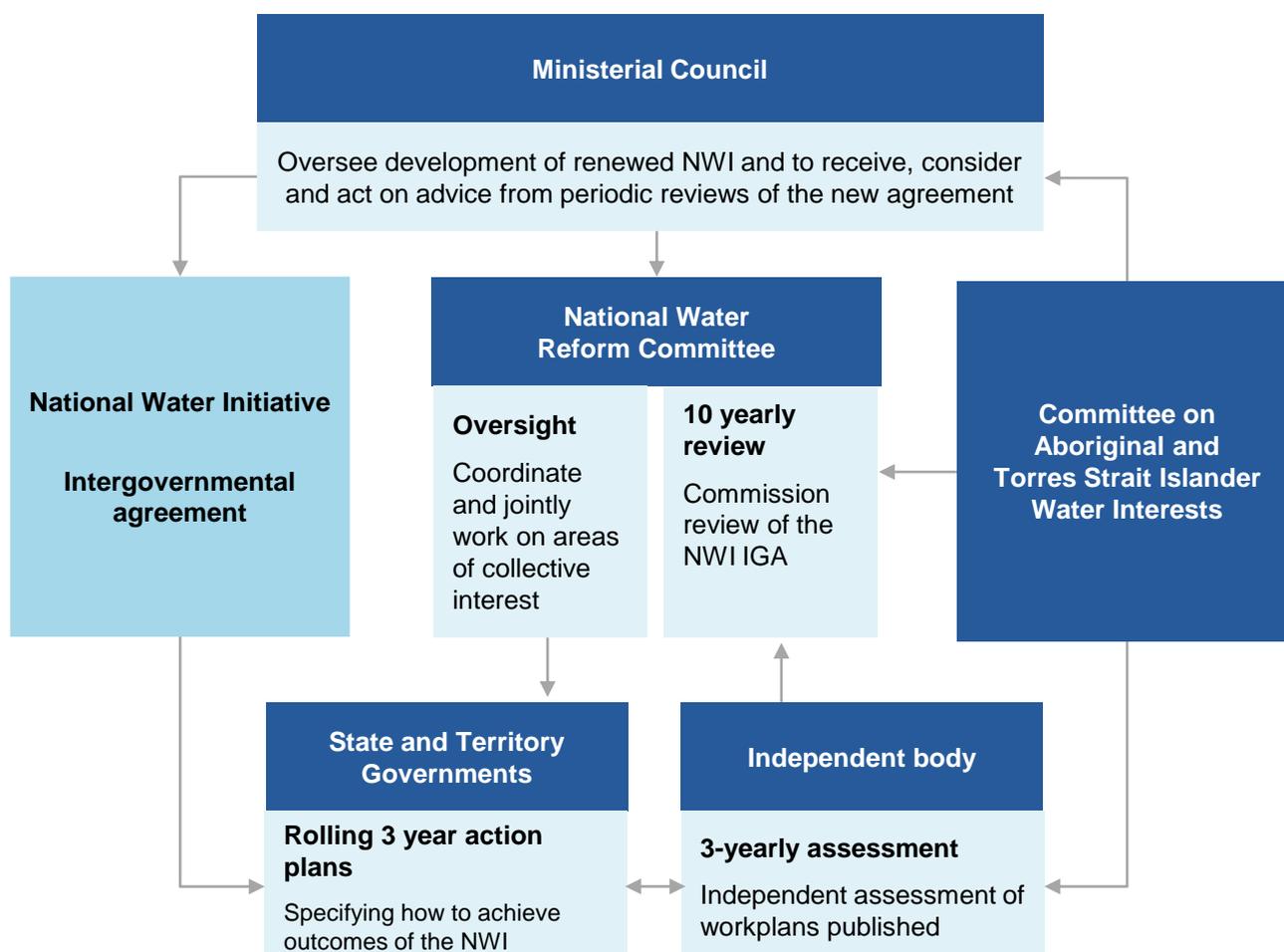
### **Policy leadership and collective ownership**

As demonstrated in the years following 2004, robust governance arrangements were a central driver of progress, including by ensuring that governments remained focused on delivering their commitments and guiding reform. Those drivers have been missing for much of the past decade following the Australian Government's decision in 2013 to disband the ministerial council responsible for water and to subsequently abolish the National Water Commission (NWC, the body responsible for, amongst other things, accrediting and publicly assessing progress against jurisdictional NWI implementation plans) in 2015.

The absence of regular ministerial meetings deprioritises the importance of water reform. It increases the likelihood that policy decisions will be reactive, in response to a crisis. Instead, proactive water reform builds water security in anticipation of issues that we know will put pressure on resource quantity and condition, and service delivery, including climate change and population growth.

Continued attention to reform is essential to facilitate long-term planning and decision making well in advance of, or even to prevent, the next crisis. To this end, the Commission reiterates its 2021 renewal advice that water ministers come together at periodic intervals, at least annually, to oversee development of a renewed NWI, and to receive, consider and act upon advice that comes out of periodic reviews of the renewed NWI.

**Figure 1.1 – Proposed governance structure for a renewed NWI**



Source: Adapted from (PC 2021b, pp. 59–66)

## Rolling jurisdictional implementation plans

The Commission suggests that each jurisdiction commits to preparing publicly available three-year rolling action plans specifying how they aim to achieve the outcomes set out in the renewed NWI.

The renewed NWI should ensure that the objectives can be translated into action plans that are suitable for the circumstances of each jurisdiction by:

- clearly linking desired outcomes to the objectives for the renewed NWI
- being drafted and communicated in a clear and transparent manner that builds community understanding of, and confidence in, its objectives and intended outcomes
- including a transparent performance reporting framework focused on public accountability for progress towards the achievement of its objectives and outcomes.

## Periodic and independent assessment of progress and effectiveness reviews

The adequacy of, and progress against, action plans should be independently assessed on at least a three-yearly basis, and the assessment published. The assessment should cover whether actions are leading to agreed outcomes and objectives. The Commission currently has the equivalent function.

Consistent with current arrangements, the organisation undertaking the assessment could also make recommendations on how to improve the renewed NWI. And in line with good practice, a comprehensive review of the renewed NWI should be commissioned every 10 years.

The responsible organisation needs to be demonstrably independent of government and the water sector. It should also have both the capacity and capability to undertake public inquiries, including a clear mandate (more on this below), the ability to request and compel information and documents, legislative backing to produce public assessment reports so parties to the renewed NWI continue to be accountable, an ability to self-commission assessment work (including beginning and end date, with legislative safeguards to require regular reporting) and be adequately staffed.

## Ongoing collective oversight of the renewed NWI and its implementation

An entity needs to be assigned responsibility for the oversight of the renewed NWI and its implementation. Many participants in this inquiry were in favour of re-establishing the NWC to perform this function (ACCC, sub. 11; ASSC, sub. 25; ATSE, sub. 5; AWA, sub. 43; DEG, sub. 47; EA, sub. 34; ECNT, sub. 54; HiPCo, sub. 1; IA, sub. 9; Melissa Ball, sub. 13).

The National Water Commission (NWC) provided independent, evidence-based advice to the Federal government thereby supporting it in setting a well-informed national direction and position on water. This advice and a clear national position have been missing since the NWC was abolished and has meant that water is not being considered adequately in relation to government actions and discussions regarding responses to climate change. (AWA, sub. 43, p. 2)

Some participants noted their opposition to the creation of 'any new bodies that do not address clear gaps in function, particularly without first assessing the effectiveness of current bodies' (Alastair Watson, sub. 17; NFF, sub. 32).

Under the Australian Constitution, the Commonwealth has no jurisdiction over water within states. As the NWI is an interjurisdictional agreement, the Commonwealth therefore has little direct ability to hold states to account. As such, the entity given responsibility for this oversight function should be authorised by, and representative of, the parties to the renewed NWI. While this could be a new Commonwealth statutory agency, its establishment and clear mandate would need to be recognised and supported by all parties to the renewed NWI.

In 2021 the Commission recommended that water ministers oversee the development and evolution of a renewed NWI and that ongoing day-to-day oversight should be performed by the National Water Reform Committee (NWRC: a committee of senior officials from the Australian Government and each state and territory government) on behalf of ministers, with the ability to elevate issues requiring ministerial leadership.

Reflecting the value and need for collective oversight, the Commission has in its current advice reiterated this 2021 renewal advice regarding the role of the NWRC. The Commission received criticism of the NWRC by the AWA (sub. 43, p. 3), whose submission noted that NWI governance is too heavily reliant on 'state water ministers and the National Water Reform Committee', and that the NWRC lacks transparency. The Commission has reiterated and strengthened its advice regarding the transparency of the NWRC. However, regular ministerial involvement is still crucial to reprioritising water reform and providing an imprimatur to the NWRC to progress that work.

The Commission has not assessed the overall merits or possible functions of an NWC. Hence in addressing only the specific context of a renewed NWI implementation oversight function, this renewal advice does not address wider questions or propositions related to an NWC.

## **Formalise First Nations' representation directly into the governance structure for a renewed NWI**

In 2021, the Commission stated that much more needs to be done to include Aboriginal and Torres Strait Islander people's interests in water in jurisdictional planning and the management of water.

The Commission's renewal advice included supporting the establishment of the Committee for Aboriginal and Torres Strait Islander Water Interests (CAWI) to, amongst other things: develop a new NWI objective and element; report directly to water ministers; and ensure that parties to the NWI engage with First Nations people to achieve meaningful water outcomes with respect to cultural and economic outcomes.

The Commission understands that CAWI is closely involved in negotiations to renew the NWI including regular discussions with the Australian and jurisdictional water ministers and the NWRC. CAWI has published an Insights Paper (CAWI 2023b) outlining its ambition for First Nations water interests. It continues to build its reputation, profile and visibility as a strategic, influential and representative First Nations voice on water issues (CAWI 2023a).

The Commission reiterates its renewal advice from 2021 and supports CAWI's continuing participation in the negotiations to develop the renewed NWI (including the monitoring, evaluation and reporting framework for First Nations' outcomes) and as part of the ongoing national water reform governance architecture. The role of CAWI in the monitoring, evaluation and reporting is addressed in the renewal advice for chapter 2.

## **Role for Commonwealth leadership**

The Australian Government is playing a leading role in driving the negotiation of a renewed NWI, in line with its 2022 election commitment. Despite limited jurisdiction over water matters, the Australian Government must play a strong leadership role for implementing a renewed NWI by providing active support for the institutions discussed above (in figure 1.1), being clear on the matters of national policy interest that it is seeking to include in a renewed NWI, coordinating knowledge and best practice (see below) and working with jurisdictions to improve their planning and capabilities.

Submissions highlighted that national policy leadership about priorities is a critical element of water reform that is currently absent (AWA, sub. 43; David Shearman, sub. 10; Sydney Water, sub. 41). National goal-setting with clear and agreed policy priorities will support all jurisdictions to improve their water management activities. As Sydney Water stated:

We believe that greater national leadership via the NWI, and Ministerial commitment to a NWI that has a greater focus on climate change action will make NSW's water planning, review and auditing functions more timely, better resourced and more effective. (Sydney Water, sub. 41, p. 15)

The Commission in 2021 also considered that there is an opportunity for the Australian Government to use its investment resources to encourage uptake of best practice water management approaches, and timely implementation of a renewed NWI. Such an approach could be implemented by appropriately conditioning

the provision of Australian Government water-related infrastructure and program investments, for example, as is done for shared infrastructure investments under the National Water Grid Fund.<sup>4</sup>

### 1.3 Greater knowledge sharing and coordination of best practice

The Commission noted in 2021 that a further benefit of having a strong and empowered entity to oversee the renewed NWI would be an enhanced capacity for the parties to coordinate and jointly work on issues of collective interest. The NWRC has a number of subcommittees and working groups comprised of experts from across the jurisdictions, currently working on a renewed NWI, that could be given a mandate to coordinate knowledge sharing.

As is apparent from the Commission's assessment, there are many areas of water management that could benefit from better coordination, to improve efficiency, reduce duplication and share the benefits of learning amongst jurisdictions.

- **Knowledge and capacity building.** The Commission heard from several inquiry participants and jurisdictions that there is a lack of a coordinated national strategic plan for water research. This undermines jurisdictions' water management efforts due to a lack of a clear evidence base for decision making. There are also issues around the dissemination of water information to users (ACCC, sub. 11; ATSE, sub. 5; MDBA, sub. 36; NFF, sub. 32). These issues are discussed further in chapter 10.
- **Environmental water management.** The Commission has found that there would be value in a clear national framework for reporting on outcomes of environmental water management, as well as better coordinated efforts to audit the performance of environmental water managers to deliver those outcomes (Sydney Water, sub. 41). These issues are discussed further in chapter 7.
- **Compliance and monitoring.** Greater information sharing could support compliance efforts between jurisdictions to reduce unauthorised water take (NSWIC, sub. 16). The delays in introducing monitoring and measuring of water extraction could have been avoided had jurisdictions prioritised transparent reporting and consistent implementation (AWA, sub. 43, p 16). These issues are discussed further in chapter 8.
- **Water quality management, testing, data collection and standards.** including review of the National Water Quality Management Strategy could be enhanced through greater national coordination (NFF, sub. 32; NHMRC, sub. 6; Sydney Water, sub. 41). These issues are discussed further in chapter 9.

As the Commission stated in 2021 (PC 2021b, p. 215), in renewing the NWI, jurisdictions should recommit to a principle of effective coordination of knowledge building activities. The NWRC could play a greater role in coordinating research efforts across jurisdictions. The NWRC and its subcommittees should work with existing agencies that currently undertake or could undertake some of the functions mentioned here, such as the CSIRO, the Inspector General of Water Compliance, the National Measurement Institute, and potentially the announced, but not yet established national Environmental Protection Agency.

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<sup>4</sup> NWI compliance remains part of the eligibility criteria for funding under the National Water Grid Investment Policy Framework. However, as highlighted in 2020 by the Institute for Water Futures (sub. 30, p. 16), there is inadequate information publicly available to independently confirm NWI compliance for many Australian Government-funded projects.

## 1.4 Renewal advice

NWI renewal advice in chapters 3, 4 and 5 of the Commission's National Water Reform 2021 inquiry report remains relevant. The Commission extends some of that advice below.

### NWI renewal advice 4.1: governance arrangements for a renewed NWI

UPDATED IN 2024

A strengthened governance architecture that transparently reflects the presence of national water policy leadership and ensures confidence in reform effort, needs to be included in a renewed NWI agreement.

To that end, the Productivity Commission advises that:

- water ministers should convene periodically to oversee development of a renewed National Water Initiative, and to receive, consider and act upon advice that comes out of any periodic review of the new NWI agreement
- the new NWI agreement should clearly link desired outcomes to its objectives and limit prescriptive actions, instead setting out principles for best practice, and fit-for-purpose policy approaches to achieving outcomes
- each jurisdiction should commit to preparing publicly available three-year rolling ~~work programs~~ **action plans** setting out how they aim to achieve the outcomes set out in the renewed agreement
- there continue to be three-yearly assessment of the adequacy of these ~~work programs~~ **action plans**, with public reporting on jurisdictional progress against them, **their adequacy in implementing the outcomes of the NWI agreement**, and the effectiveness of the NWI agreement, as per the functions the Commission currently performs under the *Water Act 2007* (Cth)
- a requirement for a comprehensive review of national water policy every 10 years should be written into the NWI agreement
- the National Water Reform Committee should provide transparent ongoing collective oversight of the NWI agreement, initiating policy advice and guidance, if need arises, and commission the 10 yearly reviews of the NWI agreement
- **the National Water Reform Committee should commission joint projects in each action plan cycle on areas of mutual interest, to share learnings on best practice water management, enhance efficiencies and reduce duplication of effort.**



## 2. First Nations' water interests

This chapter considers progress since 2021 in achieving the *National Water Initiative* (NWI) objectives and outcomes relating to First Nations people's water interests. However before beginning that assessment, a reflection on the changed context for reform is necessary.

### 2.1 Introduction

#### The context for water reform has changed

As the overview to this report makes clear, the NWI has limited focus on the water interests of First Nations Australians. This means that a backwards looking assessment, required under this inquiry's terms of reference and included in this chapter, has limitations. Much has changed since the NWI was agreed in 2004. The need for reform and renewal of the NWI was clear to the Productivity Commission in 2021, and it remains clear in 2024.

There is now greater recognition by Australian governments that First Nations people have been dispossessed of their lands and waters. This has limited the opportunities for First Nations people to determine when, where and how they use water and has significant implications for their economic, emotional, cultural and spiritual wellbeing (PC 2023a, p. 154). As recognised by the Victorian government:

Australia's First Nations peoples have been treated as bystanders in the management, allocation, and ownership of water and water landscapes. (Victorian DELWP 2022b, p. 13)

Australia has endorsed the *United Nations Declaration on the Rights of Indigenous People* (UNDRIP) that states that Indigenous people have the right to own, use and develop waters they traditionally owned. The 2020 *National Agreement on Closing the Gap* (box 2.1) includes the outcome that Aboriginal and Torres Strait Islander people maintain distinctive customs, cultural, spiritual, physical and economic relationship with their land and waters. The Closing the Gap agreement, including governments' commitments to priority reforms and explicit water-related targets, further highlight the stark shortcomings of the original NWI, particularly the lack of recognition of First Nations people's water interests and rights.

First Nations people have deep knowledge about how to manage water and improve river health, from thousands of years of information about caring for rivers, waterways and wetlands (PC 2023a, p. 154).

The rivers are the veins of Country, carrying water to sustain all parts of our sacred landscape. The wetlands are the kidneys, filtering the water as it passes through the land. First Nations Peoples have rights and a moral obligation to care for water under their law and customs. These obligations connect across communities and language groups, extending to downstream communities, throughout catchments and over connected aquifer and groundwater systems. (MLDRIN, NBAN and NAILSMA 2018, p. 3)

First Nations people have made it clear that they aspire to much greater access to, and control over, water resources. Those aspirations have been clearly articulated and supported in submissions to the Commission's current and 2021 NWI implementation inquiries.

In 2024 there is clearer recognition by governments, industry and community groups that more needs to be done to achieve the water interests of First Nations people, and that national agreements like the NWI – despite its limitations – can and should be used to guide the achievement of those outcomes:

The NWI has implemented a uniform water management system with an open market structure, thus providing a transparent route for involving our First Nations people in water governance and ownership. This can be achieved through collaborative planning processes, decision making procedures, or utilizing the available markets to secure water rights for their specific purposes, recognizing that entitlement and usage conditions remain the same regardless of who owns water and what it is for. (NIC sub 51, p. 3)

The Commission's advice in 2021 regarding a renewed NWI – which is reiterated and strengthened in this inquiry at the end of the chapter – will, if implemented, elevate the water interests of First Nations people into the overarching goal of a renewed NWI. It will centre First Nations people in water management decision-making to realise their aspirations for water ownership in line with their ongoing cultural responsibility for rivers and groundwater systems.

### **Box 2.1 – The National Agreement on Closing the Gap and the United Nations Declaration on the Rights of Indigenous Peoples**

In 2020, all governments, along with the Coalition of Aboriginal and Torres Strait Islander Peak organisations, signed the National Agreement on Closing the Gap (the Agreement). The central pillars of the Agreement are four Priority Reforms.

- Priority Reform 1 – Formal partnerships and shared decision making.
- Priority Reform 2 – Building the Aboriginal and Torres Strait Islander community controlled sector.
- Priority Reform 3 – Transforming government organisations so they work better for Aboriginal and Torres Strait Islander People.
- Priority Reform 4 – Improving and sharing access to data and information to enable Aboriginal and Torres Strait Islander communities to make informed decisions.

The Agreement includes targets and indicators that support the cultural wellbeing of Aboriginal and Torres Strait Islander People in several areas, including land and waters. One outcome sought is that 'Aboriginal and Torres Strait Islander People maintain a distinctive cultural, spiritual, physical and economic relationship with their land and waters'. A new target is being designed to:

... measure progress towards securing Aboriginal and Torres Strait Islander interests in water bodies inland from the coastal zone under state and territory water rights regimes. This will include data development to identify a nationally consistent measure for inland waters encompassing, for example, water licences, water rights and water allocation plans (DAWE 2022, p. iii)

A separate target will also be developed for service provision for communities (chapter 9).

In addition, in 2009, Australia endorsed the United Nations Declaration on the Rights of Indigenous Peoples (the Declaration). Articles 25 and 26 state that Indigenous peoples have rights to waters that

### **Box 2.1 – The National Agreement on Closing the Gap and the United Nations Declaration on the Rights of Indigenous Peoples**

they have traditionally owned, including the right to own, use and develop those resources. The Declaration makes specific mention of Free, Prior and Informed Consent (FPIC) as a prerequisite for any activity that affects their ancestral lands, territories and natural resources (UN 2007).

The process of implementing the Declaration revolves around three key elements:

- understanding the local context
- understanding First Peoples' legal and customary rights
- identifying and respecting First Peoples' decision-making.

Source: (Australian Governments and the Coalition of Peaks 2020, pp. 34 and 36); (UN 2007); (Wensing et al. 2023, p. Appendix C, 3).

## **The Commission's assessment of actions under the NWI**

Under the NWI, jurisdictions agreed that water access entitlements and planning frameworks (element 1) would recognise the needs of First Nations peoples<sup>5</sup> in relation to water access and management. Specifically, NWI parties committed to the following 'First Nations Access' actions:

- including First Nations representation in water planning, wherever possible (NWI paragraph 52 i))
- incorporating First Nations social, spiritual and customary objectives – and strategies for achieving them – in water plans, wherever they can be developed (NWI paragraph 52 ii))
- providing for the possible existence of native title rights to water in water planning processes (NWI paragraph 53)
- accounting for water allocated to native title holders for traditional cultural purposes (NWI paragraph 54).

The Commission has assessed the progress of jurisdictions against the NWI actions as they are under the current agreement. However, the Commission reiterates the limitations of the 2004 NWI actions and a 2021–2024 progress assessment and highlights the need for NWI renewal, aligned with governments' commitments under the National Agreement on Closing the Gap.

A summary of the Commission's assessment framework (appendix B) and progress against it is in table 2.1. The notes to the table indicate which assessment items relate to which NWI actions.

<sup>5</sup> The 2004 NWI refers to Aboriginal and Torres Strait Islander Peoples.

**Table 2.1 – Assessment summary: First Nations people’s water access and representation under the NWI**

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
<b>First Nations representation in water planning processes<sup>c</sup></b>	Largely achieved 	Partially achieved 	All states and territories engaged with First Nations people in water planning processes between 2021 and 2024 though some states, for example those in the Murray – Darling Basin (NSW, ACT, VIC, SA, QLD), engaged more than those outside the Basin (NT, WA, TAS).
<b>Water plans will incorporate First Nations social, spiritual and customary objectives and strategies for achieving these objectives<sup>d</sup>.</b>	Partially achieved 	Partially achieved 	Some states and territories made progress toward identifying First Nations objectives and strategies to improve them in water planning, environmental watering and natural resource management, though achievement of tangible outcomes between 2021 and 2024 appears limited.
<b>Water planning processes will provide for the possible existence of native title rights to water in the catchment or aquifer area<sup>e</sup>.</b>	Partially achieved 	Partially achieved 	Most states and territories’ planning processes provide for the existence of native title rights. More needs to be done to provide First Nations’ access to water.
<b>Water allocated to native title holders for traditional cultural purposes will be accounted for<sup>f</sup></b>	Partially achieved 	Partially achieved 	Most states and territories have processes to account for native title rights in water planning. Some jurisdictions are creating alternative policies to recognise native title rights in water.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraph 52 (i) **d.** NWI paragraph 52 (ii) **e.** NWI paragraph 53 **f.** NWI paragraph 54.

## 2.2 First Nations people’s representation in water planning

### Summary of actions under the NWI

Under paragraph 52 (i) of the NWI, parties committed to provide for First Nations access to water resources, in accordance with relevant Commonwealth, state and territory legislation, through planning processes that ensure ‘inclusion of Indigenous representation in water planning, wherever possible’.

## Previous findings (2021)

In 2021, the Commission found that all jurisdictions had made progress in establishing processes to increase representation of First Nations people in water planning activities, but further improvements should be made to ensure engagement is effective and meaningful, and that monitoring and reporting against objectives is undertaken (PC 2021a, p. 42).

The report also highlighted that in 2020 all governments signed the National Agreement on Closing the Gap (the Agreement) (box 2.1). Of particular relevance to water reform is that the Agreement includes the outcome that 'Aboriginal and Torres Strait Islander People maintain a distinctive cultural, spiritual, physical and economic relationship with their land and waters', and that a target for inland waters be developed (PC 2021b, p. 124).

## Interim assessment (2024)

Although many jurisdictions have committed to various action plans and strategies to include First Nations people in decision-making processes, little has changed since 2021. Meaningful involvement by First Nations in water planning is limited and monitoring and reporting against engagement outcomes and objectives is still lacking.

Engagement by governments is often not meaningful and has been criticised as a box ticking exercise, characterised by short notice and insufficient provision of necessary preparatory materials to allow for considered involvement by First Nations people in water planning and management decision-making processes. The Dharriwa Elders Group (DEG) noted that:

Many staff in government water agencies do not have the long-term water policy or ecological knowledge DEG has, nor the power needed to effect change yet they have been tasked with progressing the governments' priorities to engage Aboriginal communities.

Some are respectful senior public servants who are very knowledgeable, however they are not routinely building into their processes the time and resources to allow DEG and other ACCOs<sup>6</sup> to respond or contribute to policy. Too often, the attitude is that if we can't meet their timeframes and paradigms our solutions are not considered. (sub. 47, p. 3)

First Nations people report providing suggested policy improvements to various governing bodies, which are not incorporated into water planning and management frameworks with little explanation as to why (CLC sub 44).

Four years after all Australian governments signed up to the National Agreement on Closing the Gap (box 2.1), which included a commitment to 'a fundamentally new way of developing and implementing policies and programs that impact on the lives of Aboriginal and Torres Strait Islander people' (Agreement Article 4), jurisdictions continue to fall well short of this commitment in water planning policy. As the Commission's 2024 review of progress on Closing the Gap highlighted, 'the commitment to shared decision-making is rarely achieved in practice' (PC 2024, p. 4). Chapter 11 of this report discusses community partnerships and engagements more broadly, including further examples of First Nations' dissatisfaction with water planning engagement processes.

In Australia, emerging river management frameworks including rivers as legal entities and place based approaches, have provided for more local voices to be represented in water planning and management (box 2.2).

<sup>6</sup> Aboriginal Community Controlled Organisations

## **Box 2.2 Emerging river management frameworks**

### **Rivers as legal entities**

Since 2017, rivers around the world have become legal persons, legal subjects, living persons, and/or living entities. This transfiguration from legal object to legal subject renders the river visible, and legible, to the law in ways it has not been before, and often brings with it new legal rights and powers.

To date, the impact on water law has been relatively minor: new river persons have never yet received any legal rights to the water flowing between their banks... (O'Donnell, 2023 in (Casado Perez and Larson 2024, p. 113)).

For example, in 2017 the Victorian state government passed legislation which recognised the Birrarung/Yarra River as 'one living and integrated entity'. The Birrarung has not received any legal rights of its own, and without legal rights, the legal status as a living entity is largely symbolic.

In 2016, the Martuwarra Fitzroy River Council, a body comprised of the Traditional Owners and native title holders of the Martuwarra Fitzroy River catchment recognised the river as a living being, with a right to life. State law in Western Australia has not (yet) incorporated this status of the river as a living being, which leaves the rights of the river currently unenforceable outside the jurisdiction of Traditional Owners.

Source: (O'Donnell 2021, p. 650) ; and Poelina, Taylor, and Perdrisat, 2019 in (O'Donnell 2021, p. 655).

### **Place based management approaches**

Place based water management approaches are aligned with the National Agreement on Closing the Gap priority reforms, in particular, Reform 1 – formal partnerships and shared decision making and Priority Reform 3 – transforming government.

'Place' as a frame of reference can provide a focus point for government, as interventions planned, funded and coordinated centrally by government are often not enough to deal with complex challenges. It can help to:

- support civic engagement by enabling communities to apply local skills and strengths, and have a sense of ownership over decisions
- think holistically and systematically by helping to understand how systems impact on people's lives and bring together players from different portfolios and sectors to develop solutions.
- support preventative, cost-effective responses by building resilient communities and targeting investment based on what works locally.

Source: (Victorian Government 2020, p. 2).

As noted in the introduction, the Commission considers that the context for water reform has changed. The bar for what is considered meaningful engagement with First Nations people is higher than it was in 2021, and considerably higher than in 2004. As such, while the Commission assessed the overall this outcome as 'largely achieved' in 2021, it considers that this outcome is now only partially achieved. This is a result of the lack of meaningful progress in this area, combined with the considerably higher standards expected by communities and that governments have committed themselves to meeting.

Below are some examples of jurisdictions' progress, maintenance or backsliding under this policy area. Where a jurisdiction is not shown, it is because the Commission has not identified any significant change since 2021.

## Murray-Darling Basin

Basin state governments (New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory) are responsible for developing water resource plans that identify the objectives of First Nations people for managing water resources, and the outcomes that are desired by First Nations people. In doing so, 'regard must be had to': Indigenous values: the social, spiritual and cultural values of First Nations people that relate to the relevant water resources of the WRP area; Indigenous uses: the social, spiritual and cultural uses of the relevant water resources of the WRP area by First Nations people; the views of First Nations people with respect to cultural flows; and the views of relevant Indigenous organisations on a range of other matters, including native title rights and Indigenous Land Use Agreements (PC 2023a, p. 156).

All Basin governments (state governments and the Australian Government) have made some efforts over the past three years to improve engagement and collaboration with First Nations people to plan and manage water resources, including environmental watering activities, in the Basin (PC 2023a, pp. 161–162).

Recent amendments to the *Water Act 2007* (Cth) (Water Act) and Basin Plan in 2023 expand:

- the objects of the Water Act (s. 3) to include ensuring 'that the use and management of Basin water resources takes into account spiritual, cultural, environmental, social and economic matters relevant to Indigenous people, including in relation to their knowledge, values, uses, traditions and customs'.
- the purpose of the Basin Plan (as defined in s. 20 of the Water Act) to provide for 'the use and management of Basin water resources that takes into account spiritual, cultural, environmental, social and economic matters relevant to Indigenous people' (Commonwealth of Australia 2023).

Prior to the recent Basin Plan amendments, there were no 'formal' requirements for Basin state governments to meaningfully and consistently address First Nation's objectives when developing water resource plans. The Basin Plan requirement to 'have regard to' these matters can be (and has been, in some states) interpreted in a minimal way, and there is limited accountability (PC 2023a, p. 161).

## Outside the Murray-Darling Basin

Beyond the Basin, jurisdictions have slowly been increasing their efforts to enhance First Nations' representation in water planning since 2021, with Victoria the most progressed in implementation.

## New South Wales

The New South Wales Department of Climate Change, Energy, Environment and Water is currently implementing its *NSW Water Strategy: Towards 2050* which will identify ways of empowering First Nations people to contribute to water management and planning decisions. The department has established Regional Aboriginal Water Committees to inform implementation of the Strategy (NSW Government 2024c).

## Victoria

Building on their Aboriginal Water Program (2016–20), Victoria continues to implement *Water is Life: Traditional Owner Access to Water Roadmap*, which provides a framework to create and maintain a balance

between Traditional Owner self-determination in water access and management, and the rights and entitlements of a range of stakeholders.

As of June 2022, the Victorian Government has appointed six First Nations Victorians to water corporations' boards (including in a Chairing role), and seven First Nations Victorians to catchment management authority boards. In addition, the Victorian Government has created the Aboriginal Water Program, including \$18 million for Traditional Owner water projects (2020–2024) and funding for 17 Aboriginal Water Officers to support Aboriginal values and uses of water across Victoria (Victorian DELWP 2022b, p. 9).

## Queensland

Queensland has allocated \$11.7 million over 3 years for a *First Nations Water Strategy* to support partnerships with First Nations people in water management (Qld DRDMW 2023b). The Strategy follows the passing of the Path to Treaty Act 2023 and will be developed through engagement with communities over three years.

## Western Australia

The Western Australian Department of Water and Environmental Regulation (WA DWER) engages with the relevant First Nations communities during the development of water allocation plans or significant policies. WA DWER has an Aboriginal Water and Environmental Advisory Group to 'ensure that Aboriginal knowledge, values and needs are considered and appropriately addressed across the Department strategies, policies, programs and planning for the management and regulation of the State's environment and water resources' (WA Government 2024).

## South Australia

The South Australian Government has committed to strengthening partnerships with First Nations people through several initiatives, including the: *First Nations Voice Act 2023* (SA) and the signing of a 'Statement of Commitment' to collaborate with First Nations people to manage, protect and restore landscapes, by each of the 9 regional landscape boards (SA LSAB 2021).

The SA Aboriginal Partnerships Program also aims to increase the participation of First Nations people, groups and organisations in all levels of landscape management, including environmental watering and wetlands management (SA MRLB 2024). In addition, Aboriginal Waterways Assessments are undertaken along the Murray River to measure the cultural health of the River and its wetlands and inform water management activities (SA DEW 2021a).

## Tasmania

Tasmania is seeking to increase understanding of Tasmanian First Nations people's interests and connections to freshwater systems to progress positive and meaningful improvements in outcomes for Tasmanian First Nations people. Tasmania is planning to refine its water policies in relation to cultural and economic water allocations (Tasmanian DNRE 2022b).

## Northern Territory



The *Territory Water Plan (2023)* outlines priority actions aimed at improving First Nations water participation, including – ‘enhancing Aboriginal participation in water decisions’. In the Plan, the Northern Territory Government commits to establishing an Aboriginal Water Advisory Council that will play a key role in identifying opportunities for First Nations people to participate in local water management and decision making, through water advisory committees and Aboriginal reference groups (NT OWS 2023b, pp. 17 and 31).

However, the Commission heard concerns regarding the NT government’s lack of consultation and engagement with First Nations people in water planning (chapter 11). As outlined by the Northern Land Council in their submission, water planning processes over the last few years have not included adequate consultation with First Nations:

The lack of jurisdictional commitment of the [Northern Territory Government] in relation to Aboriginal access and inclusion is illustrated by the Georgina Wiso WAP [Water Allocation Plan], declared in November 2023, the largest water allocation plan in the NT. The WAP was developed in the absence of a stakeholder Water Advisory Committee, and without consultation with local Aboriginal people. As a result, there has been no opportunity for Aboriginal people to have meaningful involvement in decision making or to have their needs and rights represented, including consideration of cultural values. (sub 38, p. 3-4)

## Australian Capital Territory



The Australian Capital Territory (ACT) is entirely within the Murray-Darling Basin. The ACT *Water Strategy 2014–44 Striking the Balance Implementation Plan Two (2019–23)* outlines 18 actions and supporting milestones, including to: ensure First Nations’ representation on governance bodies; establish an Upper Murrumbidgee Aboriginal Nations Group; empower local communities to share their knowledge of land and water; and investigate arrangements for cultural flows (ACT EPSDD 2019, pp. 16–17). In addition, the ACT Government has developed an Aboriginal Water Assessment tool to enable Traditional Custodians to use a cultural lens to assess the health of Country and set priorities for water and natural resource management (ACT EPSDD 2023).

## 2.3 Incorporating Indigenous objectives and strategies for achieving them in water plans

### Summary of actions under the NWI

Under the NWI, jurisdictions committed to incorporating in water plans First Nations social, spiritual and customary objectives – and strategies for achieving them – wherever they can be developed (NWI paragraph 52 (ii)).

### Previous findings (2021)

The Commission’s 2021 inquiry found that whilst jurisdictions had amended water plans and planning processes to more explicitly identify and help achieve First Nations people’s cultural objectives, there was still considerable scope for jurisdictions to better protect cultural sites and accommodate First Nations people’s water interests by ensuring that:

- cultural objectives are explicitly identified and provided for in water plans
- progress in achieving cultural objectives is regularly monitored and reported publicly (PC 2021b, p. 43).

## Interim assessment (2024)

The Commission's 2021 finding remains valid. Jurisdictions are still planning, or are in the early stages of implementing, initiatives that better identify, let alone protect, cultural outcomes in water plans. Noticeable changes are yet to be realised.

Progress in achieving cultural objectives is not regularly monitored and reported publicly, and there is scope for governments to improve co-ordination and alignment with their other commitments under the NWI and the priority reforms under the National Agreement on Closing the Gap. Some jurisdictions, such as the Northern Territory, Western Australia and Tasmania are falling behind in planning or implementing initiatives that identify and achieve First Nations people's cultural objectives.

Greater potential exists to partner with local governments, natural resource management groups such as catchment management groups, Aboriginal Rangers programs and other stakeholders to plan and implement actions to achieve cultural and environmental outcomes, as the Murray-Darling Basin Authority articulated:

There is an opportunity for the NWI to consider how water management arrangements can work with other policies and programs (for example Ranger programs, community development and employment programs) to support First Nations communities to achieve their goals in a community-centred way. (sub 36, p. 4)

The Arid Lands Environment Centre also supported catchment based water management approaches:

The promotion of integrated environmental water, waterway and catchment management in NWR 2020 creates a strong case for strengthening provisions in the NWR 2024 (sub. 53, p. 17).

Investment by NWI Parties is also needed in order to:

- empower First Nations organisations to be partners in water planning decision-making
- plan engagement activities with First Nations people
- develop water specific materials (online, print, webinars, in person) with First Nations people, to support meaningful engagement.

## New South Wales

Since 2021, New South Wales has finalised several Water Sharing Plans which all specify cultural objectives at quite a high level. For example, clause 10(1) of *the Water Sharing Plan for the New South Wales Great Artesian Basin Groundwater Sources 2020* outlines 'the broad Aboriginal cultural objective of this Plan is to maintain the spiritual, social, customary and economic values and uses of groundwater by Aboriginal people' (NSW Government 2020, p. 11).

Priority 2 of the *NSW Water Strategy: Towards 2050* is 'Recognise First Nations/Aboriginal people's rights and values and increase access to and ownership of water for cultural and economic purposes'. Actions include 'Strengthen the role of First Nations/Aboriginal People in water planning and management' and 'Work with First Nations/Aboriginal People to maintain and preserve water-related cultural sites and landscapes' (NSW DPIE 2021b).

## Queensland

In Queensland, from 2018 new or replacement water plans need to explicitly recognise the importance of water resources for First Nations peoples. Cultural outcomes are stated separately instead of being embedded in social, economic or environmental outcomes, and water plans need to include strategies for their achievement, monitoring and reporting (Qld BQ 2018).

All Queensland water plans since 2018 state First Nations cultural outcomes separately from other social environmental and economic outcomes. However, the Barron Water Plan, finalised in 2023 does not appear to specifically identify cultural outcomes nor mechanisms for monitoring and measurement (Queensland Government 2023c).

## Western Australia

No water allocation plans in Western Australia specifically address cultural water outcomes. The cultural water interests of First Nations people are considered in the development of water allocation plans and where possible, water can be reserved for the economic development of First Nations communities (WA Government 2023b).

One plan – the *Gnangara Groundwater Allocation Plan* – has been released since 2021. The Plan has limited information on First Nations or other public benefits and included limited consultation with First Nations (WA DWER 2022).

## South Australia

The revised *Adelaide Plains Allocation Water Plan (2022)* does not specifically identify water needs for First Nations people although it does outline a cultural water consumptive pool for native title holders to take and use water for personal, domestic, cultural, spiritual and non-commercial water needs (SA DEW 2022e).

The Commission understands that the South Australian Government has commenced conversations with First Nations people to gain a better understanding of cultural objectives for the Adelaide Plains prescribed water resource and, in reviewing the Mount Lofty Ranges Water Allocation Plan (SA DEW HFLB 2024).

## Tasmania

In Tasmania, non-statutory Water Management Statements document the current water management arrangements for a catchment. Specification of cultural and environmental outcomes in these Statements appears limited (Tasmanian DNRE 2023b).

In Tasmania, one Water management Plan, the *Great Forester River Catchment Water Management Plan*, has been reviewed since 2020. The Plan sets out some environmental objectives however there are no specification of First Nations peoples' objectives, ownership or cultural flows (Tasmanian DPIPWE 2021).

## Northern Territory

The Commission understands that all water allocation plans in the Northern Territory identify cultural objectives and that the Northern Territory Government is currently establishing an Aboriginal Water Advisory Council to help identify opportunities for First Nations people to participate in water management (NT OWS 2023b, p. 31).

However, as the Commission heard from inquiry participants, concerns remain with the extent to which engagement with First Nations peoples informs water planning and outcomes monitoring, and the low level of ambition in water plans around 'improved understanding of Aboriginal cultural values and other cultural values associated with the water resource'. For example, the Northern Land Council commented that:

NT legislation does not specify a requirement that Aboriginal people must be part of Water Advisory Committees. Enshrining a requirement for Aboriginal people's involvement in water advisory remains a crucial element of a refreshed water reform agenda. (sub. 38, p. 4)

The Central Land Council also outlined that the Northern Territory's Water Allocation Planning Framework:

makes no mention of and does not provide for Aboriginal water interests or cultural values. (sub 44, p.12)

In its submissions, the Arid Lands Environment Centre highlighted frustration with the Northern Territory Government's consultation processes:

There is no attempt for the objectives or its outcomes to do anything to conserve or protect ecological values. They are vague knowledge gathering exercises where the associated outcome is for there to be an 'improved understanding' and that 'the condition of GDEs<sup>7</sup> is known and monitored as far as practicable, and bizarrely around the perception of the public that 'people are confident that key environmental values are ...'. None of these words have any meaning, the Northern Territory Government has not told us what an 'improved understanding' means. They are vague and they obfuscate any responsibility for environmental protection ... This analysis is mirrored for the cultural value objectives. (sub. 53, p. 20)

The Georgina Wiso Water Allocation plan is the only plan established or updated since 2021. The plan specifies environmental and cultural outcomes plus a Strategic Aboriginal Water reserve (NT DEPWS 2023b). However, the Commission heard frustrations with the consultation process for the plan, that was finalised with minimal consultation:

No Water Advisory Committee was created and no consultation occurred: Schedule B(i) makes clear that water plans are to be 'developed in consultation with all relevant stakeholders'. Schedule E also states that 'water planning processes include consultation with stakeholders including those within or downstream of the plan area'. There was no WAC for this plan. No consultation occurred outside of an online 'Have Your Say' submission process ... ALEC understands that there was no attempt to consult indigenous stakeholders. (sub 53, p. 38–39)

## **2.4 Indigenous access to water, including through native title rights to water**

### **Summary of actions under the NWI**

Under the NWI, jurisdictions agreed that water access entitlements and planning frameworks would recognise the needs of First Nations people in relation to water access and management (paragraph 25.ix). Specifically, the NWI parties committed to:

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<sup>7</sup> GDEs – groundwater dependent ecosystems

- take account of the possible existence of native title rights to water in the catchment or aquifer area in water planning processes (paragraph 53)
- account for water allocated to native title holders for traditional cultural purposes (paragraph 54).

Native title, on its own, does not provide access to water in the form of entitlements. Native title determinations typically allow for non-exclusive access to water on native title land for non-commercial use. Native title rights to access water for personal, domestic, social and cultural purposes are commonly recognised in native title determinations. The right to use water for commercial purpose purposes has not, to date, been expressly recognised in native title legislation (PC 2021a, pp. 39–40).

## Previous findings (2021)

In 2021, the Commission found that whilst most jurisdictions had policies to account for native title rights in water planning, some states have created alternative ways for Traditional Owners to access water based on native title rights. For example, native title had in some instances led to Strategic Aboriginal Water Reserves (SAWRs) being created in the Northern Territory, Queensland and Western Australia as these are underpinned by native title determinations in water planning areas. The Commission found that despite this, there are still few examples of the use of native title rights by Traditional Owners to access water, and that jurisdictions need to adapt their policies to better utilise native title legislation (PC 2021a, p. 44).<sup>8</sup>

## Interim assessment (2024)

The Commission's 2024 assessment mirrors that of 2021. There is still generally limited use of native title rights to water and jurisdictions need to take steps to adapt their policies to better utilise native title legislation and give First Nations greater access to water.

That said, some jurisdictions are achieving water access outcomes for First Nations people. For example, the *Yamatji Nation Indigenous land use agreement* has realised water and funding for Traditional Owners in Western Australia through a SAWR. Similarly, water for Traditional Owners and Aboriginal Corporations has been set aside in Victoria in the Mitchell River, Palewarra and Goulburn Murray catchments.

A SAWR is a portion of water that is put aside for First Nations people's future use in water plan areas. It is enabled by state or territory water legislation. Water in the reserves is often allocated based on Indigenous land holdings. Only some forms of tenure are 'eligible' for an Aboriginal water reserve and the definition of 'eligible' land varies between jurisdictions. SAWRs are not a guarantee of secure water access entitlements or licences and legal protection for Indigenous water reserves varies between jurisdictions (Taylor et al. 2022, pp. 3–8).

Accessing water from SAWRS by First Nations can be challenging. An application for a licence to take water will likely need to be accompanied by a business/development plan to document plans for the use of the water and scientific studies to assess the potential impacts of extraction and use. These activities require resources and business and technical knowledge and can be costly and time consuming (examples in Western Australia and the Northern Territory in the assessment below).

In regions where water rights are fully allocated, jurisdictions can provide water entitlements to First Nations communities by purchasing entitlements on the market. The Australian Government's Murray-Darling Basin Aboriginal Water Entitlements Program (AWEP) is an example of an entitlement purchase initiative.

<sup>8</sup> Original wording in 2021 was: 'Jurisdictions should continue to adapt their policies to overcome the limitations of native title legislation in giving Aboriginal and Torres Strait Islander people access to water'.

Efforts to increase ownership have been made, particularly in Victoria. However, First Nations people's ownership of water remains very low. Currently, First Nations people own and control less than 0.2% of water nationally (DCCEEW 2024b). As the NSW Aboriginal Land Council outlined in its submission to the Commission's Murray-Darling Basin Plan Implementation review 2023, in NSW:

Our ownership of water is minuscule and has been going backwards. ... Aboriginal water holdings between 2009 and 2018 indicate a new wave of dispossession. Almost one-fifth of Aboriginal water holdings by volume were lost during this time. (sub. 101, p. 7)

As noted by the Commission in 2021, access to water is not the only barrier that First Nations peoples may face in taking advantage of economic development opportunities. Other factors, such as access to specialist skills and knowledge, experience with water related businesses, and the infrastructure and financial capital needed to make best use of water are just as important. Water access arrangements for First Nations people are likely to produce the greatest community value when they are part of a broader strategy for community development, which may include investment in education, training and business development (PC 2021c, p. 28).

A new target under the *National Agreement on Closing the Gap* is being designed to accelerate progress towards securing First Nations interests in water bodies inland from the coastal zone under state and territory water rights regimes (NIAA 2023). There is a provisional target for Aboriginal and Torres Strait Islander ownership of national water entitlements in inland waters of 3% (NNTC 2020). The Joint Council on Closing the Gap indicated it expects to consider the inland waters target again in 2024 (2023, p. 2). The finalisation of the target provides further impetus for governments to increase First Nations people's ownership of water entitlements.



### Information request 2.1

What are the policy, administrative or other barriers to First Nations peoples being able to access and own water, particularly from Strategic Aboriginal Water Reserves in Queensland, Western Australia and the Northern Territory?

## Australian Government

The *Murray-Darling Basin Aboriginal Water Entitlements Program* (AWEP) aims to support Basin First Nations communities' investment in cultural and economic water entitlements and associated water planning activities.

The AWEP commenced in 2018 with \$40 million to support Basin First Nations to purchase cultural and economic water entitlements. Funding for the AWEP was increased to \$100 million in 2023 (Plibersek and Hanson-Young 2023).

To date, no AWEP money has been spent on water purchases. Some of the reported program implementation challenges include administrative changes and diverse perspectives on how the funding should be allocated to ensure enduring shared benefits for First Nations from the AWEP (DCCEEW 2024b, p. 5).

The next steps in AWEP implementation from January to June 2024 are:

- implement the purchasing framework
- commence the purchasing phase of the program (DCCEEW 2023, p. 8).

## New South Wales

The NSW Government has committed to increasing First Nations' ownership of and access to water for cultural and economic purposes. The *NSW Water Strategy: Towards 2050* identifies First Nations' access and ownership of water for cultural and economic purposes as a priority. Associated actions include developing an Aboriginal water strategy, provision of water ownership and preservation of water-related cultural sites (NSW Government 2022).

The NSW Government is working with six First Nations stakeholder groups to develop a Cultural Watering Plans pilot program, building on the National Cultural Flows Research Project. These plans are intended to improve understanding of how Aboriginal people want to use their cultural water and what barriers there are to accessing water (NSW Government 2024a).

In New South Wales, Aboriginal people can access water for cultural purposes through an Aboriginal Cultural Specific Purpose Access Licence. However at the end of 2022, uptake of this licence was very low, with only seven licences ever issued, and two currently in place (NSW Government 2024a). The Aboriginal Water Program is looking to understand the barriers and challenges experienced by people looking to access water for cultural purposes.

## Victoria

The Victorian Government has:

- returned 2 GL of unallocated water from the Mitchell River in Gippsland to the Gunaikurnai Land and Waters Aboriginal Corporation in early 2021 for cultural and economic development purposes
- returned 2.5 GL of unallocated water in the Palawarra (Fitzroy River) system in southwest Victoria to the Gunditj Mirring Traditional Owner Aboriginal Corporation
- set aside 1.36 GL of additional water savings from the Goulburn Murray Connections project for Traditional Owners in northern Victoria (Victorian DELWP 2022b, pp. 8–9).

The *Water is Life, Traditional Owner Access to Water Roadmap* includes 12 targeted outcomes and associated actions, including that:

- water is returned to Traditional Owner groups across Victoria through the issue of water entitlements for their self-determined use
- access to land will not be a barrier to Traditional Owners applying for or holding water entitlements
- Traditional Owners will be funded to pay any fees and charges associated with their water entitlements unless use is purely commercial
- where Traditional Owners become purely commercial users of water, they will become responsible for an increasing portion of fees and charges over time to full cost recovery
- Traditional Owners can hold and manage water in culturally appropriate ways and have oversight of the implementation of Water is Life (Victorian DELWP 2022b, pp. 10–11).

These initiatives represent progress in providing water access and ownership to First Nations peoples. The Commission would welcome information regarding the actual impact that the return of water to Gunaikurnai Land and Waters Aboriginal Corporation and the Gunditj Mirring Traditional Owner Aboriginal Corporation is having on communities.

## Western Australia

Aboriginal water reserves are being implemented on a local scale through water allocation plans or state-led negotiated settlement outcomes as part of Indigenous land use agreements. Western Australia is applying Aboriginal water reserves in local areas to ensure that they are designed to achieve outcomes for economic development by Traditional Owners. Some examples follow:

The *Derby groundwater allocation plan: draft for public comment 2020* is the first plan in Western Australia that has proposed an Aboriginal water reserve (WA DWER 2020, pp. 24–25).

The recently released *Water allocation planning in the Fitzroy – Policy position paper* suggested an Aboriginal water reserve will be set aside as part of a suite of policies designed to recognise and involve Aboriginal people in water regulation and management (WA DWER 2023c, p. 6).

Western Australia has developed and established the first Aboriginal water reserve in the state through the *Yamatji Nation Indigenous Land Use Agreement (2020)* under the *Native Title Act 1993*:

- The reserve provides up to 25 GL of accessible groundwater per year for the exclusive use, or trade, for economic benefit by the peoples of the Yamatji Nation.
- \$20 million will be provided over ten years to carry out groundwater investigations to develop and manage sustainable access to the Yamatji Nation Aboriginal water reserve.
- Negotiated Indigenous land use agreements between the state government and Native Title holders provide funding to support the protection and restoration of Aboriginal cultural water sites through actions such as fencing, rehabilitation or the capturing and telling of cultural water stories through publications or interpretive signage.
- Yamatji Rangers will undertake activities associated with the management of the Yamatji Conservation Estate and rehabilitation of abandoned mine sites within the agreement area under the management plan.
- The reserve enables the Yamatji Nation to trade water entitlements to third parties without needing to be a water licence holder.
- Yamatji Nation secured a water trade agreement in the first year of implementing the Land Use Agreement (WA DPM&C 2020b, 2020c).

The Yamatji agreement includes a diverse range of benefits. However, the provision of 25 GL of water for ‘use or trade’ appears to be tied to economic and business development outcomes with resource intensive governance arrangements through the Yamatji Southern Regional Corporation (WA DPM&C 2020a).

## Northern Territory

The Georgina Wiso water allocation plan specifies environmental and First Nations cultural outcomes plus a SAWR.

However, the Commission heard concerns about First Nations people being able to access water through reserves. The Aboriginal Water Reserve Policy Framework was introduced by the NT Government in 2017 as a mechanism for Aboriginal economic empowerment, however supporting legislation to enable access to water in reserves has not been finalised (Taylor et al. 2022, p. 10).

In addition, SAWRs in the Northern Territory are only available:

- in areas where the minister has declared a water allocation plan (5% of the Northern Territory)
- where systems are not overallocated

- to Aboriginal people with rights to land under the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) and Exclusive Possession Native Title and only allow for licenses for the purpose of extraction for economic use. Leaving water in the ground for environmental and cultural uses is not supported (CLC, sub. 44, p. 21-22).

As the Environment Centre NT (sub. 54, p. 7) said:

The Northern Territory's Water Allocation Plans (WAP) allocate a small amount of water to the Aboriginal Water Reserve. However, where systems are already over-allocated or the ESY is over-estimated, the Aboriginal Water Reserve is not able to be accessed. As the Ooloo WAP states: 'The Northern [groundwater management zone] is overallocated. As a consequence the Strategic Aboriginal Water Reserve is notional and cannot be provisioned'.

## 2.5 Renewal advice

### Incorporate First Nations' objectives into the objectives of a renewed NWI

The Commission advised in 2021 that a renewed NWI should include both an objective and a new element dedicated to First Nations people's access to water and the involvement and participation of First Nations people in water management.

This inquiry supports that advice. The Commission extends some of that advice below:

#### NWI renewal advice 3.1: A modernised goal

UPDATED IN 2024

The overarching goal of the National Water Initiative remains sound but should be modernised through reference to adaptation to climate change and recognition of the importance of water in the lives of Aboriginal and Torres Strait Islander people. Suggested wording follows:

The Parties commit to this renewed National Water Initiative in recognition of the continuing national imperative to increase the productivity and efficiency of Australia's water use, to service the changing needs of rural, urban and Aboriginal and Torres Strait Islander communities and to ensure the health of river and groundwater systems and their surrounding landscapes whilst adapting to a changing climate.

In committing to this agreement, the parties recognise Aboriginal and Torres Strait Islander people's reverence and ongoing cultural responsibility for rivers and groundwater systems and their desire to participate in all significant processes and decisions informed by this Initiative.

### NWI renewal advice 3.2: Modernised overarching objectives

UPDATED IN 2024

The National Water Initiative has a strong focus on water resource management. A renewed agreement should give greater emphasis to water service provision and this should be reflected in the overarching objective. The objective should also include reference to cultural outcomes to recognise the aspirations of Aboriginal and Torres Strait Islander people, **where cultural outcomes may be inclusive of economic development outcomes**. Suggested wording follows.

The overarching objectives of the Parties in implementing this agreement are to:

- optimise economic, environmental, social and Aboriginal and Torres Strait Islander people's cultural outcomes through best practice management of Australia's water resources. In the process, this will provide certainty for investment, water users, the environment and Aboriginal and Torres Strait Islander people
- enable entitlement holders, communities and the environment to contend with climate variability and adapt to a changing climate
- ensure effective, efficient and equitable provision of water services that meet the needs of customers and communities in a changing climate.

## Committee on Aboriginal and Torres Strait Islander Water Interests

### Establishment of the committee

In 2021, the Commission supported the establishment of the Committee on Aboriginal and Torres Strait Islander Water Interests (CAWI) to develop the new NWI element and outlined that in developing the new element, the committee should:

- ensure alignment between commitments under the *National Agreement on Closing the Gap* and new NWI content
- have a terms of reference that allows for an advisory role to the Coalition of Peaks
- report directly to water ministers.

The CAWI's current terms of reference outline that the role of the Committee will be to 'identify, inform and advise the National Water Reform Committee, the Australian Government, and the Water and Murray-Darling Basin Ministers Council' on:

- national Aboriginal and Torres Strait Islander water policy principles that will support the national Aboriginal and Torres Strait Islander water policy framework
- priority national water reform directions (DCCEEW 2020, p. 1).

### CAWI's activity since 2021

CAWI continues to build its visibility as an influential First Nations voice on water issues. CAWI meets regularly and provides publicly available communiqués after each meeting outlining key meeting outcomes, providing a level of transparency regarding their activities. The Australian Government Department of Climate Change, Energy, Environment and Water have been funded to provide CAWI's secretariat functions, meeting and travel costs to December 2026, underpinning support for CAWI's operations (DCCEEW 2024a).

CAWI is closely involved in negotiations to renew the NWI, including drafting of a renewed objective, and has regular discussions with the Australian and jurisdictional water ministers and the National Water Reform Committee (DCCEEW 2024a). Some jurisdictions have commented that drafting of First Nations content for the new agreement has significantly progressed because of CAWI's clear focus and commitment over the past 3 years.

In 2023, CAWI produced an Insights Paper to support conversations and a shared understanding about First Nations peoples' water interests and values. The Insights Paper outlines First Nations people's water values, principles, and actions that the CAWI encourages governments to consider when planning for, engaging in, and developing national water reform initiatives (CAWI 2023b). Actions outlined in the Insights Paper were supported by some inquiry participants:

The Working Group considers that the recently published Insights Paper by the Committee on Aboriginal and Torres Strait Islander Water Interests should be the starting point for the design of a nationally consistent set of principles for First Nations participation in water policy. (IFNWG sub. 48, p. 7)

The ILSC strongly supports the work of CAWI as it deeply aligns with the ILSC's own mandate and strategic agenda. The ILSC and Committee are platforms for gathering and amplifying the aspirations of First Nations peoples regarding water reforms. (ILSC sub. 52, p. 4)

... the refresh of the NWI is an opportunity to position water policy and management in a broader context of outcomes for the community and for Country, consistent with the holistic and connected view of First Nations people.

It is critical that this work be led by First Nations people and the MDBA supports the important role of the Committee on Aboriginal and Torres Strait Islander Water Interests (CAWI) in leading the conversation on reform ... (MDBA sub. 36, p. 4)

## **CAWI's role in creating objectives and governance for a renewed NWI**

This inquiry has supported the Commission's advice regarding CAWI's role in a new NWI development and governance architecture. The Commission reiterates and extends that advice below, noting that CAWI should have an additional role in leading the development of monitoring, evaluation and reporting for the First Nations' outcomes from a new agreement.

### **Monitoring and evaluation of outcomes**

Performance monitoring and public reporting arrangements to support transparency and accountability for progress against outcomes are part of the *National Agreement on Closing the Gap*. There is currently no comprehensive, national reporting on whether and how governments engage with First Nations people on NWI planning and implementation, or how insights shared by First Nations people are considered in water planning and management decisions.

This limits any assessment of the scope, effectiveness and outcome of governments' efforts on engagement with First Nations people on NWI implementation. Without public reporting, government accountability for engagement in water planning is weak.

Better monitoring and reporting can:

- assist in holding governments to account regarding engaging and sharing decision-making with Aboriginal and Torres Strait Islander People in water planning and management, access and ownership
- highlight gaps in engagement processes and opportunities for collaboration and streamlining

- allow for learnings to be shared and processes to be refined and improved (PC 2023a, p. 169).

In addition, evaluation of the effectiveness, appropriateness and outcomes of engagement with First Nations people on water plans and achievement of First Nations people's desired outcomes is limited.

The Commission's 2020 *Indigenous evaluation strategy* provides a framework for government agencies to utilise in evaluating Indigenous specific and mainstream policies and programs affecting First Nations people. The Strategy's supporting *Guide to evaluation under the Indigenous evaluation strategy* puts First Nations people at its centre and provides advice on how to conduct evaluations of policies and programs affecting First Nations people including:

- building evaluation into policy and program design
- evaluation planning, design and conduct
- reporting and using evaluation findings
- building capability and an evaluation culture (PC 2020, p. 4).

Any reporting and evaluation framework for First Nations engagement in water planning processes should be developed with First Nations people to ensure that the framework is fit for purpose, outlines what is going to be monitored and how, and has clearly defined mechanisms and timeframes.

### NWI renewal advice 9.1: A new co-designed element

UPDATED IN 2024

The renewed National Water Initiative (NWI) should include both an objective and a new element dedicated to Aboriginal and Torres Strait Islander people's access to water and the involvement and participation of Aboriginal and Torres Strait Islander people in water management. The Commission ~~supports the~~ **advises that the** Committee on Aboriginal and Torres Strait Islander Water Interests **should continue to lead** ~~to~~ **development of** the new NWI element.

In developing the new element, the Committee should:

- ensure alignment between commitments under the National Agreement on Closing the Gap and new NWI content
- ~~provide advice to the Coalition of Peaks, particularly regarding the design, implementation and monitoring arrangements for National Agreement on Closing the Gap inland waters target.~~
- **continue to engage with First Nations groups**
- report directly to water ministers.

**The NWRC should also support the Committee on Aboriginal and Torres Strait Islander Water Interests to lead the development of a monitoring, evaluation and reporting framework for this new element.**

### Renewal advice for First Nations' outcomes in a new NWI

The Commission also continues to support the development of the new NWI content by the CAWI.

In 2021, the Commission also advised that in relation to action 52 (i) of the NWI Agreement, the CAWI should consider content that ensures that: cultural objectives are explicitly identified and provided for in water plans and progress is regularly monitored and publicly reported; and environmental water holders seek to deliver cultural outcomes when consistent with their ecological obligations, and work with natural resource

managers and Traditional Owners in on-ground management programs to achieve cultural objectives. The Commission reiterates that advice.

In relation to improving access for economic development, this inquiry has again reaffirmed the Commission's renewal advice. The Commission extends that advice below:

### **NWI renewal advice 9.3: Improving access for economic development**

UPDATED IN 2024

In developing a new National Water Initiative element, the Committee on Aboriginal and Torres Strait Islander Water Interests could consider content that ensures that, where agreement is reached between State and Territory Governments and Traditional Owners that consumptive access to water is an effective way to support the economic development of Aboriginal and Torres Strait Islander communities, access is provided by:

- sourcing water within existing water entitlement frameworks, such as by purchasing water on the market or as part of transparent processes for assigning unallocated water
- ensuring adequate supporting arrangements (such as training and business development) and information provision (e.g. about the costs of accessing, holding and trading water) are in place to enable Aboriginal and Torres Strait Islander communities to access water, and maximise the value of the resource for their needs and uses
- actively involving Aboriginal and Torres Strait Islander communities in program design.

The provision of water by governments to Aboriginal and Torres Strait Islander communities would be supported by:

- specifying and implementing governance arrangements for such water developed in partnership with First Nations groups
- regularly monitoring and publicly reporting on the inland waters target under the National Agreement on Closing the Gap.

Where governments invest in new water infrastructure, particularly in undeveloped areas, governments should consider whether reserving a share of any new water rights for Traditional Owners would be consistent with plans for future community development and assist in meeting targets set under the National Agreement on Closing the Gap.



## 3. Water security in a changing climate

### Key points

- \* **Climate change poses a major threat to the access, use and management of water across Australia.**
  - Large areas of Australia are projected to become hotter, drier and more uncertain. The prevalence of extreme weather events – flooding, bushfires, drought and heat events – is also likely to increase.
  - Drying and changing climates are weakening the reliability of rainfall-dependent water sources, such as dams and groundwater, which supply the majority of Australia’s water.
  - Climate change intersects with a range of water management challenges, such as planning for the role of water in developing liveable cities and towns and ensuring the long-term sustainability of water resources and environments to support community, economic and environmental objectives.
- \* **All jurisdictions develop planning documents that aim to address water security. However, there is no common definition of water security.**
  - Jurisdictions should develop a shared understanding of water security that includes setting out what outcomes are to be achieved and reflect this in an updated *National Water Initiative* (NWI).
- \* **Adhering to the principles underpinning the NWI is fundamental to addressing the pressures and uncertainty associated with climate change.**
  - For example, statutory, perpetual tradable water entitlements and water plans can help ensure water is allocated to its highest value use, while risk assignment frameworks ensure clarity and responsibility for changes in water availability.
- \* **The NWI can be further enhanced to better support water security planning in the face of a changing climate. All forms of extreme weather events including storms, flooding and bushfires, in addition to drought, should be considered in water planning.**
- \* **The transition to net zero carbon emissions could directly impact on Australia’s water demands, but little attention is being paid to this element of climate change mitigation. Planning and modelling are urgently needed to understand the potential impact on water demand and water systems.**
- \* **Australian governments need to consider a diversified portfolio of water security options to ensure a least-cost response in the face of uncertainty due to climate change. Options are not limited to building infrastructure to augment supply, but also include demand management, conservation and water trade.**

This chapter discusses aspects of the impact of climate change on Australia's water security, and how it can be addressed by governments through the renewal of the *National Water Initiative* (NWI).

- Section 3.1 considers definitional issues associated with water security.
- Section 3.2 discusses the key water security risks in Australia, focusing on climate change.
- Section 3.3 consider the role of a renewed NWI in addressing water security risks.
- Section 3.4 discusses modelling climate change and incorporating projections into water plans.
- Section 3.5 reviews how addressing climate change through a transition to net zero is likely to impact water demand.
- Section 3.6 discusses planning for cost effective water security, focusing on the need for all policy options to be on the table.
- Section 3.7 outlines how the Productivity Commission's renewal advice can assist jurisdictions in navigating these challenges.

### 3.1 What is water security?

There is clear evidence that Australia's perennial water security challenges, such as the extremes of drought and flood, are likely to become both more intense, and more frequent under climate change (Steffen et al. 2018). Governments, utilities and other organisations conduct water security planning in response to the challenges, in various locations of Australia. However, there is no common definition or framework of water security in place across Australia (Taylor 2019) nor clear national policy direction as to what are the priority outcomes from water security.

Definitions of water security are multifaceted, typically describing the availability, accessibility, and quality of water resources (and their regulatory frameworks and policies) – the condition of which underpins or effects broad societal outcomes such as human well-being, economic development, and ecosystem sustainability.

Definitions are also often aspirational, describing a state in which water needs and demands are satisfied to meet those outcomes. United Nations (UN) Water defines water security as:

...the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability (2013, p. 1).

Further, the water service and safe access to drinking water objectives of water security are often defined in – and managed under – separate frameworks than those relating to water resource management or water-related ecosystems. The United Nations' Sustainable Development Goal 6 'ensure availability and sustainable management of water and sanitation for all' aims to address some of these linkages to these other aspects of water security in some of its targets and indicators (UN 2015, p. 20).

Illustrating the multifaceted nature of challenges and desired outcomes, participants in this inquiry raised a range of different priorities and issues when discussing water security. For example:

- Australian Academy of Technological Sciences and Engineering (ATSE) highlighted water scarcity, flooding hazards, pollution of waterways, and cybersecurity threats as elements relevant to water security in Australia (sub. 5, p. 3)
- the Local Government Association of Queensland raised equity concerns, advising that water 'should be shared equitably through institutional arrangements that facilitate efficient service delivery and resource use' (sub. 12, p. 2)

- Engineers Australia recommended a national policy for water security that meets the needs for potable, agricultural, industrial, mining, fisheries, environmental, recreational, tourism and cultural uses (sub. 34, p. 4).

On water security for First Nations communities, the Central Land Council said:

Inadequate consideration of remote drinking water security in the context of NWI implementation has arguably allowed the continuation of a racialised governance regime in the NT governing urban/regional water ... to the detriment of Indigenous people and communities. Drinking water security has been subordinated to other water concerns ... [D]rinking water security, and hence the very viability of remote Indigenous communities, is under threat in the NT from government neglect, renewed calls for water-intensive development in northern Australia, and climate change. (sub. 44, attachment A, pp. 3–11)

The Water Services Association of Australia (WSAA) recommended the inclusion of water security actions within a renewed NWI, and that governments:

[d]evelop a national water security framework that incorporates:

- A consistent framework and metrics to measure water security in Australia
- A guiding principle that all options must be on the table for water security
- Guidelines on a national approach to engaging with local communities, using facts and evidence, for sustainable and supported local solutions
- A requirement to consistently and transparently publish information and data on all options as part of community engagement (sub. 15, p. 9)

## Developing a shared understanding of water security

A shared understanding of water security in Australia, which recognises the risks to water security, and the costs and trade-offs involved in achieving often competing priority outcomes would assist parties in developing and implementing a renewed NWI (draft recommendation 3.1).

Aspirational definitions assist in developing a shared understanding of common goals and priorities, but they do not necessarily help planners and decision-makers to practically identify and manage risks or consider societal preferences (OECD 2013, p. 12). That is, aspirational definitions do not always assist in managing scarce resources to optimise outcomes: how costs and trade-offs are to be managed so that available water supply is matched with demand.

The Commission seeks advice from participants on the priority outcomes for water security in Australia (information request 3.1).



### Draft recommendation 3.1

#### Incorporate a shared understanding of water security priorities in the renewed NWI

Parties should develop a shared understanding or common definition of water security that includes setting out what outcomes are to be achieved, recognising the risks to water security will differ between jurisdictions and within jurisdictions – which will be a matter for each party to transparently assess and communicate.

**Information request 3.1**

What nationally agreed priority outcomes for water security should form part of a renewed NWI? How should these outcomes be treated when considering trade-offs between competing priorities and the management of risk when addressing water security concerns?

## 3.2 Climate change poses a major risk to Australia's water security

There are multiple stressors on Australia's water systems, particularly climate change, strong population growth and changing demand (boxes 3.1 and 3.2). These pressures intersect, such as in the role of water to ensure liveable, resilient cities in the face of climate change.

### A hotter, drier and more uncertain climate

A changing and uncertain climate threatens Australia's long-term water security. There has been a decline in the long-term rainfall trend in most of southern Australia since 1970 (figure 1 in Overview), and is particularly evident in the south-west of Australia (BOM 2022b). There have also been declines in rainfall in the cooler months, which is when peak streamflow occurs in most catchments in these regions. Overall declines in rainfall has resulted in more than 60% of hydrologic stations around Australia showing a declining trend in streamflow (BOM 2022b).

The prevalence of extreme weather events – short, and intense, but variable rainfall events, bushfires, drought and heat events – has also increased. In 2021 the Commission's review referred to the then recent experience of bushfires and drought; since then, different parts of Australia have experienced further record-breaking extreme events (box 3.1).

#### Box 3.1 – Recent extreme weather events

##### Storm and high rainfall

A series of storms across south-eastern Queensland and eastern New South Wales in February 2022 resulted in these regions receiving rainfall more than five times the February average with, for example, flood levels in Lismore peaking two metres higher than previous records (Gillett et al. 2023, p. 17). The wetter conditions provided a reset for many of the Murray-Darling Basin's water-dependent ecosystems. However, high flows in some areas also negatively impacted communities and the environment, including because of water quality issues. These events were the costliest in Australia's history, totalling an estimated \$3.35 billion in insured losses across Queensland and New South Wales, damaging infrastructure, disrupting food and fuel supplies, and transport systems (Gillett et al. 2023, p. 17). And thunderstorms impacted parts of South Australia and Northern Territory in late 2022 resulting in damaging winds gusts over 100km/h over a small region, known as a "microburst" event (Gillett et al. 2023, p. 29).

### **Box 3.1 – Recent extreme weather events**

#### **Heat**

Western Australia experienced a series of heatwaves with the equal hottest day in Australia of 50.7°C recorded in Onslow on 13 January 2022 and Perth recording a record six days in row above 40°C in January 2022 (Gillett et al. 2023, p. 16).

The trends driven by climate change are forecast to accelerate further as the climate continues to warm (BOM 2022b). High confidence climate projections suggest that Australia will experience continued increases in temperature and more heat extremes (CSIRO 2024). Hotter and drier conditions are also likely to increase the risk of bushfires, placing further pressure on our drinking water supplies.

Climate uncertainty is driving increasing concern about the security of climate-dependent water sources, like dams and groundwater, which still account for 82% of Australia's water usage in major urban regions in 2022-23 (BOM 2024a, p. 16). There has been a marked slowdown in large dam construction since the 1990s, due to a lack of suitable, cost-effective sites (Doolan 2016; Sheldon and Hamilton nd) and in recognition of the lack of reliable inflows and suitable landscapes. Drying conditions, lack of reliable inflows and high rates of evaporative losses, will see water security provided by existing dams in some areas fall under climate change. Drying conditions similarly effect the long-term reliability of groundwater, whose use tends to be countercyclical to rainfall and hence with higher extraction during dry periods (Walker et al. 2021, p. 5). For example:

- across southern Australia, recharge-precipitation elasticities are in the range of 1.5 to 4, whereby a 10% decrease in rainfall results in a 15% to 40% decrease in aquifer recharge (Walker et al. 2021, p. 27)
- in Perth, where 45% of water supply is sourced from groundwater in 2019-20 (BOM 2021, p. 50) the Water Corporation (2009) is forecasting supply from surface water sources to decline by 72% and groundwater sources to decline by 79% by 2060 compared to 2008.

The uncertain climate outlook highlights the need for a diversification of our water sources. As noted by the WSAA:

We need to provide water supplies in an increasingly uncertain climatic outlook. Our dams are a vital source of water now and for the future. However, there is a need to diversify our sources of water to incorporate non-rainfall dependent sources of supply including further desalination, recycling for industry and purified recycled water for drinking. (sub. 15, p. 2)

### **Box 3.2 – Growing and changing demand for water**

#### **Australia's population is growing, concentrating in capital cities and some regional towns**

In the year ending June 2023, Australia's population increased by 624,100 people, or 2.4% (ABS 2023b). Australia's population is becoming increasingly concentrated in capital cities (67% in 2022 compared to 40% in 1911) (ABS 2022; CfP 2023). Projections from the Centre for Population (2023) show that Australia's population is expected to reach 29.8 million by 2030-31 with the population of the combined capital cities expected to increase by 23% to 21.4 million in 2033-34, driven mainly by net overseas migration.

### **Box 3.2 – Growing and changing demand for water**

This will put pressure on Australia's urban water supplies. For example, Greater Sydney's drinking water system can provide a long-term supply of 515 to 540 GL/year. Projections suggest that under a 'middle-range' population growth scenario, supply will need to increase by an additional 250 GL/year – or around 50% – by 2060 (NSW DPE 2022b, p. 58). Demand for bulk water in south-east Queensland is projected to increase from 350 GL to 500 GL between 2022 and 2050 (Seqwater 2023, p. 17).

Strong population growth is also occurring in some regional areas. Growth in regional areas creates pressure on traditional water supply and town water infrastructure. As noted by the Central NSW Joint Organisation:

As more and more people move to regional areas and new industries are established, we will need secure water supplies to ensure economic and social growth. While some inroads have been made in the NSW context there continues to be a lack of focus on urban water security in most strategies. The challenge remains to ensure the true social and economic value of town water is recognised. Until this and the primacy of options for water for critical human need are addressed the NWI will struggle to meet its objectives of optimising social and economic water outcomes for communities. (sub. 20, pp. 6–7)

#### **And so is demand for urban amenity, including in response to climate change**

Urban expansion increases focus on liveable cities and urban amenity, including due to the heat impacts of climate change. Urban green spaces, which contribute to community health and wellbeing by 'reducing temperatures, providing recreational opportunities, enhancing neighbourhood liveability and adding aesthetic appeal to cities' can support liveability in cities and towns (Huerta 2023). For example in its 30 Year Plan for Greater Adelaide (2017, p. 150), the South Australian Government has committed to increasing urban tree canopy by 20% in metropolitan Adelaide by 2045. A shift towards more urban greening will increase the demand for water. Preliminary estimates suggests that achieving a 20% increase in urban tree canopy in Adelaide could potentially require an additional 10% to 30% of Adelaide's current water demand (SA DEW 2021b, p. 6).

## **3.3 Using the renewed NWI to manage the risks to water security from a changing climate**

The current NWI does not explicitly raise water security as an outcome of national water policy, nor does it specify what actions the parties to the agreement should take to promote water security. But implicitly, the fundamental principles, outcomes and actions of the NWI encourage decision making that leads to best practice management of water resources in the face of increasing scarcity and competing demands.

The renewal of the NWI presents an opportunity to build on these principles to address emerging water security risks. With respect to climate change in particular, that means dealing with more extreme events, and general climate uncertainty.

## **A renewed NWI that builds on the fundamentals is important to set the framework ...**

In 2021 the Commission emphasised that climate change heightened the need for governments to embed and adopt planning reforms for adaptive management approaches in water resource systems. In 2024 the Commission is reiterating this advice.

A changing climate has the potential to impact all uses and values of water in a system – consumptive, environmental, cultural and social. This is the case in fully allocated systems, but climate change is also accelerating pressure in less developed systems. As climate change exacerbates these pressures – and trade-offs – effective water planning processes, as per the current NWI, remain fundamental to ensuring water management is: productive, efficient, reflects community-wide perspectives on priorities and risks, and sustains the underlying environmental system for current as well as future users.

In 2021 the Commission’s renewal advice (6.2) made clear that there needed to be a broad range of processes to better account for climate change and extreme events in water planning (PC 2021b, p. 87). The advice included that:

- water plans include priorities, actions and rules that cover drought conditions, as well as mechanisms for dealing with more extreme scenarios, including clear triggers, roles and responsibilities for actions and a hierarchy of uses
- a process for rebalancing between environmental and consumptive uses as a result of climate change is developed
- water quality issues are better incorporated into water planning, particularly in drought scenarios
- water planning processes in relatively undeveloped and developing water systems take climate change into account in ways that manage the risk of less water
- there are clear provisions for allocating risk, with water access entitlement holders continuing to bear the risks to the consumptive pool arising from climate change and periodic natural events (as reflected in paragraph 48 of the NWI)
- climate modelling is undertaken at the system scale, based on the best available data and subject to on-going reviews and refinements.

Reductions in water availability and reliability will continue to place pressure on environmental objectives and on the character of waterways and wetlands. In 2024, the Commission has also reiterated and strengthened advice about specifying and monitoring environmental outcomes from environmental water. An ongoing commitment to adaptive management through effective monitoring, evaluation and reporting of outcomes is also key (renewal advice 8.12, overview). Further information is in PC 2021, pp. 119–120.

In 2024, participants in this inquiry, and the Commission, have again emphasised the importance of recognising First Nations cultural knowledge, integrating it with water management, and ensuring adequate protection for Indigenous Cultural and Intellectual Property. First Nations people hold a vast depth of knowledge about managing and caring for rivers, waterways, ecosystems, Country, communities and economies in an integrated, sustainable way. Integrating First Nations and other knowledge systems is key to addressing the challenges of climate change in water management.

## **And needs wider attention on a broader range of climate change impacts to focus on all extreme events, as well as drought**

The principles contained in the NWI and the Commission's renewal advice are sufficiently broad to encapsulate a wide range of risks to water security, including from drought, flooding and extreme events, and hence can form the basis of water planning and other water management processes to deal with risks to water security.

However, beyond the principles, the NWI has traditionally helped governments focus more on managing the risks associated with drought, than other extreme climate events. The NWI module Considering Climate Change and Extreme Events in Water Planning and Management (2017) brought a stronger focus on drought, and noted that flooding was dealt with by emergency management agencies, and not by water policy departments.

A focus on drought in the NWI, and in a renewed NWI, is well founded (the NWI was signed in 2004 at the height of the Millenium Drought) and should remain. However, under climate change, a wider range of extreme weather events, including flooding, are likely to become more frequent and more damaging (section 3.2).

Specific attention is warranted in a renewed NWI to highlight and address risks to water security from a broader range of direct and indirect climate change impacts, as supported by participants in this inquiry. The CSIRO suggests that:

Incorporating climate change impacts into water resource planning is essential to build resilience and adaptability in the face of evolving environmental conditions. Improving understanding of the impacts of climate change on water availability, quality, and distribution could help decision-makers to develop sustainable and adaptive strategies to ensure a reliable and equitable supply of water for current and future generations. Failure to account for these changes may lead to increased water scarcity, compromised ecosystems, and heightened social and economic vulnerabilities. (sub. 42, p. 2)

ATSE also agrees:

the NWI must specifically account for a changing climate which remains the single most significant threat to Australian productivity and quality of life. Delivering climate-resilient infrastructure is a necessary part of the solution as the impacts of climate change often negatively impact water supply and quality. Impacts on communities can be direct – such as water security issues of drought, floods and environmental degradation and loss of natural capital. Or they can be indirect – in terms of food security, public health and in responses to heat waves and wildfires. (sub. 5, p. 3)

Engineers Australia recommends the development of State-wide Resilience Planning that caters for:

national crisis and disaster scenario planning through climate change risk analysis, including natural climate variations. (sub. 34, p. 4)



### Draft recommendation 3.2

#### Consider all extreme climate events in water planning

Over the past decade, climate change has been associated with an increase in extreme weather events, which disrupt and damage water supply and infrastructure. Where the NWI Climate Change and Extreme Events Module focused on the risks from drought, greater focus should also be given to other events, such as flooding, storm, and bushfires.

In implementing the Commission's renewal advice 6.2 regarding water planning for climate change (including that historical climate outcomes may not be indicative of future outcomes), governments should adopt the principles set out in the National Water Reform report 2021, focusing on this broader range of events.

## 3.4 Climate projections to inform water planning

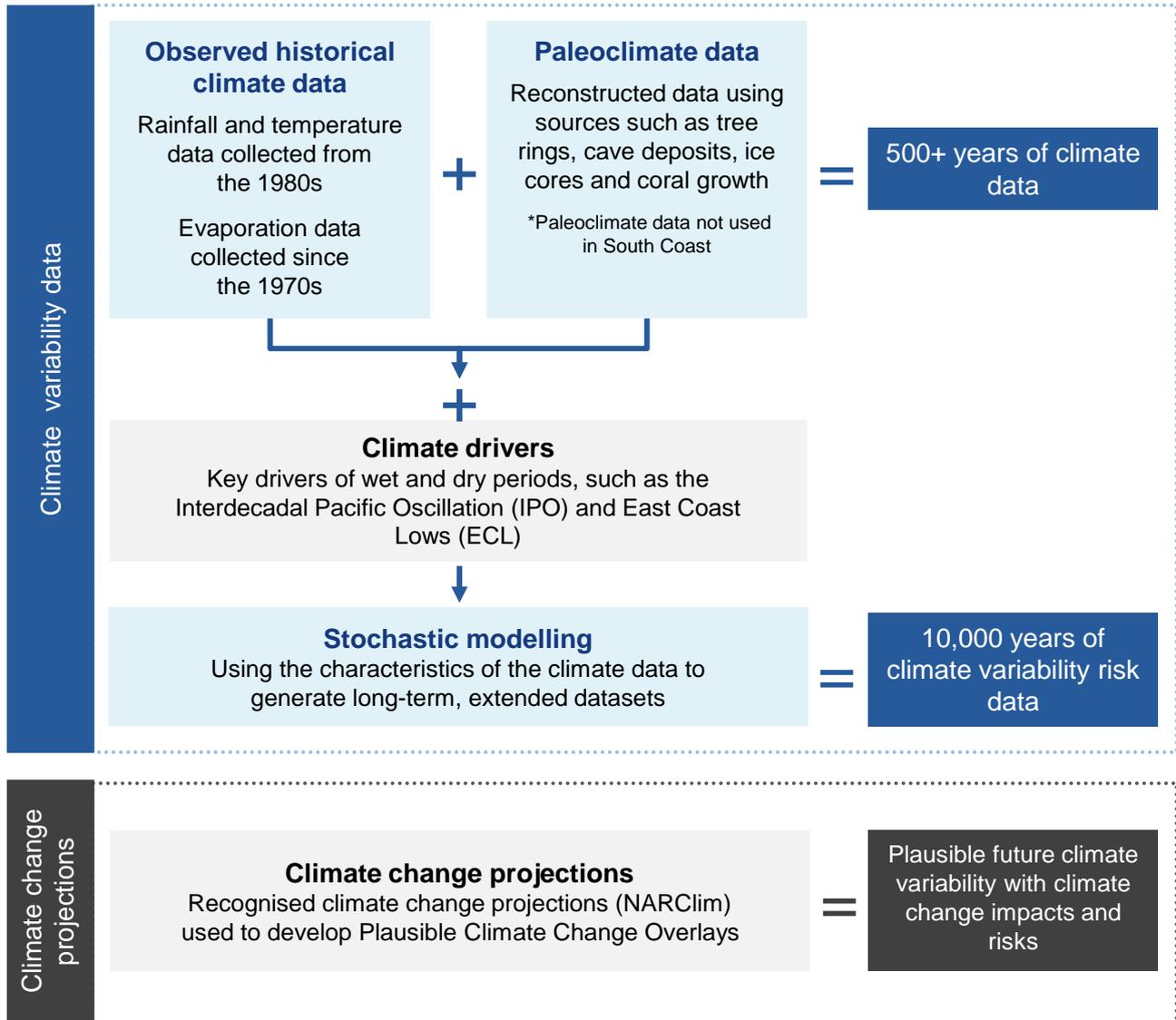
Climate change brings greater uncertainty, and this requires jurisdictions to undertake rigorous modelling and planning. The CSIRO (sub. 42, p. 2) highlights that devising adaption strategies to mitigate the impacts of climate change requires access to reliable sources of information. ATSE (sub. 5, p. 5) agree that without adequate modelling of Australia's water resources and their interconnections then adaptive management is not possible.

There are a range of climate projections available, but they differ in their geographical scope, spatial resolution, choice of emissions futures, and underlying modelling approaches, resulting in inconsistent climate information across jurisdictions (DCCEE 2023a, p. 7).

Consistent with the Commission's renewal advice 6.2 in 2021, some jurisdictions are adopting more advanced climate projection techniques in their water strategies. Recently, the New South Wales Government developed eight new regional water strategies using a four-step stochastic modelling approach (figure 3.1) based on hundreds of years of climate data to inform a set of plausible climate futures. This climate modelling is yet to be used in the development of individual water plans (chapter 4).

The Queensland Government released *Queensland's water plans in a variable and changing climate* in December 2023, outlining the use of down-scaled global climate models to produce regional climate models (Qld DRDMW 2023e). The regional models are then used as inputs for the hydrological models that inform individual water plans.

**Figure 3.1 – New climate data and modelling approach used in NSW regional water strategies**



Source: NSW DPE (2024b).

The push towards downscaled climate models has increased as a result of the Royal Commission into National Natural Disaster Arrangements (2020, pp. 125–126) which recommended that Australian, state and territory governments produce downscaled climate projections. This led to the creation of the National Partnership for Climate Projections, to deliver coherent and improved climate projection information to a wide range of users. Jurisdictions are now working towards finer spatial resolution (ranging from 1 km to 5 km) projections through a range of projects (DCCEEW 2023a, p. 11), including:

- the New South Wales Government, in partnership with the Australian Capital Territory and South Australian governments, is delivering downscaled regional climate projections (4km) for south-east Australia through the New South Wales and Australian Regional Climate Modelling Project (NARClim2.0)
- the Western Australian Government, in partnership with NARClim2.0 and the Murdoch University, is delivering downscaled climate projection (4 km) for the south-west of WA through the Climate Science Initiative

- the Australian Government, through the Australian Climate Service, will produce a national set of downscaled climate projections for the period 1979 to 2100 over the next 2–3 years, primarily focused on climate hazards including tropical cyclones, heatwaves, fire weather, and heavy rainfall that leads to flooding (DCCEEW 2023a, p. 11).

The push towards a coordinated approach to downscaled climate modelling creates an opportunity for the development of water sharing plans and water strategies that better account for the risk associated with future climate change.

### 3.5 The water demands of transition to net zero

Climate change will present a water management challenge on more than just the supply side. Water will also play a central role in supporting the transition to net zero emissions by 2050. This transition, agreed under the *Paris Agreement*, is essential to limit global temperature increase to no more than 1.5 °C.

The Australian Government has committed in legislation that Australia will reach net zero emissions by 2050 (*Climate Change (Net Zero Future) Act 2023* (Cth)). All state and territory governments have committed to at least this objective as well, with several having more ambitious targets.<sup>9</sup> Meeting these commitments will require changes across the economy: in our electricity and energy generation, transportation, agricultural, resources and land use.

The transition is already underway, and governments are rolling out interim plans for 2025–2035 milestones (ACT Government 2019b; NSW DPIE 2020; Qld DESI 2023; Tasmanian DSG 2023; Victorian DEECA 2023a). The transition will impact water usage across Australia, changing planning assumptions through redirected and increased demand. But notably absent from these plans to date is recognition of the demands and impacts on Australia's water management – water is a footnote, if mentioned at all.

The UN Expert Group on Water and Climate–Change presented preliminary figures to COP28 in November 2023, indicating that by 2030 clean energy mitigation measures alone are estimated to require 900 Teralitres of fresh water globally (UN Water Expert Group on Water and Climate Change 2023). For comparison, global freshwater consumptive demand by agriculture, industry and domestic use in 2014 was 4000 Teralitres (Global International Geosphere-Biosphere Programme 2015). This highlights the need to incorporate water planning holistically into climate change mitigation now.

#### Water for low-emission energy generation

A range of zero-emission technologies for energy generation exist with more becoming viable as technology improves. All solutions require water, to varying degrees (and relatively more or less compared to existing energy generation technologies). Some examples include:

- hydrogen, which requires water as feedstock for generation, and for cooling (Arup 2022)
- biofuels, which require water as a feedstock for generation. For example, most bio-ethanol is produced from corn or sugarcane which requires water to grow and for the industrial fermentation processes (Wu and Xu 2018).

Solar and wind technologies do not have significant water demand in operation (as opposed to manufacturing), but owing to their intermittent nature, increasing their use means the energy grid need

<sup>9</sup> Victoria and the ACT have committed to net zero by 2045, and Tasmania by 2030 (ACT Government 2019b; Tasmanian DSG 2023; Victorian DEECA 2023a).

adjustment to include more storage and dispatchable energy (AEMO 2024). Many of these technologies also demand water. Examples include:

- pumped hydro – pumping water uphill to reservoirs while excess (relatively cheap) electricity is available and releasing water downhill to generate hydroelectric power when demand requires. While this process does not consume water per se, it sequesters large volumes of water that become unavailable for other uses, and losses may occur through evaporation
- batteries require minerals whose production processes use water at the mining and ore extraction stages. In particular, lithium is in demand due to its high energy density and light weight. Australia is currently the world's largest lithium producer (US Geological Survey 2024). Lithium mining is water intensive and lithium mines in Australia are mostly located in remote areas where water is scarce.

### **Water saving and emissions reduction**

Not all measures that reduce emissions from the energy sector will cost water. Some will reduce both water demand and emissions, given alternative options for the energy system.

One example is reducing the use of coal for domestic power generation. The Australian Government has committed to deliver 82% of the electricity in the National Electricity Market from renewables by 2030 (DCCEEW 2022) and has endorsed (Bowen 2023) the joint statement by the 28<sup>th</sup> United Nations Climate Change Conference that calls for:

(a) Tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030;

(b) Accelerating efforts towards the phase-down of unabated coal power;

...

(d) Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science (UN CoP28 2023).

These commitments are likely to result in a reduction in coal mining and use for domestic power generation in Australia, and with those a reduction in water demand from those activities. Domestic coal use (both mining and electricity generation from coal fired power plants) is estimated to use 214 GL of water annually, around 2.4% of the total consumptive pool in New South Wales and Queensland (Overton 2020).

### **Water for enabling natural ecosystems to mitigate climate change**

Another option for climate change mitigation is carbon capture and sequestration: removing carbon dioxide from the atmosphere and ensuring it is not re-released. Many strategies to capture carbon also demand water. For example:

- reforestation, to capture carbon in trees via photosynthesis, requires 80-130 litres of water for every 1 kg of carbon dioxide absorbed (Zhang et al. 2023)
- bioenergy with carbon capture and storage – a process that involves extracting energy from biomass and capturing the carbon emitted. While this has the potential for significant emission reductions, it is water intensive due to the need to grow and process biomass, needing around 575 litres of water per 1 kg of carbon dioxide captured (Rosa et al. 2021).

**Draft recommendation 3.3**  
**Water for net zero**

All Australian governments should collectively model and plan for changed water demand as a result of necessary climate change mitigation measures. All solutions will have water demands that need to be estimated and planned for.

Findings should be integrated into both net zero strategies and sustainable water strategies to ensure sufficient water is available to enable Australia's transition to net zero emissions.

## 3.6 Planning to provide cost effective urban water services

Climate change strengthens the case for including a substantially expanded set of objectives relating to water service provision in a renewed NWI (renewal advice 3.3 and 3.5). This section outlines some of the key areas fundamental to ensuring water security to be reinforced, updated or embedded in a renewed NWI. The assessment of progress against the current NWI urban water objectives is in chapter 9.

### Urban water planning principles

Rigorous, transparent planning will be the cornerstone for achieving cost effective urban water security. The Business Council for Sustainable Development Australia (sub. 7, p. 7), as well as the Commission's 2017 and 2020 National Water Reform Inquiries (PC 2017, p. 187, 2021c, p. 168), called for the National Urban Water Planning Principles to be updated and embedded in a renewed NWI (box 3.3).

#### **Box 3.3 – National Urban Water Planning Principles**

1. Deliver urban water supplies in accordance with agreed levels of service
2. Base urban water planning on the best information available at the time and invest in acquiring information on an ongoing basis to continually improve the knowledge base
3. Adopt a partnership approach so that stakeholders are able to make an informed contribution to urban water planning, including consideration of the appropriate supply/demand balance
4. Manage water in the urban context on a whole-of-water-cycle basis
5. Consider the full portfolio of water supply and demand options
6. Develop and manage urban water supplies within sustainable limits
7. Use pricing and markets, where efficient and feasible, to help achieve planned urban water supply/demand balance
8. Periodically review urban water plans

Source: DCCEEW (2019).

State and territory governments have developed water strategies to articulate the anticipated challenges to water management over the coming years, including ensuring urban water security, as well as articulating government policy responses (NSW DPIE 2021b; Victorian Government 2016; Queensland Government 2023b; SA Government 2010; Tasmanian DNRE 2021; NT OWS 2023b; ACT EPSDD 2019). Some jurisdictions have also developed region-level water strategies and/or strategies for major metropolitan areas (examples include NSW DPE 2022b; SA DPTI 2017; Victorian DELWP 2022; box 3.4). The level of detail varies from plan to plan, with some only identifying high-level principles and others drawing from and identifying more detailed programs of work.

The development of water strategies are important risk management tools that provide an opportunity to identify cost effective options for meeting water security objectives. All potential supply and demand options must be considered.

### **Box 3.4 – Case Study: The Lower Hunter Water Security Plan**

The New South Wales Government released the Lower Hunter Water Security Plan in April 2022, with the stated aim of ensuring water security for the Lower Hunter for the next 40 years. The plan was developed in parallel with the NSW Water Strategy and draws on the New South Wales's new modelling methods to better understand future climate conditions.

#### **Process for developing the plan**

Over five years, Hunter Water engaged local communities to understand their values and preferences, to define goals and objectives, investigate and shortlist options, analyse programs of actions and finalise the Plan. Hunter Water also engaged First Nations people to understand and incorporate their water values and knowledge into the Plan's priorities. Hunter Water examined the feasibility of all options for reducing water demand and increasing supply, which were assessed against environmental, social, technical and financial criteria. From this, a shortlist of options was derived, grouped into programs of actions, which were subsequently assessed on their performance under various climate conditions.

#### **Options on the table**

The portfolio of potential options included:

- a water conservation and leakage reduction program
- recycled water and stormwater harvesting programs for non-drinking purposes
- a new Hunter Water connection to the proposed Lostock Dam – Glennies Creek Dam pipeline scheme (a new water sharing arrangement with the Upper Hunter)
- increasing existing water sharing with the Central Coast including upgrading the existing interconnecting pipeline and increasing the capacity of Mangrove Creek Dam by raising the dam wall
- desalination as either a permanent or drought response source of water, located at either Belmont or Walsh Point, on Kooragang Island
- a new purified recycled water for drinking scheme involving sending highly treated recycled water to Grahamstown Dam for storage and further treatment at the existing Grahamstown Water Treatment Plant
- a new 230 billion litre on-river dam at Upper Chichester, immediately upstream of the existing Chichester Dam
- a new 160 billion litre off-river dam at Limeburners Creek, east of Clarence Town.

### **Box 3.4 – Case Study: The Lower Hunter Water Security Plan**

The analysis undertaken by Hunter Water found that a diverse portfolio of the Belmont desalination plant, Upper Hunter transfers and purified recycled water offered the largest estimated net present value of \$112 million. The selected portfolio was also found to be resilient to a range of assessed climate change scenarios and future uncertainty, and represented the least cost portfolio of options to achieve that resilience<sup>a</sup>.

a. 'Least cost' is still expensive, reflecting the investment challenges to achieving water security. The estimated capital cost of the Belmont desalination plant has increased from \$90 million in 2019 (GHD 2019, p. 41) to more than \$530 million in 2024 (Jacobs 2024, p. 139). On 24 January 2024, Hunter Water announced that the cost would be passed on to consumers in the form of an approximately \$90 increase to the average annual household bill (Hunter Water 2024).

Source: (NSW DPE 2022c).

## **All options need to be on the table**

Australia has a significant water investment challenge ahead of it.

The first is to achieve water security in the face of a changing climate. This requires a diversity of solutions, including supply and demand measures as well as infrastructure and non-infrastructure alternatives (Sydney Water sub. 41, p. 7; WSAA sub. 15, p. 9).

The second is to maintain and upgrade ageing, conventional water storage infrastructure as it reaches the end of its design life, at which point costs tend to increase due to sedimentation, increasing risks of breakage, as well as declines in operational efficiency (UN Water 2020, p. 48). According to WSAA, capital expenditure is expected to double to over \$10 billion annually by 2027 (sub. 15, p. 3).

To deal with these challenges efficiently and at least cost, all options need to be available and evaluated on their merits, even those that are politically difficult.

The Commission supports the opinion previously expressed by the National Water Commission:

options should be selected through a robust, open-minded and transparent comparison of all options, examining the social, environmental and economic costs and benefits and taking into account the specific water system characteristics, in consultation with the community (NWC 2009, p. 236).

## **What options are technically feasible?**

Regardless of the definition of water security (section 3.1), governments should take a broad approach to meeting its requirements. Urban water planning has traditionally focussed on infrastructure and supply-side approaches to deliver water. Best-practice water planning requires going beyond those options, to also consider combinations, sequencing and adaptive staging that includes demand side options and trade.

In its report *All options on the table: urban water supply options for Australia*, the WSAA (2020, p. 11) sets out a comprehensive set of potential options. Some of these options, and what we heard from participants in this inquiry, are described in box 3.5.

### **Box 3.5 – Potential solutions for water security in a changing climate**

#### **Recycled water**

In its submission to the inquiry, Sydney Water recommended the NWI provide greater support for Purified Recycled Water (more on this in the section below):

*Provide further support to improve the adoption of purified recycled water [PRW] as a viable, safe option for supply augmentation.*

- *Develop national objectives for water supply security for urban areas, including measures of rainfall independent water supply.*
- *Improve information sharing and analysis, including authoritative and government-endorsed guidance on costs and benefits of PRW and treatment effectiveness.*
- *Provide foundational planning advice that builds on the learnings of PRW implementation by major utilities.*
- *Provide clear national guidance to improve consistency of approach by state health regulators and drive a review of national recycled water guidelines.* (sub. 41, p. 3)

#### **Desalination**

There are approximately 270 desalination plants in Australia providing 880 GL of desalination capacity per year but most are small scale (BOM 2021, p. 38). There are also a number of major projects under consideration, including in New South Wales, Queensland, South Australia and Western Australia (Cook et al. 2023; Hunter Water 2024; Infrastructure SA 2024; Palaszczyk and Butcher 2023).

Many inquiry participants acknowledge that desalination is an important option in the diversification of urban water supplies (BCSD sub. 7, p. 10; NPA sub. 33, p. 2; Sydney Water sub.41, p. 8; WSAA sub. 15, p. 2). While desalination is rainfall independent, its high cost both in capital and operation, combined with high power demands and pollution potential, means that it is not always the lowest cost or most ecologically sustainable water supply option (WSAA 2020, p. 37).

#### **Managed aquifer recharge**

Some inquiry participants (EA sub. 34, p. 5; CSIRO sub. 42, p. 4) indicated the need for more investment in processes to top up groundwater reserves in wet years as a form of water banking. As CSIRO states:

*Managed Aquifer Recharge (MAR) is an internationally proven, low-cost solution that could improve drought resilience across regional Australia. Despite 25 years of experience using MAR for alternative urban water sources, the full potential of MAR is yet to be realised at a national scale* (sub. 42, p. 4)

Managed aquifer recharge (for example, via percolation or direct injection of treated wastewater, stormwater, surface water during high flow events or desalinated water) has the benefit of replenishing depleted aquifers, reducing evaporative losses compared to dam storage and improving water quality, while potentially providing a relatively cheap source of water for consumption (CSIRO nd).

#### **Water efficiency/conservation**

Improving conservation efforts may prove effective in reducing demand. As Sydney Water outlined:

*there is a need to provide leadership and ongoing support to maintain and grow water conservation activities delivered by government, utilities and the market. A baseline level of activity*

### Box 3.5 – Potential solutions for water security in a changing climate

and investment is required to ensure that continual improvements in efficiency levels and minimum standards, and to build and maintain the capacity and capability of professionals in relevant industries, such as plumbing, to embed water conservation. Doing so, will build greater community resilience to drought, reducing social and economic impacts of drought. (sub. 41, p. 9)

Water conservation and savings measures for domestic users could come through behavioural change led by information and education, through adoption of newer water efficient appliances and devices, with support through certification standards. Over the last 20 years, efficiency measures have successfully reduced per capita water consumption (WSAA 2020, p. 56), but will continue to need to be considered in conjunction with other measures to achieve water security in the future .

#### Scarcity pricing

Retail pricing practices vary between jurisdiction but usually consist of a two-part tariff: a fixed charge and a volumetric charge. The volumetric charge should be set at the long-run marginal cost of supply augmentation, but this means the price does not usually reflect the scarcity of water in the short term. Consequently, customers and suppliers do not receive a price signal reflecting the opportunity cost of water. By adopting flexible, scarcity volumetric pricing, consumers would be incentivised to tailor their consumption in response to price (e.g., reduce consumption during periods of relative scarcity because the price would be relatively high). Moreover, it provides more appropriate signals to suppliers on investing in new supply options (dynamic efficiency) and delivering water security at least cost (PC 2011, pp. 157–195).

### Governments need to resist policy ‘bans’

Governments often rule out potential options for water security without due consideration of the actual costs and benefits, or because of political reasons – so called ‘policy bans’. Options such as purified recycled water for drinking, stormwater harvesting and rural-urban water trade are all contemporary examples of viable supply augmentation options that have been subject to policy bans in Australian jurisdictions (WSAA 2020, p. 6). The WSCA’s submission notes:

Jurisdictions generally use a narrow definition of water and focus implementation on raw water sources (surface, ground and desalination in some jurisdictions), potable water and wastewater/recycled water. This approach misses other sources such as stormwater and results in lost opportunities to optimise overall water management and realise better outcomes. Policy bans on the use of some water sources have compounded this issue (sub. 45, p. 1).

Policy bans potentially result in outcomes that are not lowest cost or efficient. They are almost never justified on economic grounds.

#### Purified recycled water

While PRW for drinking is commonly used in many cities internationally (including London, Los Angeles and Singapore; Cook et al. 2022), it has seen limited adoption in Australia. This appears in part to reflect a reluctance in the community – a perceived ‘yuk’ factor – which has led policy makers to shy away from even raising PRW as an option (Healy et al. 2020). For example, there appears to be an implicit ‘policy ban’ on PRW in place in Victoria, with plans such as the *Central and Gippsland Regional Water Strategy* not considering it as an option as it is “not a permitted source of drinking water” (Vic DELWP 2022). The

Australian Water Association (sub. 43; p 10) identifies a lack of political will and effort to improve the community's water literacy concerning the safety of PRW.

But community attitudes to PRW appear to be changing. For example, in a 2023 poll conducted in Queensland, 64% of respondents stated that they were happy to drink recycled water outside of a drought (Lynch 2024). Sydney Water opened its Purified Recycled Water Demonstration Plant at Quakers Hill in 2023 to “help build acceptance for PRW as a supply source and improve water literacy”. The WSAA (sub. 15, p. 6) found from surveys that communities are increasingly open to exploring PRW for drinking. And many other submissions supported recycled water as an option that should be considered to address Australia's urban water security (WIM sub. 4, p. 1; ATSE sub. 5, p.3; Qldwater sub. 29, p. 4; EA sub. 34, p. 4; Sydney Water sub. 41, p. 3).

The Commission agrees and reiterates its advice from 2021 that policy bans on using PRW are not justified. PRW should be evaluated alongside other options on its merits in terms of cost effectiveness and reliability to supply drinking water.

### **Rural-urban water trade**

Where physically feasible, allowing trade between rural and urban users can represent a least cost option for enhancing urban water security. Much like trade within the rural sector has provided community benefits from allowing water to move from lower to higher value uses, allowing rural to urban water trade can also benefit the community. Trade benefits willing sellers, such as irrigators, while urban users benefit from lower cost water supply options (PC 2011, p. 90). Given that agriculture accounts for 67% of water use in Australia, there appears to be significant scope for rural-urban water trade (BOM 2021, p. 5). However, jurisdictions continue to rule out rural-urban water trades (NSW DCCEE 2024, p. 4; Victorian DELWP 2022a, p. 39).

### **Transparent and rigorous assessment of options is required for least cost water security**

The uncertainty in climate change reinforces the need for rigorous decision making in water investments, as the impacts of poor investments will have opportunity costs for water security.

Government subsidies for water infrastructure projects are frequently inconsistent with the cost recovery objectives in the NWI and tend to result in inefficient (and possibly even ineffective) investment (box 3.6 has an example). Subsidies can distort the type, timing and scale of water supply augmentation, as well as leading to inefficiently high consumption by water users.

Moreover, subsidised investments are often not subject to regulatory oversight and create future liabilities for asset replacement and ongoing maintenance (NWC 2011, p. 24).

Water utilities must make the most efficient use of their infrastructure to ensure that water security can be delivered at an affordable price to water users, governments must ensure any investment decisions are in the best interests of the community and, where subsidised, are compliant with the NWI pricing principles (section 6.1, renewal advice 14.2).

### **Climate change and crisis decision-making**

When extreme weather situations occur which have not been adequately planned for, governments face “crisis situation” pressures from communities and businesses to respond urgently. Decisions made in these situations are not always subject to established institutional processes for considering effectiveness, or the short- or long-term costs – or who bears them. For example, the Millennium Drought (1996–2010), which saw major urban water supply dams drop to their lowest levels in decades (Steffen et al. 2018, p. 52), prompted state governments to invest heavily in building large-scale infrastructure, committing upfront to

expensive projects that were not the most cost-effective option at the time of investment (e.g., see Grafton and Ward 2011 for an analysis of the costs and benefits of constructing Sydney’s desalination plant). The nature of pressures on and responses by governments in crisis situations, reinforces the need for their commitment to robust options assessment and decision-making.

### **Box 3.6 – Case study – the stage 2 Haughton Pipeline project**

Stage 2 of the Haughton Pipeline project commenced construction in 2023 with \$195 million in funding from the Queensland Government, despite a net present value of negative \$220 million and a benefit cost ratio of 0.3. Infrastructure Australia found the proponent’s business case would provide no additional water security to Townsville and that an alternative option – identified in the business case – of moving Townsville to a two-part water pricing tariff (with a fixed and variable component):

is likely to have economic, social and environmental merit ... would be consistent with the National Water Initiative ... would provide a water pricing structure for Townsville that is similar to other comparable Australian jurisdictions” and would provide a net benefit of \$1.5 million (IA 2020, p. 5).

In response to the Pipeline investment, The WIM Alliance observed that:

[average consumptive use in Townsville] is 400-500 L/EP/day. Comparatively water use per equivalent person (EP) per day in Mackay is 200-230 L/EP/day and elsewhere along the eastern seaboard between 140-250 L/EP/day. No state or federal funding should be allocated for water security or resilience where utilities, communities and residents are inefficiently using a water resource (sub. 4, p. 10).

Under a two-part tariff, even with projected population growth, reducing Townsville’s per capita domestic water to nearer the national average would be expected to meet demand for the next 50 years.

Source: (IA 2020).

## **3.7 Renewal advice**

The Commission reiterates its renewal advice from 2021, as discussed above, for how a renewed NWI should provide guidance for best practice urban water system planning and infrastructure investment to enhance water security. Improving urban water planning frameworks, including transparent community engagement, will be critical to delivering on community expectations.

In renewing the NWI, Australian governments should build on the principles in the original NWI of full cost recovery, as well as economic viability and ecological sustainability of project investments and ensure that infrastructure development processes are also culturally responsive to the interests of Traditional Owners.

The Commission also reasserts its recommendation that the National Water Grid Authority should broaden its investment framework to allow funding of all projects warranting government involvement, not just primary industries.

### **NWI renewal advice 12.1: Best-practice urban water system planning**

UNCHANGED FROM 2021

Updating the *National Urban Water Planning Principles* and formally embedding them within the National Water Initiative would establish a standard for best-practice urban water system planning. A renewed National Water Initiative should include the following principles:

- Integrated management of water supply, wastewater and stormwater is embedded in urban water planning and management systems.
- Planning decisions align with system objectives for levels of water security, service quality, the environment and urban amenity.
- System objectives are discovered through a transparent and consultative approach and approved by governments in line with customer and community preferences.
- Urban water planning connects water planning across different scales and with land-use planning.
- All supply options are considered and their relative merits subject to a rigorous, consistent and transparent assessment of costs and benefits.
- Roles and responsibilities in the planning and management process are clearly assigned between relevant governments, utilities and other planning entities.
- Governments enable effective coordination between utilities, regulators, developers and land-use planners.

To support efficient service delivery by smaller providers, jurisdictions should consider developing national guidelines for both long-term system planning and contingency planning for regional and remote water systems.

### **NWI renewal advice 14.1: A new water infrastructure element**

UNCHANGED FROM 2021

In renegotiating the National Water Initiative, jurisdictions should develop an element to guide investment in water infrastructure.

The new element should restate the high-level requirements for all infrastructure to be assessed as economically viable and ecologically sustainable prior to the commitment of funding, with cost recovery from users as the norm, and add a further requirement that infrastructure development processes are culturally responsive to the interests of Traditional Owners.

The new element should also include:

- an agreed framework to guide government investment in major water infrastructure, incorporating project selection and assessment processes and clear roles and responsibilities for governments and service providers
- principles for cost sharing (including government subsidies) and allocating water from new developments.

## NWI renewal advice 14.2: Assessment criteria for water infrastructure

UPDATED IN 2024

As part of the new infrastructure element, jurisdictions should agree to criteria on how major projects can demonstrate adherence to the NWI requirements for infrastructure.

Economic viability should be demonstrated by a positive benefit–cost ratio determined through a transparent and rigorous cost–benefit assessment, with:

- an assessment of a range of options, including non-infrastructure options where these can meet the investment objective, and selection based on the highest (positive) expected net benefit
- transparency supported by publication of business cases as a matter of course (except where commercially-sensitive data limits publication, in which case the business case should be reviewed by a qualified independent body)
- use of entitlement pre-sale to limit optimism bias
- robust estimates of social and distributional impacts.

Ecological sustainability should be demonstrated through environmental and social impact approvals, and compliance with a high-quality and NWI-consistent water plan that:

- establishes the environmental water provisions necessary to meet agreed environmental outcomes under a changing climate
- sets out the social, economic and cultural outcomes sought from the water plan
- clearly defines the expected reliability of water rights, taking into account the likely impacts of climate change
- is developed with robust community engagement to reflect community values.

Criteria for culturally responsive infrastructure development should be determined through the co-design process led by the national Committee on Aboriginal and Torres Strait Islander Water Interests. At a minimum, culturally responsive infrastructure processes would:

- incorporate deep engagement with the Traditional Owners of affected areas (both at the infrastructure site and downstream) as part of business case development
- comprehensively identify and manage impacts on cultural heritage in affected areas.

Costs should be recovered from users as the norm, with any government funding provided through a transparent subsidy. This should be limited to situations where:

- substantial public benefits associated with water infrastructure impose additional costs that are best borne by governments
- an equity argument exists (for example, to support access to an essential service in high-cost regional town water systems where the cost of supplying a basic level of services is considered unaffordable).

Governments should not subsidise major water infrastructure for strategic objectives, such as regional development, without first demonstrating that the project is the most effective means of addressing that objective. This requires alignment with broader high-quality and long-term strategic regional planning processes.

- Jurisdictions should maintain the principle supporting use of market mechanisms for allocating water, although they should consider allocating a share of new entitlements in undeveloped systems to Traditional Owners.



## 4. Water access entitlements and planning frameworks

This chapter considers progress in achieving element 1 of the *National Water Initiative* (NWI) – water access entitlements and planning frameworks. Section 25 of the NWI identifies 11 outcomes relating to water access entitlements and planning (section 4.9), including increased entitlement security, legal protection of environmental water, transparent planning processes, adaptive water management, sustainable levels of extraction, assignment of risks for changes in the consumptive pool, improved compatibility across jurisdictions, recognition of Indigenous water needs, identification of high value environmental water assets and regulation of interceptions.

The NWI outlined eight action areas against these outcomes<sup>10</sup>:

1. Water access entitlements (NWI paragraphs 28-34)
2. Water planning (NWI paragraphs 36-40)
3. Water for environmental and other public benefit outcomes (NWI paragraph 35)
4. Addressing overallocated and overused systems (NWI paragraphs 41-45)
5. Assigning risks for changes in allocation (NWI paragraphs 46-51)
6. Indigenous access (NWI paragraphs 52-54)
7. Interception (NWI paragraphs 55-57)
8. Integrating surface water and groundwater management (NWI paragraph 23 x).

A summary of the Productivity Commission's assessment framework (appendix B) – which does not map perfectly against the action items – and progress against it is in table 4.1. The notes to the table indicate which assessment items relate to which NWI actions and outcomes. Action item six is assessed in chapter two.

**Table 4.1 – Assessment summary: water access entitlements and planning frameworks**

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
<b>Water access entitlements (section 4.1)</b>			
<b>Legally defined (statutory) long-term share of the consumptive pool</b>	Largely achieved 	Largely achieved 	Apart from Western Australia and the Northern Territory, all jurisdictions have enacted legislation required to create secure, NWI-consistent water access entitlements.

<sup>10</sup> NWI paragraphs 28-57

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
<b>Unbundled (into access, use, and delivery) where cost effective</b>	Largely achieved 	Largely achieved 	Unbundling and partial unbundling of water licences has continued in South Australia since 2021. Water licences remain bundled in Western Australia and the Northern Territory.
<b>Apply to all major consumptive water uses (to the extent practicable)</b>	Largely achieved 	Largely achieved 	The incorporation of mining and petroleum industries into the Northern Territory's licensing framework is a significant improvement. The only remaining jurisdiction providing an exemption for mining industries is Queensland for associated water take.
<b>Water plans (section 4.2)</b>			
<b>Statutory</b>	Largely achieved 	Largely achieved 	Western Australian water allocation plans remain non-statutory. A recent judicial decision in the Northern Territory found water plans are non-binding in nature on decision makers, undermining their effectiveness in providing secure water access.
<b>Articulate trade-off decisions between economic, social and environmental considerations</b>	Partially achieved 	Partially achieved 	Jurisdictions have made progress to enhance their understanding of climate change impacts. However, no jurisdiction has developed clear triggers for rebalancing environmental and consumptive uses.
<b>Provide for adaptive management of surface water and groundwater systems</b>	Partially achieved 	Partially achieved 	Improvements in monitoring, evaluation and reporting of water plans have occurred in some jurisdictions.
<b>Water for environment and other public benefit outcomes (section 4.3)</b>			
<b>Statutory recognition and afforded the same level of security as consumptive uses</b>	Largely achieved 	Largely achieved 	The non-binding nature of water allocation plans in the Northern Territory mean water for the environment and other public benefit outcomes do not have the same level of security as consumptive uses.
<b>Addressing overallocation and overuse (section 4.4)</b>			
<b>All overallocated and overused systems returned to sustainable levels of extraction</b>	Partially achieved 	Partially achieved 	Some systems previously identified as overallocated have been returned to within sustainable levels of extraction, primarily in the Murray-Darling Basin. However, overallocation of some systems continues to be a problem in Western Australia.

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
<b>Assigning risks for changes in allocation (section 4.5)</b>			
<b>Clearly established (through statutory instruments)</b>	Partially achieved 	Partially achieved 	No changes to risk assignment policies have occurred since 2021.
<b>Implementable and effective in providing certainty to entitlement holders</b>	Partially achieved 	Partially achieved 	No changes to risk assignment policies have occurred since 2021.
<b>Interception (section 4.6)</b>			
<b>Significance of water intercepting activities assessed and effectively managed</b>	Largely achieved 	Largely achieved 	The implementation of floodplain harvesting licensing across northern New South Wales improves the ability to manage this interception activity.
<b>Integrating surface water and groundwater management (section 4.7)</b>			
<b>Physical connectivity between groundwater and surface water assessed and managed</b>	Largely achieved 	Largely achieved 	Multiple jurisdictions have undertaken activities to improve their understanding of groundwater systems and the connectivity with surface water systems.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding.

## 4.1 Water access entitlements

### Summary of actions under the NWI

Jurisdictions are required under the NWI to implement statutory-based water access entitlements for consumptive use to provide commercial certainty and security. Entitlements must be separate from land, exclusive, mortgageable, tradeable and provide a perpetual right to a share of a system's consumptive pool.

### Previous findings (2021)

By 2017, the Commission found that most states and territories had introduced NWI-consistent water access entitlements, but some outstanding issues remained (PC 2017, pp. 67–76). While water rights to regulated surface water were largely separated from land, water rights remained tied to land in many regulated groundwater systems and some unregulated surface water systems. In some instances, water rights had

been separated from land, but the components of the water rights (i.e., to access, use and delivery of the water) remained effectively bundled (box 4.2).

#### Box 4.1 – Water rights explainer

Water rights can be thought of as comprising several components including:

- water access entitlement: a long-term share of a consumptive pool as defined in a water plan
- allocation: usually a volume of water distributed periodically against an entitlement
- delivery: the right to have an allocation of water delivered to a certain take-off location or to obtain water from a particular location
- use: permission to use an allocation, with prescribed conditions for use.

Source: PC (2017)

In 2021, the Commission noted that Western Australia and the Northern Territory had yet to introduce legislative changes to separate water rights from land, or provide perpetual entitlements – which are instead issued for 10 years at a time (PC 2021a, pp. 14–17). Moreover, mineral and petroleum industries in Queensland remained exempt from the entitlement framework for ‘associated water’ (underground water taken or interfered with during operation).

In its renewal advice for the NWI, the Commission recommended removing special provisions for mineral and petroleum industries in water access and planning arrangements, as well as establishing a process to determine if alternative water sources (stormwater, recycled water, etc.) can be incorporated into entitlement frameworks (PC 2021a, pp. 75–77).

Below are some examples of jurisdictions’ progress, maintenance or backsliding under this area. Where a jurisdiction is not shown, it is because there has been no significant change since 2021.

### Interim assessment (2024)

#### Victoria

In November 2023, the Victorian Government introduced the ‘place of take approvals framework’ to replace water delivery entitlements across declared water systems in Victoria. The new framework will reduce delivery risks and improve transparency and allocation efficiency of extraction licences. The new framework better reflects system constraints, provides extraction shares in perpetuity, improves the security of entitlement holders and allows for the trade of rights.

In *Groundwater 2030*, the Victorian Government identified several priorities to improve groundwater management, including opportunities to improve the state’s licensing framework to improve outcomes for water users and the environment.

#### Queensland

Exemptions remain for resources projects (such as mining and gas extraction) from the need to hold water entitlements for some types of ‘associated water’ use in Queensland. Following the incorporation of mining

into the water licensing framework in the Northern Territory, Queensland will remain the only jurisdiction providing exemptions.

## Western Australia

In December 2023, the WA Government announced that it would no longer proceed with legislative reform of Western Australia's water resource management system. The legislative reforms were expected to include unbundled, perpetual water access entitlements. Despite the WA Government statement that current arrangements are "suitable" and "a more practical approach is preferred" (McGurk 2023), the Commission has received evidence to the contrary. As Alex Gardner highlights (sub. 46):

The introduction of the more flexible NWI share entitlement scheme would have made it easier in the past / would make it easier in the future to manage allocations to the licensees' access entitlements within sustainable limits in a drying climate. (p. 3)

The Department has a revised policy, *Managed aquifer recharge in Western Australia (2021)*, and endeavours to facilitate MAR schemes. Alas, these efforts are relatively unsuccessful. As the Department acknowledges, it does not have the statutory powers to regulate the volume of water injection; it is purporting to rely on existing statutory powers to regulate the construction of wells and extraction of water. (p. 4)

## South Australia

The *Landscape South Australia (Transitional Provisions) Regulations 2019* allow for partial unbundling of water entitlements or for entitlements to remain bundled. Following the review of a water plan, the relevant landscape board can decide whether to partially unbundle entitlements or let entitlements remain unbundled. In 2022, entitlements were partially unbundled in the Adelaide Plains Water Allocation Plan. Water allocation plans being developed for the Barossa, Padthaway and Baroota areas are also expected to allow for partially unbundled entitlements. In 2021, entitlements were fully unbundled in the Far North Prescribed Wells area.

The *Landscape South Australia (Water Register) Regulations 2020* came into effect in July 2022. These regulations will provide greater confidence in water trade and improve entitlement holders' access to finance. The regulations allow for security interests and caveats to be registered against licences, as well as providing for joint ownership and the ability to subdivide, consolidate or devolve water licences.

## Tasmania

In December 2022, the Tasmanian Government introduced an additional requirement for applications for summer water allocations. The applicant must provide the following:

- a detailed study of the impacts of climate change focused on the 30 years around the 2050 dry climate on water availability both at a seasonal and daily access level
- an environmental flow study following the Tasmanian Environmental Flows Framework
- an impact assessment of the environment and existing downstream users to be undertaken within the zone of impact.

The requirements are an interim measure until a review of the water allocation policy is completed, including the updating of hydrological models (water planning section).

## Northern Territory



Before amendments to the *Water Act 1992* (NT) in 2018, mining and petroleum activities had been exempted from requiring a water licence. The amendments required all new projects from 2019 to obtain a water licence. In 2023, the NT Government passed legislation requiring all mining and petroleum activities – new *and* existing – to obtain a water licence within two years.

The 2023 amendment requires all mining and petroleum activities that were in operation under an approved environmental management plan prior to 2019 to apply for a licence. The amendment ensures that all water use relating to mining and petroleum activities are brought into the water licensing framework, consistent with the NWI. However, concerns relating to the effectiveness of these legislative changes, as well as around the transparency and accountability, have been raised (EDO 2023; Fitzgerald 2023):

- Applications for water licences by mining and petroleum activities will not be advertised for public comment. This is different from other applications and is justified for existing mining and petroleum activities on the grounds they have previously been assessed under the *Mineral Titles Act 2010* (NT) and the *Mining Management Act 2001* (NT). However, the Commission understands that applications will be subject to freedom of information requests.
- Mining and petroleum operations will estimate their own water use requirements through the application process. However, applicants must provide prescribed types of evidence of take under the legislation, and self-assessment is similarly used for other applications in the Northern Territory.

Nevertheless, the Commission acknowledges that the incorporation of mining and petroleum activities into the Northern Territory's water licensing framework is a significant step towards NWI-consistent practices.

The 2023 amendment also introduced a 2-year transition period for commercial groundwater users in the Darwin rural water control district to obtain a water license. It requires commercial applicants to demonstrate they were using water prior to, and continued to use water after, the revocation of the exemption in the Darwin rural water control district. The amendment also provides the minister with the right to declare restricted water extraction areas where water resources are at risk.

In April 2023, the Northern Territory Minister for Environment, Climate Change and Water Security appointed a new Controller of Water Resources that is not also employed by the Department of Environment, Parks and Water Security, providing greater independence to the role. The decision has been positively received by a few inquiry participants despite some reservations (CLC sub. 44, p. 9; ECNT sub. 54, p. 11; NLC sub. 38, p. 2). Under the *Water Act 1992* (NT) the Controller's powers include granting licences and permits, approving actions and enforcing compliance.

Under the *Statute Law Amendment (Territory Economic Reconstruction) Act 2021* (NT), the water minister may declare criteria under which longer-term water licences may be granted up to a maximum of 30 years. The current maximum licence period is 10 years. The amendment also allows for developers to apply for water licences over areas for later development.

In 2021, the NT Government released its *Staged water extraction licence guidelines*. The guidelines outline the water controller's prerogative to place conditions on licences for large volumes of water in systems where knowledge is limited, water requirements vary over the life of the project or supporting information will take more than five years to deliver. The conditions would release incrementally larger volumes of water for extraction, if project milestones and environmental thresholds are met.

If a water allocation plan is absent for a region, the Northern Territory relies on its contingent allocation framework when issuing licences. However, the scientific basis for the Northern Territory's contingent allocation framework isn't clear (ALEC sub. 53, p. 42; EDO sub. 50, p. 14). The *Scientific inquiry into hydraulic fracturing*

of onshore unconventional reservoirs in the Northern Territory noted that if the arid zone rule were applied to the Beetaloo Sub-basin, it would “essentially permit ‘mining’ of the groundwater resource, and would be ecologically unsustainable” (Pepper et al. 2018, p. 137). In November 2022, several prominent academics expressed their concerns with the framework in a letter to the Northern Territory Chief Minister:

The reliance on water storage volumes to calculate sustainable yield is out of step with sustainable groundwater management principles. Other Australian jurisdictions do not use this method to assess sustainable yield. (Jackson et al. 2022)

As highlighted in the Commission’s 2021 report, “having some basic precautionary measures in place would help mitigate any risks and guide when this move to more detailed planning and entitlements frameworks should occur” (PC 2021d, p. 26).

The NT Government also released a draft of its Surface Water Take – Wet Season Flows Policy for consultation in 2024. The policy establishes a hierarchy of allocation rules for surface water take during the wet season in the Top End, including guidance on water licensing. Allocations will be based on scientific research in the first instance (relating to the maximum sustainable level of take), followed by a contingent allocation rule. The contingent allocation rule specifies that 5% of the 25th percentile of total flows for the three highest flow months of the year (generally January, February and March) is available for consumptive use. Much like the contingent allocation framework previously discussed, the scientific basis for the contingent allocation rule for wet season flows is unclear.

## 4.2 Water planning

### Summary of actions under the NWI

Under the NWI, jurisdictions are required to prepare statutory water plans<sup>11</sup> for surface water and groundwater management systems in which entitlements are issued. However, the NWI allows jurisdictions to determine the need for water plans for specific areas based on an assessment of the level of development of water systems, projected future consumptive demand and the risks of not having a detailed plan. Parties to the NWI also agreed on characteristics and components to guide the preparation of water plans.

In implementing water plans, parties will monitor the performance of water plan objectives, outcomes and water management arrangements; factor in knowledge improvements as provided for in the plans; and provide regular public reports to help water users and governments to manage risks and provide early indications of possible changes to the consumptive pool.

### Previous findings (2021)

In 2021 (PC 2021a, pp. 17–29), the Commission noted that jurisdictions had largely achieved water planning outcomes, and that coverage of NWI-consistent water plans was continuing to increase. Jurisdictions had also undertaken scheduled reviews of water plans and many were taking various actions to strengthen planning processes.

As required under the *Water Act 2007* (Cth), jurisdictions in the Murray-Darling Basin (MDB) had developed water plans (known as water resource plans – WRPs). In 2021, water resource plans for Victoria, Queensland, South Australia and the Australian Capital Territory were accredited and operational, but New

<sup>11</sup> Statutory water plans are “developed in consultation with all relevant stakeholders on the basis of best scientific and socio-economic assessment, to provide secure ecological outcomes and resource security for users” (NWI p.30)

South Wales water resource plans were found to be inconsistent with the Murray-Darling Basin Plan (Basin Plan) requirements, and the NSW Government was in the process of withdrawing and resubmitting some, if not all, existing plans (PC 2021a, p. 20).

The Commission noted that there are opportunities to better achieve the intent of the NWI, for example by completing unfinished business, such as the introduction of statutory water plans in Western Australia – which have now been put on hold indefinitely. The Commission considered that the requirement to articulate trade-off decisions between economic, social and environmental considerations, including balancing environmental and consumptive use in a changing climate had only been partially achieved.

In 2021, the Commission provided NWI renewal advice regarding water planning (Renewal advice).

## Interim assessment (2024)

Water planning instruments have generally improved as the science and knowledge around water management has advanced. However, there are shortfalls in some jurisdictions, and backsliding in the Northern Territory.

### New South Wales



The NSW Government has developed a new and enhanced climate modelling approach to support strategic water planning. The new technique has been used to inform the development of the *NSW water strategy*, two metropolitan strategies (Greater Sydney and Lower Hunter), as well as nine regional water strategies, with a further three in development. However, New South Wales is still yet to develop techniques for applying the climate modelling work to shorter-term planning, such as water sharing plans.

Under the Basin Plan, New South Wales is required to have 20 WRPs accredited by the Murray-Darling Basin Authority (MDBA). As of March 2024, 11 WRPs have been accredited, eight WRPs have been resubmitted for assessment and one WRP (*Namoi surface water resource plan*) has been withdrawn.

### Victoria



The Victorian Government's *Water Cycle Adaptation Action Plan 2022-2026* (WCAAP) is intended to set an overarching direction for climate adaptation in Victoria's water sector and aligns with Victoria's *Climate change strategy*. The WCAAP identifies several outcomes areas and 21 associated actions for the sector: diverse water supplies, resilient infrastructure and natural assets, operational resilience and efficiency, engaged community and orderly transition. The plan demonstrates the Victorian Government's consideration of the risks to water resources posed by climate change and responding with actions to meet productive, environmental and social objectives.

The *Central and Gippsland sustainable water strategy* (CGSWS), released in 2022, outlines the Victorian Government's plan to address water challenges facing the region over the next 50 years. The strategy identifies manufactured water as a primary source of water supply for the region, making up as much as 80% of Greater Melbourne's water supply by 2070. However, the strategy explicitly rules out alternatives, such as greater use of the north-south-pipeline, potable use of recycled water and rural-urban water trade, without assessing their cost effectiveness (chapter 3). This also contradicts the Victorian Government's WCAAP, which specifies, "updates to relevant water supply planning and use guidelines will consider all water supply options". The strategy also emphasises that the risks to climate change will not be borne by entitlement holders, which is inconsistent with the NWI risk assignment framework. Nevertheless, the WCAAP and the

CGSWS demonstrate progress in responding to the potential impacts of climate change and articulating the trade-offs between economic, social and environmental outcomes.

Melbourne's water corporations also released their *Greater Melbourne urban water & system strategy: water for life* in 2023 which integrates and updates the 2017 urban water strategies developed by each corporation and aligns with the CGSWS. The strategy outlines the water security challenges faced by the city and actions being undertaken in response by Melbourne's water corporations.

Long-term water resource assessments (LTWRAs) are required every 15 years under the *Water Act 1989* (Vic) and retrospectively examine if water availability has declined and waterway health has deteriorated. The LTWRAs provides the water minister the opportunity to rebalance water between the environment and consumption or actions to restore waterway health. LTWRAs remain the main mechanism through which water plans are rebalanced in response to climate change.

## Queensland

Since 2021, the *Water Act 2000* (Qld) has been amended to require the minister to consider climate change and state cultural outcomes when making a water plan.

In October 2023, the Queensland Government released the *Queensland water strategy*, which was initiated through a review of the *Queensland bulk water opportunities statement*. The strategy identifies high-level priorities and delivery focus areas, including healthy waterways, rivers, aquifers and sustainable water management; First Nations partnerships, access and ownership; water for regional economic prosperity; and safe and secure water supply.

The Queensland Government also published its *Queensland water plans in a variable and changing climate* report in December 2023. The report outlines the impact climate change is projected to have on water plan regions across the state, as well as how the risks of climate change are managed within Queensland's water planning framework. As previously mentioned, the water minister is required to consider climate change when making a water plan. The effectiveness of water plans is also assessed in 5-yearly intervals, including the consideration of climate impacts. A plan review, amendment or replacement can be triggered at any time in response to certain conditions.

As water plans are reviewed or replaced, monitoring, evaluation and reporting strategies (MERS) are being developed based on the government's monitoring, evaluation and reporting framework. Since 2021, MERS have been included in water plans for the Barron area and the Mary Basin.

## Western Australia

Western Australia and the Northern Territory are the only jurisdictions without binding statutory water allocation plans. In their absence, Western Australia uses non-statutory water allocation plans prepared by the Western Australian Department of Water and Environmental Regulation, which are guidelines only and are non-binding and unenforceable (EDO sub. 50, p. 13).

In 2022, the WA Government released the *Kep Katitjin-Gabi Kaadadjan – Waterwise Perth Action Plan 2*, a collaboration between the WA Government and the Noongar Traditional Owners of the Boorloo (Perth) and Bindjareb (Peel) region. The action plan identifies 14 targets for 2030 and 41 waterwise actions to ensure sustainable water management for the region. Targets include increasing wastewater recycling to 30% and reducing groundwater use by 10% by 2030.

The WA Government published its *Climate adaptation strategy* in July 2023. Actions identified in the strategy include improving understanding of climate impacts of water resources, developing a research program to

address climate change challenges in the water sector, deliver new water sources for Perth and regional towns, and deliver more climate-resilient water to remote Aboriginal communities.

## South Australia

The SA Government released its *Water security statement* in February 2022, which provides the first assessment of water security in the state since the adoption of the *Water for good* strategy in 2009. The statement also identifies ten strategic priorities for enabling water security in the near-term and highlights to government's intention to develop water security strategies for "key water resources, communities or industries", such as the Barossa Valley. The next water security statement is expected to be published in 2024.

The *Barossa water security strategy* was co-developed by community members and stakeholder organisations to provide a framework for policy initiatives and infrastructure to ensure water security for the region to 2050. The strategy identifies 27 actions under six strategic pillars: integrated supply and demand management for water security, regenerative land management for water security, healthy waterways and water-dependent ecosystems, business innovation and diversification, education and knowledge management for adaptive management and collaborative adaptive governance.

In 2022, the SA Government also published the *Guide to climate projections for risk assessment and planning in South Australia 2022* and the *Climate change science and knowledge plan for South Australia 2022*. Both documents provide cross-sectoral information with the guide providing projected changes to key climate variables across regions in South Australia, while the plan provides a roadmap for improving the evidence base to support South Australia's response to climate change. The SA Government is currently developing adaptation pathways for varying allocations in response to plausible climate futures.

Recent updates to water allocation plans have incorporated resource condition limits and triggers to respond to drought, such as the *Adelaide Plains water allocation plan 2022*. The provisions allow water allocations to be reduced due to reduced water availability or quality.

## Tasmania

In 2021, the Tasmanian Government released its *Rural water use strategy* which intended to deliver "sustainable outcomes for rural water users, rural communities and the environment". The strategy outlines 29 actions under four overarching goals: sustainable management of Tasmania's water resources; strategic development to maximise opportunities from water resources; effective regulation, strong entitlements and planning; and optimising services.

The *Catchment yield science update project* is one of the key projects being pursued under the *Rural water use strategy* and is designed to update Tasmania's surface water yield estimates to inform water management in a changing climate. Phase one of the project has been completed, which was to provide the Tasmanian Government with a process for accessing and using the latest climate projection datasets to update hydrological models that underpin the state's allocation framework.

## Australian Capital Territory

The *ACT water strategy – 2023 report card* indicates the ACT is on track to achieve the three outcomes identified in the *ACT water strategy 2014-2044: striking the balance*: healthy catchments and waterbodies, a sustainable water supply used efficiently and a community that values and enjoys clean, healthy catchments and waterways. Since 2021, the ACT Government established the Office of Water to lead water policy and planning functions and implement governance reforms, including:

- a long-term integrated water management plan
- a 10-year review of the *ACT water strategy*
- the Ngunnawal Ngadjung Water Initiative
- a water information hub
- a *Water resource vulnerability assessment*.

## The Northern Territory



The NT Government, in developing its *Territory water plan* (published June 2023), has committed to improving its water planning framework to better align with the objectives of the NWI. The *Territory water plan* represents important progress against the NWI. However, significant shortcomings of the Northern Territory's *Water Act 1992* and Northern Territory's water planning framework have been highlighted since 2021.

Since 2021, the NT Government declared a water allocation plan (WAP) for Georgina Wiso. Community concerns have been raised about the approach taken by the NT Government in developing this WAP, including that it was developed in the absence of a stakeholder water advisory committee, and without consultation with local Aboriginal people (NLC sub. 38, p. 3; Ferguson & Stephens sub. 19, p. 1). Nor does it establish environmental or cultural requirements for water, or trigger rules for assessing unacceptable impacts. The Northern Land Council (sub. 38, p. 3) and the Environmental Defender's Office (sub. 50, p. 26) also highlighted concerns around the separation of the WAP into three documents, only one of which is statutory, with technical information, risk assessments, implementation and monitoring removed to non-statutory documents.

The NT Government also declared a revised WAP for Western Davenport in December 2021. Similar concerns have been raised around the degree of community consultation and the protections provided for cultural values and environmental sites (CLC sub. 44, p. 23). Chapter 11 also discusses concerns with community consultation for water planning in the Northern Territory.

A Northern Territory Supreme Court ruling in January 2024 relating to a water licence issued under the Western Davenport WAP to Fortune Agribusiness at Singleton station found the minister must consider but is not obliged to comply with the relevant water allocation plan when issuing licences. The decision confirms that water planning in the Northern Territory is not consistent with the NWI. While the Northern Territory's WAPs are 'statutory' in as much as they are established under the *Water Act 1992* (NT), the fact that they impose no binding obligations on water allocations or decision makers is inconsistent with the intent and objectives of the NWI.

The NWI requires:

- statutory water plans to be prepared for surface and groundwater management units where water entitlements are issued (NWI paragraph 36)
- water plans to give statutory recognition to environmental and other public benefit outcomes (including Aboriginal and Torres Strait Islander people's cultural water interests) and give them the same degree of security as consumptive use (NWI paragraph 35)
- the allocation of water will be made consistent with a statutory water plan (NWI paragraph 29)

In 2023, the NT Government engaged Badu Advisory to undertake a review of the Northern Territory's implementation of the NWI in relation to water planning (NT DEPWS 2023f). The review found the Northern Territory's planning processes to be consistent with the NWI, as well as identifying several areas for improvement. The Commission notes that Badu Advisory, under its terms of reference, did not consult with stakeholders outside the NT Government (NT DEPWS 2023f, p. 7), raising questions about the comprehensiveness of the review.

Further assessment of the Badu advisory review undertaken by Alex Gardner (on behalf of the Environmental Defenders Office) was critical of the review and found water planning provisions in the Northern Territory to be inconsistent with the NWI (Gardner 2024). Issues highlighted by Gardner include environmental water allocations not having the same legal security as access entitlements under water allocation plans; a lack of legal guidance on planning processes in the *Water Act 1992* (NT); and water allocation plans not being legally binding on the Controller when making licensing decisions (as per Singleton station case).

### Climate change and rebalancing triggers

The Commission's 2021 *National Water Reform* report highlighted the need for jurisdictions to develop triggers and processes for rebalancing consumptive and environmental uses due to climate change. Triggers and rebalancing processes need to provide clarity, transparency and certainty for all stakeholders. However, the large degree of uncertainty in climate projections complicates the issue. Despite many jurisdictions making significant progress in their understanding of climate change impacts and developing strategies to better respond to those impacts, no jurisdiction to date has developed a trigger and process for rebalancing water plans. It has been suggested that a consistent, cross-jurisdictional approach is necessary, especially in interconnected systems like the MDB.



#### Information request 4.1

How can a renewed NWI assist jurisdictions in establishing a consistent approach to developing climate change triggers and rebalancing processes? How can common principles help manage uncertainty, and jurisdictional and regional differences?

## 4.3 Water for environmental and other public benefit outcomes

### Summary of actions under the NWI

The NWI outcomes are to provide water for environmental and other public benefit outcomes with statutory recognition, the same level of security as consumptive uses and be tradeable on the temporary market (if held as an entitlement). This chapter considers developments in the implementation of the first two points. The tradability of water entitlements for the environment is addressed in chapter 7.

This section focusses on adequate frameworks for recognising and protecting environmental and other public benefits in the water allocations, primarily through statutory water plans. Discussion of specification and evaluation of environmental outcomes is in chapter 7. Discussion of accounting for environmental water will is in chapter 8.

### Previous findings (2021)

In 2021, the Commission found that jurisdictions had largely achieved their NWI commitments to provide water for the environment and other public benefit outcomes, with continuing adjustments to water plans

based on new information (PC 2021a, pp. 29–31). For fully- or over-allocated systems, environmental water entitlements (held water) were used to supplement planned environmental water.<sup>12</sup> Due to the lack of statutory recognition of water plans in Western Australia, environmental water lacked statutory protection. Likewise in New South Wales, the failure to implement water resource plans consistent with the Basin Plan placed the security of environmental water at risk in some systems.

## Interim assessment (2024)

There has been little change to environmental water entitlements since 2021.

### Queensland

The Queensland Government has changed its approach to specifying environmental objectives in water plans. Previously, environmental objectives were based on flow percentiles which do not necessarily translate to desired ecological outcomes. Water plans will now use an ecohydrological approach to determine the necessary flow regimes required to maintain ecological assets, as highlighted in the Queensland Government's *2020-2030 water planning science plan*. The new approach has been used in the Barron water plan (finalised in June 2023) and the draft Mary Basin water plan (due to be finalised in 2024).

### Northern Territory

The recent judicial decision relating to Singleton station (section 4.2) has confirmed that water allocation plans in the Northern Territory do not impose a binding requirement on decision makers. By giving decision makers discretion to allow other factors to override water allocation plans and the environmental, cultural and other public benefit outcomes specified therein, the *Water Act 1992* (NT) does not give NWI-consistent recognition and security to those outcomes. Therefore, water for environment and other public benefit outcomes in the Northern Territory are not afforded the same level of security as consumptive uses.

## 4.4 Addressing overallocated and overused systems

### Summary of actions under the NWI

Under the NWI, jurisdictions agreed to provide a better balance in water resource use in systems that had been overallocated or deemed to be stressed. Parties further agreed – for any other systems found to be overallocated or overused through the water planning process – to determine the precise pathway by which any of those systems would be adjusted to address the overallocation or overuse and meet the environmental and other public benefit outcomes.

### Previous findings (2021)

In 2021, the Commission found progress towards addressing overallocation and overuse (box 4.4) to be only partially achieved (PC 2021a, pp. 31–34). Numerous systems across multiple jurisdictions remained overallocated or overused by 2021. The impact of climate change will mean that rebalancing of water between consumptive uses and the environment remains a high priority. Rainfall reductions associated with

<sup>12</sup> Held water refers to water entitlement owned by environmental water holders. Planned water refers to water committed for environmental purposes through water plans.

climate change have already resulted in several systems in Western Australia being deemed overallocated since 2017. The Commission's renewal advice 6.2 provided suggestions for addressing overallocated and overused systems.

#### **Box 4.2 – What do overuse and overallocation mean?**

The National Water Initiative defines overallocation as situations where, with full development of water access entitlements in a particular system, the total volume of water able to be extracted by entitlement holders at a given time exceeds the environmentally sustainable level of extraction for that system. It defines overuse as situations where the total volume of water actually extracted for consumptive use in a particular system at a given time exceeds the environmentally sustainable level of extraction for that system. Overuse may arise in systems that are overallocated, or it may arise in systems where the planned allocation is exceeded due to inadequate monitoring and accounting.

Source: NWI Schedule B(i).

## **Interim assessment (2024)**

### **New South Wales**

The NSW Government assesses all catchments for compliance against their Long-term Average Annual Extraction Limit (LTAAEL) specified in water sharing plans, as required under the *Water Management Act 2000* (NSW). It also assesses catchments within the MDB for compliance with Sustainable Diversion Limits (SDLs) under the Basin Plan.

The New South Wales Natural Resource Commission (NRC) has raised concerns about the lack of numerical LTAAELs in unregulated water sharing plans, as well as the lack of assessment on extraction levels from these systems (NSW NRC 2023). Unregulated water sharing plans were established with descriptive LTAAELs due to limited data at the time. As a consequence, there is no concrete value against which to assess compliance. Given the lack of compliance assessments, the NSW Government continues issuing 100% allocations, which are unlikely to be sustainable in many instances. The Commission supports the recommendations put forward by the NRC to establish accurate numeric LTAAELs across all water sharing plans, undertake compliance assessments with the best information available and make precautionarily conservative allocations until assessments have been undertaken (NSW NRC 2023).

The 2022 LTAAEL compliance assessment found the Upper Namoi and Lower Namoi Regulated River and the Greater Metropolitan Region Unregulated River were non-compliant (NSW DPE 2023c, 2023b). The imminent introduction of floodplain harvesting licensing in the Upper Namoi and Lower Namoi Regulated River and a reduction in supplementary licences are expected to return total extractions to within the LTAAEL. Within the Greater Metropolitan Region Unregulated River, the Southern Sydney extraction management unit exceeded the LTAAEL. The New South Wales water minister is required to undertake a review, which is currently being planned.

Under the Basin Plan, the Barwon Darling exceeded the SDL in the three consecutive years to 2021-22, and the Gwydir exceeded the SDL in 2021-22. The exceedance is understood to be the result of estimates based on outdated metering, with the issue addressed with the MDBA. SDL exceedance in the Gwydir is due to growth in floodplain harvesting, with a licensing regime recently introduced to return extractions to within the SDL.

## Queensland

In the Condamine-Balonne catchment, surface water allocations are 14 GL over the Basin Plan SDL and groundwater allocations are 3.2 GL over the SDL. The overallocation is expected to be recovered under the Australian Government's Bridging the Gap Program (Plibersek 2023b).

## South Australia

Two of the 11 consumptive pools within the Adelaide Plains are over allocated but not overused. Water use is assessed in the region each year, and a process is in place to reduce allocation in periods when extractions exceed the sustainable limit.

## Western Australia

At January 2024, 15.8% of resources with an allocation limit were considered overallocated. Approximately a third of the overallocated systems exceed the allocation limit by less than 10%. However, 9% of overallocated resources exceed the allocation limit by more than 90%. The vast majority of overallocated systems exist in the southwest of Western Australia. Water plans for overallocated systems include actions, such as increased compliance checks and recouping unused entitlements, to reduce extractions to within sustainable levels.

## Northern Territory

The Darwin rural area has been identified as overused due to the historical development of the groundwater system without a water licensing regime (Fitzgerald 2021). As previously discussed, the NT Government has introduced new water licensing requirements to quantify and ensure sustainable levels of extraction.

## 4.5 Assigning risks for changes in allocation

### Summary of actions under the NWI

Under the NWI, parties agreed to clearly assign risk arising from future changes in the availability of water for the consumptive pool. Jurisdictions could adopt the risk assignment framework specified in the NWI or an alternative risk sharing formula where the affected parties agree to this on a voluntary basis. The NWI framework assigns risk between users and the government for reductions in water availability for consumptive use arising from circumstances such as climate change and variability, bushfire, new knowledge and policy change.

### Previous findings (2021)

In 2021, the Commission found that only New South Wales and Queensland had adopted the risk sharing framework specified in the NWI (PC 2021a, pp. 34–35). Some jurisdictions had developed alternative frameworks that had been deemed adequate by the National Water Commission. However, Victoria and Tasmania were yet to establish appropriate risk frameworks. No material progress had been made between 2017 and 2020.

## Interim assessment (2024)

No jurisdictions have introduced changes to their risk assignment frameworks since 2021.

## 4.6 Interception

### Summary of actions under the NWI

Land use change activities have the potential to intercept significant volumes of surface and/or groundwater. Under the NWI, parties agreed to assess the significance of water intercepting activities (such as farm dams and bores, intercepting and storing of overland flows – or floodplain harvesting – and large-scale plantation forestry), and apply appropriate planning, management and regulatory measures to protect the integrity of the entitlements system and achieve environmental objectives, where necessary.

Under the Basin Plan, water resource plans are required to consider interception risks. Where interception activities are identified to be of a medium to high risk to water resources (in terms of potential impacts), water resource plans must set out processes for monitoring and managing the interception activity to ensure they meet sustainable diversion limits (MDBA 2017, pp. 1–2; NSW DOI 2018). Water resource plans must then be accredited.

The process for reviewing interception activities and their associated risks to water systems varies across jurisdictions.

### Previous findings (2021)

In 2021, the Commission found that jurisdictions had largely achieved the requirement to assess risks to water for most potential intercepting activities (PC 2021a, pp. 44–47). However, the Commission raised concerns that some major interception activities were not licensed or adequately recorded, highlighting the importance of accurate measurement and accounting of interception activities. Improvements were required to support the incorporation of interception activities into entitlement arrangements.

In its 2021 renewal advice for the NWI, the Commission recommended adoption of a risk-based approach to managing significant water interception activities, with the expectation that activities be incorporated into entitlement frameworks in fully or overallocated systems (PC 2021a, pp. 77–78).

## Interim assessment (2024)

Little significant progress has been made with interception activities since 2021.

### New South Wales

The New South Wales floodplain harvesting licensing rollout is complete in the Border Rivers, Gwydir, Macquarie and Barwon-Darling valleys, covering 80% of the volume of water taken through floodplain harvesting in New South Wales. Licensing in the Namoi valley is ongoing. Licensing of floodplain harvesting in all five northern valleys is expected to reduce the amount being harvested from floodplains by approximately 70 GL per year on average. It will also return several catchments to within sustainable limits of extraction when complete.

Incorporating floodplain harvesting into the licensing framework is a step in the right direction, providing the government with a mechanism to regulate previously unaccounted for extractions. However, concerns have

been raised about the historic floodplain harvesting estimates and the associated changes to baseline diversion limits and sustainable diversion limits (PC 2023b, p. 140). There is a real risk that the adjusted sustainable diversion limits due to the introduction of floodplain harvesting licensing sanction extraction levels that are environmentally unsustainable.

## Queensland

The decision to license take from overland flows in Queensland is based on the risk of the activity growing in a catchment. The Queensland Government has prioritised the implementation of licensing in the Queensland MDB, where the risk to water resources is high. The Border Rivers and Moonie water plan 2019 requires the certification and licensing of existing overland flow take, which is expected to be completed in 2024.

The introduction of Queensland's *Non-urban water measurement policy* in 2022 requires all overland flow entitlement holders to have a farm-scale measurement plan to document how water take is determined. Relevant amendments to the *Water Act 2000* (Qld) were passed in 2023, and the policy is expected to come into effect in 2024.

## 4.7 Integrating surface water and groundwater management

### Summary of actions under the NWI

An objective of the NWI is 'recognition of the connectivity between surface and groundwater resources and connected systems managed as a single resource'. Jurisdictions agreed, in preparing water plans, to assess the level of connectivity between surface water (including overland flow) and groundwater systems.

In the MDB, the Basin Plan requires MDB jurisdictions to assess the nature of connections between surface water and groundwater resources in their water resource plans.

### Previous findings (2021)

Jurisdictions have made significant progress since 2004 in recognising physically connected systems, with increasing recognition of interconnected groundwater and surface water systems in water plans. Several jurisdictions had updated their water management approaches in light of new information. In 2017 and 2021, the Commission found jurisdictions had largely achieved the requirements of the NWI commitment (PC 2017, pp. 67–76, 2021b, pp. 47–49). However, a more detailed assessment, beyond the scope of the inquiry, was required. It is also outside the scope of the current inquiry to conduct this assessment.

### Interim assessment (2024)

## New South Wales

Increased recognition of the connectivity between surface and groundwater sources has led to the introduction of cease-to-pump rules for some users in the *Hunter unregulated and alluvial water sources 2022 water sharing plan*. Access rules in the *Namoi groundwater sources 2021* have also been changed to protect connected water sources and associated assets. These measures reflect improved management of water systems in response to scientific assessments, as specified in the NWI.

## Victoria



The Victorian Government's *Groundwater Management 2030* statement of priorities, developed in 2023, includes plans for technical assessments of groundwater systems to better understand connections between systems and inform management.

## Western Australia



In 2023, the WA Government undertook assessments of the Fitzroy River catchment, Gingin Brook and Warren and Donnelly river catchments to better understand groundwater-surface water interactions. The findings will be used to inform water allocation plans for each system.

## Tasmania



A key initiative under the Tasmanian Government's Rural Water Use Strategy is the Groundwater Assessment Project. The project included the development of a groundwater risk assessment tool and a preliminary assessment of 32 groundwater assessment units which found six groundwater systems at high risk. Further research is now being undertaken to improve understanding of groundwater resources, including surface water-groundwater connectivity.

## 4.8 Renewal advice

NWI renewal advice in chapter six of the Commission's *National Water Reform 2021* inquiry report remains relevant. The Commission extends some of that advice below.

### NWI renewal advice 6.2: Water planning

UPDATED IN 2024

In renegotiating the National Water Initiative (NWI), State and Territory Governments should ensure that water planning provisions are maintained and enhanced.

Priorities to improve water planning are to:

- better specify measurable and well-informed cultural and environmental outcomes
- ~~and improve~~ engagement with Traditional Owners **and communities, including for governments to meet their commitments to priority reforms under the National Agreement on Closing the Gap and to develop partnerships for shared decision-making.**
- include principles to frame the process for assessing and reflecting the relative values placed by communities on environmental, social and economic outcomes to inform the trade-offs that have to be made in water planning. This process should be transparent, evidence-based and involve effective engagement with stakeholders.
- include principles for independent review of water plans. While the review processes would be determined by jurisdictions, the NWI could set out principles for reviews to promote their need to be robust and fit for purpose, focused on achieving the greatest net benefit and **how to apply effective stakeholder engagement** ~~involve community participation.~~
- **better take account of connectivity between systems.**

**NWI renewal advice 6.2: Water planning**

UPDATED IN 2024

Jurisdictions should continue to have discretion as to whether a plan is necessary and the effort put into its preparation, in accordance with paragraph 38 of the NWI. However, where a plan is not prepared for a water region, a renewed NWI should provide greater guidance on how contingent allocation frameworks are developed to be fit-for-purpose and appropriately manage the risk of overuse. In addition, where a water plan is not prepared, jurisdictions should:

- Publish a transparent justification of why the costs of a plan outweigh the benefits; and
- Set a clear trigger for developing a plan when circumstances change

Processes to better account for climate change are also required, including that:

- water plans include priorities, actions and rules that cover drought conditions, as well as mechanisms for dealing with more extreme scenarios, including clear triggers, roles and responsibilities for actions and a hierarchy of uses
- water quality issues are better incorporated into water planning, particularly in drought scenarios
- water planning processes in relatively undeveloped and developing water systems take climate change into account in ways that manage the risk of less water
- as water plans reach the end of their planning cycle, review processes promote improved water use and system operation to lessen risks in meeting the agreed environmental and consumptive objectives
- a process for rebalancing between environmental and consumptive uses as a result of climate change is developed. Rebalancing due to climate change should occur when there is sufficient evidence that the expected benefits will outweigh the likely costs. Where this occurs, governments should ensure that a water plan review assesses the feasibility of the objectives of the plan, sets new objectives that are realistic under climate change (including environmental, cultural and consumptive objectives), selects the most cost-effective option for meeting them and agrees a pathway to transition to the new balance. The process requires effective community partnerships and engagement, must be informed by the best available environmental, social and economic data and should be transparent
- there are clear provisions for allocating risk, with water access entitlement holders continuing to bear the risks to the consumptive pool arising from climate change and periodic natural events (as reflected in paragraph 48 of the NWI)
- climate modelling is undertaken at the system scale, based on the best available data and subject to on-going reviews and refinements. The models and information should be made publicly available and be subject to independent peer review or accreditation.

**4.9 Appendix****National Water Initiative water access and entitlements framework outcomes (section 25)**

The Parties agree that, once initiated, their water access entitlements and planning frameworks will:

- i) enhance the security and commercial certainty of water access entitlements by clearly specifying the statutory nature of those entitlements;

- ii) provide a statutory basis for *environmental and other public benefit outcomes* in surface and groundwater systems to protect water sources and their dependent ecosystems;
- iii) be characterised by planning processes in which there is adequate opportunity for productive, environmental and other public benefit considerations to be identified and considered in an open and transparent way;
- iv) provide for adaptive management of surface and groundwater systems in order to meet productive, environmental and other public benefit outcomes;
- v) implement firm pathways and open processes for returning previously overallocated and/or overdrawn surface and groundwater systems to *environmentally-sustainable levels of extraction*;
- vi) clearly assign the risks arising from future changes to the consumptive pool;
- vii) in the case of water access entitlements, be compatible across jurisdictions to improve investment certainty, be competitively neutral and to minimise transaction costs on water trades (where relevant);
- viii) reflect regional differences in the variability of water supply and the state of knowledge underpinning regional allocation decisions;
- ix) recognise indigenous needs in relation to water access and management;
- x) identify and acknowledge surface and groundwater systems of high conservation value, and manage these systems to protect and enhance those values; and
- xi) protect the integrity of water access entitlements from unregulated growth in interception through land-use change.

## 5. Water markets and trading

This chapter considers progress in achieving outcomes under element 2 of the *National Water Initiative* (NWI) – water markets and trading.

Under this element, all jurisdictions agreed to a common set of objectives, outcomes and actions to facilitate the development of efficient water markets in Australia, building on previous reform efforts. The NWI broadly focused on the ‘progressive removal of barriers to trade in water’ and other arrangements to facilitate an open trading market<sup>13</sup>.

The NWI outlined action areas designed to achieve the following outcomes:<sup>14</sup>

- facilitate the operation of efficient water markets and the opportunities for trading, within and between States and Territories, where water systems are physically shared or hydrologic connections and water supply considerations will permit water trading;
- minimise transaction costs on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions;
- enable the appropriate mix of water products to develop based on access entitlements which can be traded either in whole or in part, and either temporarily or permanently, or through lease arrangements or other trading options that may evolve over time;
- recognise and protect the needs of the environment; and
- provide appropriate protection of third-party interests.

A summary of the Productivity Commission’s assessment framework (appendix B) – which does not map perfectly against the action items – and progress against it is in table 5.1. The notes to the table indicate which assessment items relate to which NWI actions and outcomes.

<sup>13</sup> NWI paragraph 23(v).

<sup>14</sup> NWI paragraph 58(i-v).

**Table 5.1 – Assessment summary: water markets and trading**

NWI commitment	2021 assessment and progress indicator	2024 assessment <sup>a</sup> and progress indicator <sup>b</sup>	Comments – progress since 2021
<b>Water markets and trading</b>			
<b>Removing unwarranted trade barriers (section 5.1)<sup>c</sup></b>	Largely achieved 	Largely achieved 	Unwarranted trade barriers have been almost entirely removed or significantly reduced. There has been progress in removing remaining unwarranted barriers to water trading, yet interstate policy bans and longstanding trade barriers persist. Barriers also persist for trading between rural and urban water sectors.
<b>Publicly accessible and reliable water registers (section 5.2)<sup>d</sup></b>	Largely achieved 	Largely achieved 	Most jurisdictions have publicly accessible and reliable water registers and invest in improvements according to user needs. While Victoria has implemented comprehensive dashboards offering detailed information on water allocations, market prices, and ownership, change in other jurisdictions has been minimal.
<b>Reducing transaction costs by improving water market information (section 5.3)<sup>e</sup></b>	Largely achieved 	Largely achieved 	Jurisdictions continue to invest in enhancing water market information alongside water registers.
<b>Compliance with trade approval service standards (section 5.4)<sup>f</sup></b>	Achieved 	Achieved 	Basin states have consistently met the standards for processing times for trade approvals. Non-Basin jurisdictions vary in approach, with better outcomes achieved where standards are established and monitored.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraphs 60 and 62 and Schedule G. **d.** NWI paragraph 59. **e.** NWI paragraph 58(ii). **f.** Subsequent Ministerial agreement, builds upon NWI paragraph 58(ii).

## 5.1 Removing unwarranted trade barriers

### Summary of actions under the NWI

Jurisdictions agreed to establish compatible institutional and regulatory arrangements that facilitate intra and interstate trade that are free from barriers to trade. To this end, principles for trading rules (Schedule G of the NWI) were agreed that specify that restrictions on extraction, diversion or use of water resulting from a trade can only be used to manage environmental, hydrological, water delivery and related issues, and not to protect production, water infrastructure use or employment in particular locations or industries where water is being traded from or to. The NWI also required the immediate removal of institutional barriers to temporary trade, removal of barriers to permanent trade by 2014 and that no new barriers be imposed<sup>15</sup>.

<sup>15</sup> Paragraph 60 of the NWI.

## Previous findings (2021)

In its 2021 assessment, the Commission found that the removal of unwarranted trade barriers had been largely achieved by all jurisdictions, noting that:

- they have been largely eliminated or significantly diminished.
- trade has started to emerge in systems where it was previously absent, such as in the Northern Territory.

The Commission found that there are still some existing policy bans and barriers to trade between sectors. For example, trade out of irrigation districts into urban use, and between the environment and other uses.

Implementation of NWI-consistent trading frameworks has been slow in some jurisdictions, particularly interstate water trade between New South Wales and Australian Capital Territory. The Commission noted that discussion about trade arrangements had been ongoing for over a decade without obvious significant progress.

The Commission advised that water market arrangements should focus on cost effectiveness and simplicity where possible, and be tailored to need, with an eye towards expansion of water trading in the future, beyond the highly complex and sophisticated water market operating in the Murray-Darling Basin (MDB).

## Interim assessment (2024)

Noting the 2021 assessment that found that the removal of unwarranted trade barriers had been largely achieved by all jurisdictions, some trade restrictions and long-standing interstate trade barriers continue to persist. Most notably, implicit or explicit directions from governments to water utilities not to purchase or transfer water for urban use continue to operate (chapter 3). On interstate trade, discussions about trade between New South Wales and the Australian Capital Territory continue, having been ongoing for over a decade.

Below are some examples of jurisdictions' progress, maintenance or backsliding under this policy area. Where a jurisdiction is not shown, it is because the Commission has not identified any significant change since 2021.

### Murray-Darling Basin

The most significant reforms to remove water trade barriers since the commencement of the NWI are those that have largely occurred in the MDB (PC 2021a, p. 53). The Australian Competition and Consumer Commission (ACCC 2021) flagged concerns about perceptions of market manipulation and a lack in confidence among market participants, presenting as a barrier to trade (although did not find evidence of participants engaging in price manipulation). Some participants to this inquiry raised similar concerns (NSWIC, sub. 16, p.21; Cobram Estates, sub. 20, p.4-5; NFF, sub. 32, p.2). In response, the Australian Government has amended the Water Act, developing the *Water Amendment (Restoring Our Rivers) Act 2023* (Cth). These reforms, which are due to commence on 1 July 2024, provide additional powers and functions for the ACCC, Inspector General of Water Compliance (IGWC), and the Bureau of Meteorology (BOM) to enhance water market integrity and information transparency aimed at addressing these concerns (ACCC, sub. 11, p.3-4).

### Victoria

Victoria has completed an investigation into establishing an urban water market for South Central Victoria, encompassing Melbourne and nearby towns. The Commission understands that work is underway to create a pooled urban water resource by combining the Yarra-Thomson system and the Victorian Desalination Project. Additionally, trading rules in various water systems are under development, including for western

Victoria, for state-wide unregulated surface water trading rules, and for groundwater systems where connectivity with surface water is present.

## New South Wales

The NSW Government has implemented several initiatives to enhance water markets and trading outside of the MDB. The Commission understands that coastal New South Wales water trading has been reviewed to remove trade barriers while protecting environmental assets. A new water allocation trade rule was issued in 2023 for mines in the Special Areas of Sydney's drinking water catchment to consider incidental surface water use. This rule facilitates temporary trading for extractive water users in the greater metropolitan area to tackle a perceived barrier for water users located outside the MDB. In 2023, the NSW Government also combined some groundwater sources and permitting trade within the combined pool.<sup>16</sup>

The New South Wales Irrigators' Council raised concerns about the current regulation of trade in coastal areas of New South Wales:

NSW coastal water users note the current stifled nature of water trading and water markets in their regions, both in regulated and unregulated river sources. In water sharing plans, interconnected coastal river systems have been broken down into small trading areas based on types of flows. Consequently, limited trading takes place in these areas, hindering the market system. As a result of limited trading, water prices are lower than normal (sub. 16, p. 22).

## Queensland

In Queensland, progress has been made in enhancing water trading markets through the release of the Queensland Water Markets Optimisation Action Plan.

## Northern Territory

The Northern Territory continues to progress water trading opportunities within areas governed by declared water allocations plans (chapter 4).

The negotiation of an intergovernmental agreement between Western Australia and the Northern Territory to enable the use of water from Lake Argyle for proposed irrigated development in the Northern Territory, may provide further inter-jurisdictional trade opportunities in the future.

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<sup>16</sup> Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2023 (NSW).

## 5.2 Publicly accessible and reliable water registers

### Summary of actions under the NWI

States and Territories agreed to implement compatible, publicly accessible, and reliable registers for all water entitlements and trades (both permanent and temporary). The agreement stipulated that these registers must adhere to a set of guidelines (Schedule F to the NWI). These guidelines include ensuring the registers meet a sufficient standard to promote secure entitlements, providing accessible information (including trade prices), and being administered in a manner that seeks to minimise transaction costs for market participants<sup>17</sup>. The Parties also agreed that water registers should be administered according to specified procedures and protocols, aligning with land title office manuals and related guidelines.

### Previous findings (2021)

In 2021, the Commission found that while publicly accessible and reliable water registers have largely been achieved by jurisdictions, some still have limited accessibility.

### Interim assessment (2024)

Noting that most jurisdictions have achieved compatible, publicly accessible, and reliable water registers, compliance with Schedule F to the NWI varies. Improvements are still needed to ensure these registers meet the reliability and accessibility requirements of users (draft finding 5.1). For example, improvements to registers can help support market outcomes by improving ease of access, search and information availability by adding:

- information about the holder of the licence
- information about other interests in the licence (e.g. registered mortgages)
- an ability to search the register by location of water entitlement or entitlement holder name (instead of needing to know the licence 'number' in order to search)
- publicly available information without requiring the payment of fees.

Making these changes would increase the efficacy of registers in supporting trade in water entitlements. Such changes to water registers would be in line with information contained in other government registers, like registers of land property title, the Australian Business Registry and the Register of Radiocommunications Licences.

#### Victoria

Victoria has further developed its water register, introducing new dashboards that provide information on allocations, market prices, ownership, product types, and water availability.

#### South Australia

South Australia has amended laws relating to its water register to enable water entitlements to be used as a financial security, and for financiers to recover in the event of default. These amendments also improve arrangements for subdividing, agency and joint ownership for water licences.

<sup>17</sup> Relevant to outcomes in paragraph 58 ii), iii) and v) of the NWI.

## 5.3 Reducing transaction costs by improving water market information

### Summary of actions under the NWI

High transaction costs hinder market trading. Minimisation of transaction costs, by facilitating “good information flows”, was a specific outcome under the NWI.<sup>18</sup> To this end, the establishment of water registers was a key NWI action (section 5.2). This section considers additional sources of market information, such as the content and interpretation of trade rules, historical trends and drivers of water trade, and information on water resource quality and accessibility. In addition to the content of information, the mode of communication and organisation of information can lower transaction costs.

### Previous findings (2021)

In 2021, the Commission found that jurisdictions had largely achieved their NWI commitments, investing in improvements in water market information to complement the information in water registries.

The Commission advised governments to prioritise investment in services that improve market information to circumstances where there were clearly identifiable benefits from greater information (e.g. systems with high trade volumes) and where market failure means the information is not provided privately. The Commission noted that stakeholders had complained that a lack of information on water markets was a hindrance to trade, and that this suggests previous investments may not have proven effective or adequate.

The Bureau of Meteorology’s work on water market information has enhanced trade data accessibility in jurisdictions with lower trade volumes, though challenges persist in higher-volume regions. This platform provides a dashboard, general information on water markets, the national water account and annual review and analysis of water trading activity in Australia.

### Interim assessment (2024)

Efficient and equitable water markets rely on accessible, accurate, and timely information for market participants. This encompasses various pieces of information, including water prices, trade rules and limits, water allocation, long-range weather forecasts, characteristics of water products such as carryover rules.

While jurisdictions continue to invest in improvements in water market information, the ACCC, in its MDB Water Markets inquiry, found that there was a lack of quality, timely and accessible market information (sub. 11, p. 3). This criticism was raised in the context of this inquiry by the NSW Irrigators Council (sub. 16, p. 21).

As noted in section 3.1, new powers and functions for the ACCC, IGWC and BOM, seeking to address these concerns, are due to commence on 1 July 2024.

Currently, at a national level, the Water Act gives BOM the responsibility for compiling and disseminating comprehensive water information, including on trading and markets. BOM’s water markets dashboard and Australian Water Markets reports provide the most centralised and comprehensive set of market information.

Some State and Territory Governments are undertaking work to improve the quality and accessibility of trade-related information. As the Commission noted in 2021, governments should continue to invest in water market information in cases of established public benefit and/or market failure.

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<sup>18</sup> Paragraph 58 ii) of the NWI.

## New South Wales

In New South Wales, WaterNSW is upgrading its digital services for processing trade applications and water account management. This is intended to integrate systems, introducing an online Customer Portal for groundwater allocation trade submissions and inquiries. Additionally, work is also underway to increase daily updates to BOM for real-time trade information in New South Wales.

## Victoria

Victoria has improved its water market information by annually disclosing owners holding 2% or more of high reliability water shares in the Goulburn and Murray systems. Additionally, updates on River Murray delivery risks downstream of the Barmah Choke and jurisdictional actions are published.

Improved allocation trade price information, particularly for the two Victorian Murray trading zones (above and below the Barmah Choke), is accessible on the Victorian Water Register website along with more detailed pricing summaries.

## Queensland

Queensland has started publishing seasonal water assignment price data daily for both supplemented and unsupplemented water, and this reflects a positive step towards transparency and accessibility.

## Tasmania

Tasmania has allocated funds for developing a new water information management system, which aims to enhance the accessibility, security, and functionality of water licensing information.

## 5.4 Compliance with trade approval service standards

### Summary of actions under the NWI

This action is designed to minimise market transaction costs. Following agreement by COAG, the Natural Resources Management Ministerial Council (NRMMC) set service standards for the MDB jurisdictions in 2009. These standards require at least 90 per cent of water allocation trade applications to be processed within 5-20 business days, depending on the complexity of the trade. This initiative was intended to promote faster processing of trades and is aligned with the NWI outcome of minimising transaction costs.

### Previous findings (2021)

In 2021, the Commission found that the Murray-Darling Basin states have consistently met the standards for processing times for trade approvals, with other jurisdictions generally monitoring more informal approval standards.

### Interim assessment (2024)

The Commission's interim assessment is that all jurisdictions have standards or other arrangements in place that aim to facilitate efficient processing of trades.

New South Wales, Victoria, Queensland and South Australia are continuing to meet standards for processing times for trade approvals as agreed by the NRMMC (Queensland Government 2024b; South Australian Government nd; Victorian DELWP 2024; WaterNSW 2023).

In the Northern Territory, processing standards have been developed and are monitored for trading entitlements. The time frame varies, depending on whether the acquirer already holds a water licence – where the person does not hold a water licence it is expected to take up to 120 days, and where the person is an existing licensee the request should be processed in less than 20 days (Northern Territory Government 2024). The Commission understands that the average processing time for trade applications in the Northern Territory meets these targets.

By comparison, other states do not have specific targets for water trade approvals. Tasmania has administrative arrangements to expedite time-sensitive short-term trade approvals. Western Australia applies risk-based processing targets for all types of water license applications. These targets are 65 days (low risk applications), 75 days (medium risk applications, and 95 days (high risk applications) (WA DWER 2019). The Commission understands that these targets have been met over the last three years.

The experience of the MDB states and the Northern Territory demonstrate the benefit of having set targets for processing trade applications, with similar processing times that support market participants seeking to trade. While there have been improvements in the trade approval process over time, ensuring efficient processing remains critical for transparent and effective water trading systems across the nation.

## 5.5 Draft finding



### Draft finding 5.1

**Trade registers are improving, but there is still significant potential for further improvement to provide necessary information to market participants**

Most state and territory governments have implemented water registers that comply with the NWI outcomes and actions.

Further improvements, such as ensuring that water registers include current entitlement and allocation information, real time (or recent) trade data, and that registers are freely accessible by the public, and ideally, easy to search, would increase the efficacy of registers in supporting trade in water entitlements.

## 6. Best practice pricing and institutional arrangements

This chapter considers progress in achieving the following underlying objectives under element 3 of the *National Water Initiative* (NWI) – Best practice water pricing and institutional arrangements:

- deliver economically efficient and sustainable use of water resources, water infrastructure assets and government resources devoted to the management of water
- ensure sufficient revenue streams to allow efficient delivery of the required services
- facilitate the efficient functioning of water markets, including inter-jurisdictional water markets, and in both rural and urban settings
- give effect to the principles of user-pays and achieve pricing transparency regarding water storage and delivery in irrigation systems and cost recovery for water planning and management
- avoid perverse or unintended pricing outcomes, and
- provide appropriate mechanisms for the release of unallocated water.

The NWI outlined seven action areas against these outcomes (paragraphs 13-16), and for the purposes of assessment, these are grouped under the following headings:

- Best practice pricing and regulation (NWI paragraphs 65, 66, 77)
- Investment of new and refurbished infrastructure (NWI paragraph 69)
- Cost recovery for water planning and management (NWI paragraphs 67, 68)
- Environmental externalities of water use (NWI paragraph 73)
- Release of unallocated water (NWI paragraphs 70, 71, 72)
- Separation of water management from service delivery (NWI paragraph 74)
- Performance benchmarking (NWI paragraphs 75, 76)

A summary of the Productivity Commission's assessment framework (appendix B) – which does not map perfectly against the action items – and progress against it is in table 8.1. The notes to the table indicate which assessment items relate to which NWI outcomes.

**Table 6.1 – Assessment summary: best practice pricing and institutional arrangements**

NWI commitment	2021 assessment and progress indicator	2024 assessment <sup>a</sup> and progress indicator <sup>b</sup>	Comments – progress since 2021
<b>Best practice pricing and regulation (section 6.1)<sup>c</sup></b>			
<b>Urban water: regulated</b>	Partially achieved 	Partially achieved 	Pricing outcomes are only comprehensively being met in New South Wales, Victoria and the Australian Capital Territory. Queensland (bulk water) and Western Australia should introduce more robust independent economic regulation and Tasmania should remove limitations placed on the independent regulator.
<b>Urban water: not formally regulated</b>	Largely achieved 	Largely achieved 	Under-pricing likely to be continuing for regional utilities in Queensland and New South Wales and subsidies are not being structured as transparent Community Service Obligations.
<b>Rural water: government owned</b>	Partially achieved 	Partially achieved 	Queensland is moving further away from full cost recovery. Pricing outcomes in other jurisdictions have not undergone any significant change since 2021.
<b>Rural water: user owned</b>	Achieved 	Achieved 	Consistent with the Commission's previous inquiries, it has not directly considered pricing outcomes.
<b>Rural water: cross jurisdictional</b>	Partially achieved 	Partially achieved 	No substantial changes have been observed since 2021
<b>Investment in new and refurbished infrastructure (section 6.2)<sup>d</sup></b>			
<b>Urban</b>	Partially achieved 	Partially achieved 	Since 2021, some major projects have been approved that were not assessed for economic viability through a comprehensive benefit-cost analysis. Other major projects have been approved despite unfavourable benefit-cost analysis.
<b>Rural</b>	Partially achieved 	Partially achieved 	Project assessment is not transparent in many cases. Governments have continued to publicly fund irrigation infrastructure for private benefit.
<b>Other pricing and institutional arrangements (sections 6.3-6.6)</b>			
<b>Cost recovery for planning and management<sup>e</sup></b>	Partially achieved 	Partially achieved 	No substantial changes have been observed since 2021
<b>Environmental externalities of water use<sup>f</sup></b>	Achieved 	Achieved 	No substantial changes have been observed since 2021

NWI commitment	2021 assessment and progress indicator	2024 assessment and progress indicator <sup>a</sup>	Comments – progress since 2021
Release of unallocated water <sup>g</sup>	Largely achieved 	Largely achieved 	No substantial changes have been observed since 2021
Separation of functions <sup>h</sup>	Achieved 	Achieved 	The Australian Capital Territory has recently rearranged functions between a new Office of Water and the Environmental Protection Authority to strengthen separation of regulatory enforcement and water management policy
<b>Performance benchmarking (section 6.7)<sup>i</sup></b>			
Urban	Achieved 	Achieved 	The ongoing National Performance Report Indicator Review is well-placed to improve outcomes from benchmarking.
Rural	Terminated 	Terminated 	Rural benchmarking was discontinued in 2014

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraphs 65, 66, 77 **d.** NWI paragraph 69 **e.** NWI paragraphs 67,68 **f.** NWI paragraph 73 **g.** NWI paragraphs 70, 71, 72 **h.** NWI paragraph 74 **i.** NWI paragraphs 75, 76.

## 6.1 Best practice pricing and regulation

### Summary of actions under NWI

Under the NWI, jurisdictions agreed to bring into effect cost reflective and consumption-based pricing policies for water storage and delivery in rural and urban systems to facilitate efficient water use and trade in water entitlements. Jurisdictions also agreed to use independent pricing regulators to ‘set or review prices, or price setting processes, for water storage and delivery by government water service providers on a case-by-case basis. All providers, regardless of ownership are required to publicly review and report on pricing, and to report subsidies.

The NWI sets differing price outcomes for the supply of water services to metropolitan and ‘rural and regional’ users. While the NWI requires metropolitan providers to achieve ‘continued movement towards

upper bound pricing<sup>19</sup>, it only required ‘rural and regional’ services to achieve upper bound pricing ‘where practicable’. However, rural and regional services are to achieve lower bound pricing<sup>20</sup> outcomes.

In cases where full cost recovery is unlikely to be achievable in the long term and a community service obligation (CSO) is deemed necessary, the NWI requires the size of any CSO to be reported publicly and that jurisdictions consider actions to remove the need for an ongoing subsidy.

## Assessment framework

To comprehensively assess price setting and regulatory aspects among the diverse landscape of utility service providers, the Commission has categorised providers into two main groups: **urban** and **rural**. Within the urban category, there are two additional sub-classifications: **urban-regulated** and **urban-not formally regulated**. Rural providers fall into three distinct categories: **government-owned**, **user-owned**, and **cross-jurisdictional**.

## Urban water services that are formally regulated

### Previous findings (2021)

In 2021 the Commission noted that pricing practices for businesses subject to formal price regulation including those in the New South Wales, Victoria and the Australian Capital Territory are generally consistent with upper bound pricing.

Southeast Queensland’s bulk water provider, Seqwater (that in turn provides water to water retailers) has prices recommended by the economic regulator, the Queensland Competition Authority (QCA)<sup>21</sup>. These recommendations are considered by government in determining prices. In Western Australia, the prices for state owned water providers are set by government, with private providers able to determine their own prices. The Western Australia Economic Regulatory Authority (ERA) can conduct price reviews to inform government decisions, when requested by government. In practice, the Queensland Government has accepted the prices recommended by the QCA. However, in Western Australia, the government has not accepted the prices recommended by the ERA, leading to prices that do not reflect full cost recovery.

In Tasmania the price setting processes were in line with full cost recovery. However statutory limitations on the size of allowable price movements from period to period prevented it from being achieved. While Tasmanian providers had not been consistently pricing at upper bound levels, as the Commission noted in its National Water Reform (PC 2017, p. 404) inquiry, they were subject to government commitments to increase prices over time – which is broadly consistent with the NWI’s requirement to achieve ‘continued movement towards upper bound pricing’.

In South Australia, the Commission noted that the revenue-setting process of the Essential Services Commission of South Australia (ESCOSA) could be subject to ministerial direction. The Minister for Environment and Water can direct SA Water – a wholly Government of South Australia owned water

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<sup>19</sup> the level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (TERs), *provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital (WACC)*.

<sup>20</sup> the level at which to be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome

<sup>21</sup> Metropolitan and regional water retailers in other parts of Queensland were not subject to regulation. This is covered in the next section on providers that are not formally regulated.

services provider – to undertake certain capital and operational expenditures and ESCOSA is subject to a pricing order, issued by the Treasurer, that requires it to allow SA Water to recover those expenditures specified in the Minister’s direction. Any expenditures directed by the Minister for Environment and Water are then recovered from SA Water’s customers, without independent scrutiny of those expenditures.

### Interim assessment (2024)

In relation to this NWI commitment, little change or progress has been made by jurisdictions in implementing cost reflective and consumption-based pricing since the Commission’s 2021 assessment.

Some jurisdictions have strong institutional arrangements for determining water prices. However, some other state and territory governments appear to be moving further away from price levels that reflect the cost of water service provision (draft finding 6.1), for reasons other than meeting policy objectives through a transparent community service obligation.

The interim assessment highlights a need to recommit to independent economic regulation through a renewed NWI. Some jurisdictions have not fully implemented independent economic regulation of water utilities, resulting in costs to be borne by those who do not benefit from water use. These jurisdictions risk not supporting efficient water use, not appropriately signalling need for investment, and not promoting financial viability of the water industry, to the detriment of economic, social and environmental wellbeing. This reaffirms the Commission’s renewal advice (11.2) for best practice economic regulation. This renewal advice was also supported by participants, including the ACCC (sub. 11, p. 6), SACOSS (sub. 23, p. 8) and WSAW (sub. 15, p. 12).

Below are some examples of jurisdictions’ progress, maintenance or backsliding under this policy area. Where a jurisdiction is not shown, it is because the Commission has not identified any significant change since 2021.

### New South Wales, Victoria and the Australian Capital Territory

New South Wales, Victoria, and the Australian Capital Territory continue to have pricing processes and economic regulation that generally meet NWI requirements.

The Commission also notes that the Independent Pricing and Regulatory Tribunal (IPART) – the economic regulator in New South Wales – implemented the 3Cs framework in November 2022 to improve efficiency of New South Wales water service providers and address key challenges like climate change and a growing population. The high-level objectives of this framework are:

- Broaden IPART’s price monitoring capabilities to safeguard customer’s long and short term interests
- Provide greater flexibility to water users to tailor services to better achieve customer expectations
- provide new incentives for water businesses to demonstrate ambition in the delivery of services and outcomes that matter most to customers, and hold them accountable for meeting their commitments to customers (IPART 2022).

Victoria has continued to use the ‘PREMO’ model (comprising elements of performance, risk, engagement, management and outcomes) which was previously assessed (PC 2021a, p. 197) as giving a strong emphasis to consumer engagement. This is consistent with the Commission’s renewal advice (11.2) that regulatory decisions should promote the long-term interests of consumers.

## Queensland

The QCA is (still) only empowered to recommend prices for Seqwater and no other water providers. The Queensland Government sets Seqwater prices in line with the QCA recommendations, and adopting the recommended rate of return (Queensland Government 2022). The QCA is currently conducting a price monitoring investigation in relation to the Gladstone Area Water Board – the bulk water provider for the Gladstone region. The investigation may make findings about revenue needed to recover efficient costs, but does not set or recommend prices. This investigation follows previous price investigations, most recently the 2022-2026 Seqwater pricing investigation where QCA recommended that bulk water price should increase by 2.14% for each of the 4 years within the assessment period (QCA 2022) The Government accepted the prices recommended by the QCA. Other water suppliers in Queensland are (still) not subject to price regulation.

## Western Australia

The most recent pricing recommendations provided to the WA Government regarding Water Corporation prices were provided by the ERA in 2017. The WA Government has not requested a price inquiry since that time. The 2017 ERA price review highlighted cross-subsidies between water services and wastewater services, as well as cross-subsidies between metropolitan and regional customers. The review found that in 2017 the average annual bill for wastewater was about \$407 (around \$492 in 2023 dollars) higher than the efficient estimate, and the average annual bill for water supply was about \$28 lower (around \$34 in 2023 dollars).

## South Australia

The practice of the South Australia Water Minister directing SA Water to invest in certain infrastructure projects continues. Investment subject to ministerial direction allows SA Water to recover the costs of directed expenditure. This undermines the independence of economic regulation and risks imposing additional costs on customers. However, Ministerial directions under section 6 of the *Public Corporations Act 1993 (SA)* are generally gazetted, therefore transparent and enabling the public to form a view on the direction.

South Australian Council of Social Service (SACOSS) suggested the projects subjected to ministerial directions should be re-evaluated to ensure that the costs incurred remain prudent, efficient, and no more than necessary for the safe and reliable provision of water network services. SACOSS also noted that these directed projects may displace other water expenditure plans that had been developed in partnership with communities. Additionally, SACOSS emphasised that risks should be allocatable equitably to consumers (Sub. 23, p.8)

## Tasmania

The Office of the Tasmanian Economic Regulator (OTTER) remains constrained by statutory limitations and maximum price ceilings which limit the rate of annual price increases that can be passed on to consumers to 3.7%. This is well below TasWater's estimate of a 6.5% annual increase to achieve full cost recovery by 2025-26.

## Urban water not formally regulated

### Previous findings (2021)

The Commission previously noted that most funding provided to the unregulated local water utilities in the Northern Territory, New South Wales and Queensland are not fully compliant with the requirements of the NWI. The Commission's renewal advice in 2021 recommended that all jurisdictions agree to provide transparent CSOs with the clear intention of utilities achieving full cost recovery.

## Interim assessment (2024)

The Commission remains of the view that unregulated utilities in the Northern Territory, New South Wales and Queensland need to adopt consistent measurement and reporting guidelines that are compliant with the NWI. Subsidies should be provided in the form of transparent CSOs instead of capital grants. Finally, state and territory governments should introduce independent economic regulation for metropolitan utilities that are not currently regulated.

### New South Wales

It is unlikely that full cost recovery among the unregulated Local Water Utilities in New South Wales is being achieved. Based on the economic real rate of return (ERRR), the New South Wales government has previously stated that the majority of these utilities have been recovering full cost (PC 2021a, p. 86). However, as the Commission found in our 2021 assessment, water pricing by unregulated Local Water Utilities is not likely to align with the NWI Pricing Principles.<sup>22</sup> These providers have also been allocated over \$1 billion worth of capital grants from the state government through the Safe and Secure Water Program (NSW DPIE 2022, p. 3) but not through transparent CSOs.

The majority of the funding under the Safe and Secure Water Program has been provided through capital grants and does not appear to have been targeted towards service areas where full cost recovery is not possible, and therefore is unlikely to be in line with the NWI and the NWI Pricing Principles.

### Queensland and Northern Territory

There has been little progress since 2021 in relation to pricing and regulation settings for the unregulated urban water utilities in Queensland and the Northern Territory. Current arrangements are not fully compliant with the requirements of the NWI. The Environment Centre NT (sub. 54, p.11) have highlighted the lack of independent economic regulation and funding challenges among regional utilities in the Northern Territory. Similarly the Queensland Audit Office (2024) noted that 48 of Queensland's 77 regional and remote councils are financially unstable, and the rate of capital grants provided to these councils have increased over the past 2 years.

## Rural water: government owned

For the purposes of this assessment, 'rural water' refers to water provided mainly for irrigated agriculture, which is delivered via a mix of bulk water services and distribution services operated by government corporations and private providers (often member corporations or trusts).

The absence of dedicated water services for irrigated agriculture in the Northern Territory and the Australian Capital Territory for the period 2021–2024, means those jurisdictions have not been included in this assessment.

## Previous findings (2021)

The Commission (2021b, p. 95) previously noted that New South Wales and Victoria have largely achieved full cost recovery. However, the transition to full cost recovery in Queensland has slowed and is at risk of

<sup>22</sup> The NWI Pricing Principles require specific treatment for legacy assets, new infrastructure investments and contributed or 'gifted' assets. This is designed to avoid water users paying for assets that have been already funded by governments or developers. By comparison, the ERRR is developed based on financial information reported by utilities, which may not reflect the different treatment specified in the NWI Pricing Principles. Therefore, the method for estimating the asset base of providers is unclear and, in some cases, significantly different from regulated asset bases (RABs) used by economic regulators or book values listed in company financial statements (PC 2017, p. 393).

backsliding. In Western Australia, the last pricing inquiry conducted by the ERA in 2017 estimated that irrigation customers contribute less than 30 percent towards the estimated efficient cost of supply. Additionally, there is a need for more transparent information regarding prices and costs for irrigation services in Tasmania and South Australia to assess whether actual revenues are sufficient to fund efficient maintenance of assets.

### **Interim assessment (2024)**

Most jurisdictions have not changed their approach to the pricing of bulk water services since the Commission's 2021 assessment.

In Queensland, water prices recommended by the QCA, were previously implemented by government, but this practice has been wound back since 2021. The Queensland Government has required Seqwater and Sunwater to provide a 15% discount to all irrigators (and an additional 35% discount for irrigation of horticulture crops) on the prices recommended by the QCA. The Commission understands that the Queensland Government considers these arrangements to be NWI compliant through the provision of community service obligations by Seqwater and Sunwater, originally designed as COVID-19 relief measures. While government payments in the form of a community service obligation are justified under the NWI in some circumstances, these particular payments do not meet the suggested criteria. Specifically, the provision of irrigation water by Seqwater and Sunwater are not "small community services that will never be economically viable but need to be maintained to meet social and public health obligations" (paragraph 66.v of the NWI).

### **Rural water: User owned**

User-owned distribution networks tend to have sufficient incentives to set prices that include the associated costs to maintain the infrastructure network (ACCC 2016, p. 42). For this reason, the Commission has not directly considered the pricing outcomes in its assessment of progress for New South Wales, South Australia and Western Australia, where distribution networks are user-owned.

These networks have a degree of market power and could theoretically engage in discriminatory pricing behaviour. In the Murray-Darling Basin, however, regulation is in place to limit the abuse of market power via water charges rules (PC 2017, p. 258). The Commission has not been made aware of concerns about privately-owned irrigation networks exercising market power in the course of this inquiry.

### **Rural water: cross jurisdictional**

#### **Previous findings (2021)**

In its 2021 inquiry the Commission (2021b, p. 98) noted that more transparency is needed about which costs are passed through to irrigators, and how costs are passed on, particularly in Queensland and South Australia.

Existing state-based regulators have the expertise to scrutinise pass-through costs from cross-jurisdictional providers and provide some indirect scrutiny through existing price setting processes in New South Wales and Victoria. Coordination between jurisdictional regulators is important to support the consistent pass through of costs to entitlement holders regardless of where those entitlements are held.

#### **Interim assessment (2024)**

The Commission maintains the view that jurisdictions have partially achieved the relevant NWI outcomes, even though the transparency of cost pass-through arrangements for cross-jurisdictional service providers

could be improved. Existing economic regulators are well placed to ensure that only efficient costs are passed through to water users.

## 6.2 Investment in new or refurbished infrastructure

### Summary of actions under NWI

Jurisdictions agreed under the NWI that investment in new or refurbished water infrastructure would only proceed where assessed as economically viable and ecologically sustainable prior to the investment occurring. The NWI did not prescribe any additional actions to support the delivery of these outcomes.

### Urban infrastructure

The Commission has considered a range of institutional elements that can support investment in economically viable and ecologically sustainable urban water infrastructure. These include:

- governance arrangements that promote robust decision making by service providers
- clear institutional responsibilities around investment planning processes
- rigorous independent review of investment decisions to ensure economic viability, including in cases of government investment
- independent assessments to ensure ecological sustainability (including environmental impact assessments)
- government subsidy programs that do not distort investment decisions

### Previous findings (2021)

The Commission's view in its 2021 assessment was that this requirement of the NWI was only partly achieved. Although some jurisdictions had improved their decision-making frameworks, a small number of major projects appeared to be inconsistent with the NWI and majority of the projects were not being subjected to independent economic scrutiny.

### Interim assessment (2024)

Since 2021 Australian and state and territory governments have allocated funds to several major urban infrastructure projects that have not been assessed for economic viability through a comprehensive benefit-cost analysis (draft finding 6.2).

The Commission understands that there is no publicly available benefit-cost analysis for the Muddy Gates Storm Water Harvesting Scheme in Victoria, and the Bathurst Water Harvesting and Winburndale pipeline project in New South Wales. Additionally, the Commission understands that other projects that have been subject to a benefit-cost analysis have been approved where economic viability has not been demonstrated (a benefit–cost ratio of less than 1).

All governments should recommit to good governance on infrastructure decision making, including robust and transparent decision-making processes, consistent with the Commission's renewal advice (14.1-14.2).

### Rural infrastructure

In 2021, the Commission considered the following criteria in assessing whether government funding or financing of rural water infrastructure complies with the NWI.

- commitment to full cost recovery from users, with any government grants or subsidies transparently reported and limited to the extent of public benefits provided by a project.
- economic viability demonstrated through benefit-cost analysis (with a robust benefit– cost ratio greater than one), with the analysis published to allow assumptions to be scrutinised.
- NWI planning and entitlements frameworks in place prior to the project being constructed, and NWI compliance a condition of government funding.

### **Previous findings (2021)**

The Commission (2021b, p. 110) previously noted its concerns about government funding for projects that are not economically viable, and about the quality of business cases for major rural water infrastructure more generally. Also highlighted was the risk of major developments funded by governments being underutilised, not providing net benefits to the Australian community, and ultimately imposing a range of long-term costs on water users, communities, and taxpayers.

The Commission concluded that although robust frameworks for addressing issues related to the selection of projects funded by the Australian Government are presently in place, they are not being applied in an effective and transparent manner. (PC 2021a, p. 106).

The Commission advised that this NWI commitment had only been partially achieved and had been backsliding since its previous assessment in 2017 (PC 2017, p. 420).

### **Interim assessment (2024)**

The Commission remains concerned about the quality and transparency of project assessment processes in assuring ecological sustainability and economic viability of rural water infrastructure projects.

In response to requests for information about major government-funded rural water projects, governments indicated that they (or the relevant water utility) had assessed these projects as providing net benefits. However, the underpinning analyses were not published and were unavailable for public feedback or scrutiny.

The Australian, state and territory governments have continued to fund irrigation infrastructure projects that have large private benefits, likely imposing costs on taxpayers and potentially distorting trade and investment decisions.

The Australian Government established the National Water Grid Authority (NWGA) in October 2019. The NWGA is responsible for coordinating the Australian Government's \$3.5 billion National Water Grid Fund, a rolling 10-year water infrastructure program focused on improving water security for primary industry. Australian Government investment in national water infrastructure now occurs in accordance with the NWGA's October 2021 Investment Policy Framework.

The Framework's investment principles include that:

- projects should be of demonstrable public benefit and have a national interest element
- projects should align with the NWI principles including appropriate cost recovery, and where full cost recovery is not deemed feasible, any subsidies are fully transparent
- if providing capital, a consistent, robust analysis of costs and benefits is used and assessment of appropriate funding and financing arrangements is undertaken (Australian Government 2022, p. 6).

Based on information provided to the Commission about projects funded under the NWGA, including about benefit cost analyses, the underlying principles (whilst sound) are not being comprehensively applied. For example, when the South Australian Government committed to build a desalination plant, instead of relying

on rural-urban water trade, the Australian Government provided \$328 million of funding on the condition that the plant's capacity was increased from 50 to 100 GL per year (PC 2011, p. 102). As noted by ATSE:

The current practice of Commonwealth grants for specific projects creates perverse incentives for states to undertake projects that attract grants even if they may be less economically favourable overall (sub. 5, p. 2).

The Commission maintains the view that the role of government in the commissioning of new irrigation infrastructure is an area requiring improvement in all jurisdictions (draft finding 6.2). Overall, this assessment reaffirms the Commission's renewal advice (14.1-14.2), highlighting the importance of investments being economically viable and ecologically sustainable, with decisions informed by comprehensive cost benefit analyses and independent scrutiny. Other participants in the inquiry have also supported this approach, including the NFF (sub. 32, p.14), the Central Land Council (sub. 44, p.28-29) and the ACCC (sub. 11, p.2).

## 6.3 Cost recovery for water planning and management activities

### Summary of actions under the NWI

An intended outcome of the NWI is to promote economically efficient and sustainable use of government resources devoted to the management of water (paragraph 64.i.c). To support achievement of this outcome, the NWI requires jurisdictions to:

- bring into effect consistent approaches to pricing, and attribute costs of water planning and management, including those underpinning water markets and that can be reasonably attributed to water access entitlement holders
- report publicly on cost recovery for water planning and management as part of annual reporting requirements.<sup>23</sup>

### Assessment framework and previous findings (2021)

The 2010 NWI Pricing Principles set out how water planning and management costs are to be attributed (NRMMC 2010). Those principles specify what constitutes a water planning and management activity and outlined principles for: determining the cost-effectiveness of those activities; the allocation and differentiation of costs by region and/or water source; and the treatment of community service obligations.

In 2021 the Commission found that jurisdictions have only partially achieved cost recovery for water planning and management activities, although some jurisdictions have widened the scope of cost recovery.

New South Wales had largely met the compliance requirements. The Commission highlighted the scope to improve arrangements in Queensland, where total planning and management costs are only partially recovered, and the Northern Territory, where there is little to no reporting. The Commission noted that Western Australia had introduced water license fees with a view to implementing a user pays approach to fee setting.

The Commission noted that broad-based levies for cost recovery used in Victoria, South Australia and the Australian Capital Territory are administratively simple, but economically inefficient because they:

<sup>23</sup> National Water Initiative, paragraphs 67-68.

- impose less discipline on governments to discern between the costs incurred for water planning and management activities and costs incurred in delivering other policy goals (including those that should instead be funded by governments)
- create cross subsidies (and inequitable outcomes) when levies are set based on the funding requirements across a jurisdiction (or region) rather than the planning and management needs of particular water sources (PC 2021a).

## Interim assessment (2024)

No significant changes have been observed since the Commission's assessment in 2021. The Commission's view remains unchanged – this requirement is partially achieved, with scope for improvement in Queensland, Tasmania, Western Australia and the Northern Territory in terms of reporting the extent to which fees and charges cover water planning and management costs. Scope for improvement also remains to implement a more precise cost recovery system, replacing the current broad-based levies in the Australian Capital Territory and Victoria.

## 6.4 Environmental externalities of water use

### Summary of actions under the NWI

Under the NWI jurisdictions agreed to:

- continue to manage environmental externalities through a range of regulatory measures (such as through setting extraction limits in water management plans and by specifying the conditions for the use of water in water use licences)
- continue to examine the feasibility of using market-based mechanisms in managing both positive and negative environmental externalities associated with water use
- implement pricing that includes externalities where found to be feasible.<sup>24</sup>

### Assessment framework and previous findings (2021)

The assessment of the management of environmental externalities is based on the regulatory measures and charges imposed by jurisdictions.

As the Commission noted in 2021 (2021b, p. 114), management of environmental externalities of water use under the NWI – largely through the imposition of extraction limits and conditions on water licences, including in approvals required under environmental laws – had been achieved when previously assessed.

That said, the Commission noted that levies applied by the ACT, Victoria and South Australia are not well-suited to address specific negative externalities (as they do not facilitate the application of the *impactor* or *polluter pay principle*<sup>25</sup>). However, they can still raise revenue to address the environmental impacts of water use through other means.

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<sup>24</sup> National Water Initiative, paragraph 73.

<sup>25</sup> Under the impactor pays approach the people whose actions affect the environment are required to pay the cost of activities that ameliorate or prevent environmental damage.

## Interim assessment (2024)

This Commission remains of the view set out in its 2021 assessment that this requirement has largely been achieved, with no significant changes observed or reported since 2021.

## 6.5 Release of unallocated water

### Summary of actions under the NWI

An intended outcome of the NWI is to provide appropriate mechanisms for the release of unallocated water.<sup>26</sup> The NWI provided jurisdictions with the freedom to choose how to release unallocated water, within the context of encouraging sustainable and efficient water use.

Jurisdictions agreed that:

- where a release is justified, it should occur only where alternative ways of meeting water demands, such as through water trading, making use of the unused parts of existing entitlements or by increasing water use efficiency, have been fully explored
- releases should occur through market-based mechanisms (to the extent practicable).<sup>27</sup>

### Assessment framework and previous findings (2021)

The assessment of the release of unallocated water is based upon the planning systems and market based mechanisms that are in place in a jurisdiction for the release of unallocated water.

In 2021 the Commission (2021b, p. 119) concluded that all jurisdictions use water plans and water resource assessments to inform decisions on the release of unallocated water, while most also use (or legally can use) market mechanisms or a price on entitlements in their release of unallocated water. Western Australia and the Northern Territory are the only jurisdictions not using market-based mechanisms to release unallocated water. However, the NWI recognises that use of market mechanisms may not always be practicable. In summary this NWI requirement has largely been achieved.

## Interim assessment (2024)

The release of unallocated water in all jurisdictions is informed by our assessment of the relevant jurisdiction's resource assessments and water plans. The Commission understands that NWI commitments in this area continue to be met by most jurisdictions.

## 6.6 Separation of water management from service delivery

### Summary of actions under the NWI

Under the NWI, jurisdictions agreed that, so far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision would continue to be separated

<sup>26</sup> National Water Initiative, paragraph 64(vi)

<sup>27</sup> National Water Initiative, paragraphs 70-72.

institutionally.<sup>28</sup>This reflected earlier commitments under the 1994 COAG framework and the 1995 National Competition Policy (PC 2017, p. 61).

## Assessment framework and previous findings (2021)

The assessment of the separation of functions is based on a consideration of the roles and responsibilities of relevant government agencies in each jurisdiction.

In its previous reports, the Commission noted that the agreed separation of service delivery from government was largely completed across all jurisdictions by 2011 (NWC 2011), and the NWC did not assess progress again in 2014.

## Interim assessment (2024)

The Commission is only aware of one relevant reform in this area since 2021 (in the ACT) and has not further assessed progress in this inquiry.

The Australian Capital Territory has recently rearranged functions between the Director-General of the Environment, Planning and Sustainable Development Directorate and the Environmental Protection Authority, with the establishment of a new Office of Water within the Directorate.

The *Water Resources Amendment Act 2023* (ACT) made amendments to the *Water Resources Act 2007* (ACT) so that the Director-General became responsible for water policy functions, while the Environmental Protection Authority retained responsibility for regulatory functions (ACT Government 2023). These changes in administrative arrangements appear to strengthen the separation between regulatory enforcement and water management policy in the ACT, in a manner consistent with this element of the NWI.

## 6.7 Performance benchmarking

### Summary of actions under the NWI

The NWI requires State and Territory governments to report independently, publicly and on an annual basis, benchmarking of pricing and service quality for metropolitan, non-metropolitan and rural water delivery agencies.<sup>29</sup> Jurisdictions agreed to develop a nationally-consistent framework by 2005, with costs of operating the performance and benchmarking systems to be met through recovery of water management costs by jurisdictions.<sup>30</sup>

### Assessment framework and previous findings (2021)

The Commission's assessment of performance benchmarking has been based on the national reports prepared by the National Water Commission (prior to 2015) and the Bureau of Meteorology (since 2015).

In 2021, the Commission (2021b, p. 121) observed that the urban National Performance Report (NPR) had been published by BOM annually. The Commission further noted that the NPR framework had been subject to a review and a number of recommendations had been made to the Australian Government to improve the NPR framework.

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<sup>28</sup> NWI paragraph 74.

<sup>29</sup> NWI paragraph 75.

<sup>30</sup> NWI paragraphs 75-76.

## Interim assessment (2024)

As the Commission noted in 2021, the NPR serves an important role in improving the transparency and accountability of urban water service providers, and in enabling assessment of jurisdictional commitments under the NWI.

The Commission notes that the NPR is currently being amended, and will require additional reporting for water service providers that have less than 10,000 metered connections, including information on financial performance and water quality (chapter 9).

## 6.8 Draft findings



### Draft finding 6.1

#### Some governments have moved away from NWI commitments to deliver cost reflective and consumption-based pricing

Some jurisdictions have maintained or strengthened pricing regulation to focus on the long-term interests of end users, such as the Victorian Essential Services Commission's application of the PREMO water pricing framework (performance, risk, engagement, management, outcomes) and the New South Wales Independent Pricing and Regulatory Tribunal adopting a 3C's approach (customers, costs, credibility).

In some other jurisdictions, NWI pricing arrangements have been significantly eroded or remain well short of best practice. Jurisdictions that lacked independent economic regulation in 2021 have not taken steps to improve water pricing regulation. Further, a number of jurisdictions have weakened independent regulation through:

- applying discounts or price caps to independently determined consumption-based prices
- issuing ministerial directions that affect the decision-making processes of independent regulators
- not using water price monitoring or review powers to determine if greater price regulation is needed.



**Draft finding 6.2**

**Some government decision making for major water infrastructure is not fully compliant with the NWI**

The NWI requires governments to be satisfied that infrastructure investments are economically viable and ecologically sustainable. To be consistent with these principles, investments should be rigorously assessed, comparing all options available to meet identified needs. Ideally, this would also involve a transparent, independent assessment of proposals.

This is currently not being achieved by all parties to the NWI, and the commitment to these principles appears to be waning:

- A significant proportion of major infrastructure developments funded by governments since 2021 have not been subjected to a transparent assessment of the costs and benefits of the proposal, or to independent scrutiny.
- Further, a number of successfully funded investment projects – including those funded under the Australian Government’s National Water Grid program – were funded even where the assessed costs of the project outweighed the measured benefits to the community.

## 7. Integrated management of water for environmental and other public benefit outcomes

The *National Water Initiative* (NWI) recognises that water is needed to provide for uses that are not strictly consumptive. It also ensures that environmental and other public benefit outcomes (defined in schedule B of the NWI) associated with water, such as the cultural values of First Nations people and recreational opportunities, are accounted for and integrated within planning frameworks.

Jurisdictions agreed to identify the outcomes from the use of environmental water and other public benefits and to develop and implement appropriate, effective and efficient management practices and institutional arrangements to achieve them.

Specifically, this chapter considers progress in achieving the outcomes and objectives under element four of the NWI<sup>31</sup>:

... to identify within water resource planning frameworks the environmental and other public benefit outcomes sought for water systems and to develop and implement management practices and institutional arrangements that will achieve those outcomes by:

- i. identifying the desired environmental and other public benefit outcomes with as much specificity as possible (section 7.1);
- ii. establishing and equipping accountable environmental water managers with the necessary authority and resources to provide sufficient water at the right times and places to achieve the environmental and other public benefit outcomes, including across State/Territory boundaries where relevant (section 7.2); and
- iii. optimising the cost effectiveness of measures to provide water for these outcomes (section 7.3).

A summary of the Productivity Commission's assessment framework (appendix B) – which does not necessarily map perfectly against the action items – and progress against them is in table 7.1. The notes to the table indicate which assessment items relate to which NWI actions and outcomes.

<sup>31</sup> NWI paragraph 78.

**Table 7.1 – Assessment summary: Integrated management of water for environmental and other public benefit outcomes**

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
<b>Identification of specific environmental and public benefit outcomes (section 7.1)</b>			
<b>Well defined environmental and other public benefit outcomes<sup>c</sup></b>	Partially achieved 	Partially achieved 	Environmental outcomes are increasingly being specified, but outside the Murray-Darling Basin (MDB) there are still significant gaps. Other non-environmental public benefit outcomes continue to be undefined in water plans or defined only at a high level. Some jurisdictions have identified them in state and regional level plans but clear specification of the outcomes and linkages to water management is missing.
<b>Management and institutional arrangements (section 7.2)</b>			
<b>Environmental water managers with accountability<sup>d</sup></b>	Largely achieved 	Largely achieved 	As in 2021, not all environmental water managers are as accountable as they could be. Gaps remain in some systems (mostly outside of MDB) in reporting whether environmental outcomes have been achieved from decisions around how to use environmental water. More jurisdictions are moving to state and territory wide and regional water strategies which involve annual reporting against actions committed to.
<b>Joint arrangements for shared resources<sup>e</sup></b>	Achieved 	Achieved 	Several joint arrangement frameworks have been reviewed or revised, including for the Great Artesian Basin, Lake Eyre Basin and the Border Groundwater Agreement between South Australian and Victoria. .
<b>Common arrangements for connected surface water and groundwater systems<sup>f</sup></b>	Largely achieved 	Largely achieved 	Jurisdictions continue to invest in understanding groundwater resources to increase effectiveness of water plans in managing risks to connected water systems.
<b>Independent audit, review and reporting of environmental and other public benefit outcomes, and supporting management arrangements<sup>g</sup></b>	Partially achieved 	Partially achieved 	There are limited examples of independent auditing or reviews of environmental water management decisions or outcomes since 2021. New South Wales is the main jurisdiction that has undertaken independent reviews. Most jurisdictions report on the condition of their waterways at regular intervals through State of the Environment reporting (exceptions being the Northern Territory, Western Australia and Tasmania) through an agency or body separate

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
			to that with responsibility for overseeing water resource plans. However, the effects of environmental water delivery are not always explicitly assessed in these reports.
Environmental water holders able to trade <sup>h</sup>	Achieved 	Achieved 	There have been a small number of trades of environmental water since 2021.
Special requirements for high conservation value assets <sup>i</sup>	Achieved 	Achieved 	Ramsar wetlands and other high ecological value sites have been identified through planning and special arrangements made for their protection.
<b>Water recovery for the environment (section 7.3)</b>			
Water recovery options selected primarily on the basis of cost effectiveness <sup>j</sup>	Not assessed		Assessment pending further information

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraph 78 (i) **d.** NWI paragraph 79 (i)(a) **e.** NWI paragraph 79 (i)(b) **f.** NWI paragraph 79 (i)(c) **g.** NWI paragraph 79 (i)(d) **h.** NWI paragraph 79 (i)(e) **i.** NWI paragraph 79 (i)(f) **j.** NWI paragraph 79 (ii).

## 7.1 Identification of specific environmental and public benefit outcomes

### Summary of actions under the NWI

The NWI parties agreed to identify the desired outcomes of water management for environmental and other public benefits with as much specificity as possible.<sup>32</sup> This specificity is required in order to design management arrangements to meet objectives, and to assess whether objectives are being achieved.

Public benefit outcomes are defined broadly in the NWI to include mitigating pollution, public health, Indigenous and cultural values, recreation, fisheries, tourism, navigation and amenity values.<sup>33</sup>

### Previous findings (2021)

In 2021, the Commission found that environmental outcomes and benefits were becoming more specific as water plans were reviewed and updated. New research and information contributed to greater scientific

<sup>32</sup> NWI paragraph 78(i).

<sup>33</sup> NWI schedule (b)(i).

understanding of environmental benefits, and the impacts of climate change were being modelled and incorporated. The Commission also found that although more could be done, cultural benefits for First Nations people were being considered and identified in water plans (chapter 2 in this report provides an assessment of whether these outcomes are being specified in water plans).

However, the Commission noted that despite progress in the identification of environmental and First Nations outcomes, there was little in the way of specification of other public benefit outcomes in water plans. It also found that the drought between 2017 and 2021 exposed weaknesses in setting and achieving environmental, cultural and other public benefit outcomes in some systems during extreme weather events such as droughts and flooding. Extreme climatic conditions, significant levels of extraction and inadequate environmental management in some systems strained ecosystems and revealed instances where specification of environmental and other public benefit outcomes needed to be improved.

### Interim assessment (2024)

There has been minimal change since 2021, with environmental outcomes generally well defined in water plans in the Murray-Darling Basin (MDB) but to a lesser extent elsewhere. Other public benefits continue to be described at a high level with limited to no ongoing performance indicators defined for what success looks like. The Commission's NWI renewal advice 8.1 on best-practice environmental objectives and outcomes remains relevant.

While it is less important to specify detailed environmental outcomes for areas at a lower level of development, as development occurs the importance increases. Further, climate change (including potentially rapid changes) could lead to a catchment becoming overallocated, threatening environmental objectives. It is therefore important for these environmental and other public outcomes to be specified in water plans so that they can be monitored and action taken if they are no longer being met.

Below are some examples of jurisdictions' progress, maintenance or backsliding under this policy area. Where a jurisdiction is not shown, it is because the Commission has not identified any significant change since 2021.

#### New South Wales

New South Wales has updated several water sharing plans (WSPs) since 2021. Environmental outcomes are not as well specified in some of these plans as previous versions. The New South Wales Natural Resource Commission has reviewed several WSPs since 2021 and has indicated that some plans have not included explicit environmental and public benefit outcomes (for example (NSW NRC 2022a, p. 69, 2022b, p. 39)).

Moreover, draft replacement plans on public exhibition have had objectives that were present in previous versions removed. For example, the draft *Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2024* does not include environmental objectives for maintaining connectivity within and between water sources,<sup>34</sup> as was specified in the 2020 version of the water sharing plan.<sup>35</sup>

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<sup>34</sup> Part 2, s. 9. Objectives of Plan.

<sup>35</sup> *Water Sharing Plan for the NSW Border Rivers Unregulated River Water Sources 2012* (current version for 1 July 2020), Part 2, s. 9 Environmental objectives.

While the draft *Water Sharing Plan for the Castlereagh Unregulated River Water Sources 2024* is no longer publicly available, consultation documents reflect concerns that:

The Plan vision, objectives and performance indicators have been simplified compared to the former water sharing plan. The targeted environmental objectives and performance indicators in the 2020 amended plan should remain in the replacement plan. (NSW DPE 2023d, p. 9)

In a number of ‘summary of changes’ fact sheets, it is indicated that more detailed vision, objectives, strategies and performance indicators will be included in the monitoring, evaluation and reporting plans in the background documents (NSW DPE 2022j, 2022k, 2023e, 2023g, 2023f). This has not been specified for the NSW Border Rivers WSP (NSW DPIE 2021d, p. 2).

However, New South Wales has also had 11 water resource plans (nine for groundwater resources) accredited under the Basin Plan since 2021 which specify environmental outcomes with respect to identified priority environmental assets and ecosystems. New South Wales has also provided more detail on public benefit outcomes through their regional and metropolitan water strategies (NSW DPE 2022b, 2024b), however, these are not statutory documents and there are no legislative requirements for them to be implemented or for monitoring or assessment of their implementation.

## Queensland

The *Water Act 2000* (Qld) requires the minister to consider climate change and cultural outcomes in making a water plan. New water plans since 2021 have included specific outcomes for social, economic, cultural and environmental values of water to be achieved by the plan.

The Queensland Department of Environment, Science and Innovation has established and updated environmental values (aquatic ecosystems) and water quality objectives to protect human use environmental values (recreation, irrigation) for surface and groundwater for MDB and South East Queensland catchments (Qld DESI 2021a, 2021b). The *Barron Water Plan* was reviewed and replaced (Butcher 2023) and a draft of the *Mary Basin Water Plan* released in 2023 (Qld DRDMW 2023c) to better define environmental objectives to support Great Barrier Reef outcomes and hydrological linkages to ecosystem needs.<sup>36</sup>

## Tasmania

Since 2021, one water plan has been reviewed and updated: the *Great Forester River Catchment water management plan* (Tasmanian DPIPWE 2021). Changes have been made to the objectives to be more specific and measurable and include key performance measures such as changed rules around low flow thresholds. The *Draft Amended Mersey River Catchment Management Plan* now identifies water dependent values in the plan itself rather than in supporting material (Tasmanian DNRE 2023d, p. 4). Revisions to the Lake Sorell and Crescent water management plans will take a similar approach.

## Northern Territory

The *Georgina Wiso water allocation plan* (WAP) specifies environmental outcome objectives in terms of ‘understanding characteristics’ and ‘condition is monitored as far as practicable’ in the WAP rather than what environmental outcomes the WAP is aiming to achieve (NT DEPWS 2023b, p. 8). The background report to

<sup>36</sup> Water Plan (Barron) 2023 Subordinate Legislation 2023 No.67 made under the Water Act 2000 (Qld) and the Water Plan (Mary Basin) 2023: Subordinate Legislation 2023 No. ... made under the Water Act 2000 (Qld) Consultation draft – February 2023.

the Georgina Wiso WAP (NT DEPWS 2023a), as part of the new format introduced in 2022, while providing information about the environmental characteristics and consumptive uses of the catchment, still does not specify the desired environmental or other public benefit outcomes the WAP is aiming to achieve. This is a lower level of detail than previous WAPs for other regions (for example, compared the Katherine Tindall WAP 2019 (NT DENR 2019, p. 17)).

In the absence of clearly specified environmental and other public benefits in the Georgina Wiso WAP, there is concern that licensing decisions could be:

irreparably damaging the Roper River and associated springs, as well as sacred sites, the tourism industry, the recreational fishing industry and water supply to the downstream Indigenous community of Ngukurr. (ECNT sub. 54, p. 8)

The Central Land Council also expressed similar concerns about the draft Western Davenport WAP 2023–2033:

[t]he NT Government has substantively weakened the environmental protections from the previous plan:

- The 2018 Plan’s environmental objective was to ‘meet the environmental water requirements of water dependent ecosystems’. In contrast, the only objective regarding environmental values in the new Draft Plan now reads: ‘Balancing the retention and preservation of key environmental values dependent on water with the overall benefits provided by the water resources’.
- The new Draft Plan now contains no specific protections for ecosystem health or groundwater dependent ecosystems.
- The new Draft Plan has been divided into three different components that severely limits the matters which the Water Controller must consider in making a decision. (sub. 44, p. 15)

Further, a number of submissions said that WAPs, regardless of format, do not provide a statutory basis for environmental and other public benefits (NLC sub. 38, p. 3; CLC sub. 44, pp. 11-12; EDO sub. 50, p. 12; ECNT sub. 54, p. 2).

Water allocation plans are the only process for identifying and providing for water requirements to sustain environmental and cultural assets in the NT ... The weakness of water plans ... means these key functions as per the NWI are not being carried out sufficiently (nor are they required to be) *before* extraction can occur. This puts environmental outcomes and cultural values at significant risk. (CLC sub. 44, p. 13)

The Commission’s assessment of water planning and the provision of water for environmental and other public benefits in the Northern Territory is provided in sections 4.2 and 4.3.

## 7.2 Management and institutional arrangements

### Summary of actions under the NWI

Parties to the NWI agreed to appoint environmental managers with the necessary authority and resources to achieve identified environmental and other public benefit outcomes.<sup>37</sup> Governments were to develop effective and efficient management and institutional arrangements, including:<sup>38</sup>

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<sup>37</sup> NWI paragraph 78 (ii).

<sup>38</sup> NWI paragraph 79.

- environmental water managers that are accountable for the management of environmental water provisions and the achievement of environmental and other public benefit outcomes
- joint arrangements for any shared resources
- common arrangements for interconnected surface water and groundwater systems
- independent audit, review and public reporting on outcomes and the adequacy of management arrangements
- enabling environmental water managers to trade water on the temporary market
- special requirements to sustain high conservation value environmental assets.

## Previous findings (2021)

In 2021, the Commission found that all jurisdictions had appointed environmental water managers, and the managers generally reported their actions for environmental water management transparently. Joint arrangements in shared water systems such as the Great Artesian Basin and the Lake Eyre Basin had been established, and arrangements for integrating connected surface water and groundwater systems were largely achieved. It also noted that environmental water holders were able to trade their entitlements where appropriate to achieve environmental benefits, and that planning had identified high ecological value sites that require special arrangements.

However, the Commission noted some concerns about the accountability of the environmental water managers. While managers generally reported on activities and environmental flow volumes released, there were gaps in review and reporting on achievement of environmental outcomes. The Commission also had some concerns around institutional arrangements, including the potential for political interference and the efficacy of some environmental water trades. The Commission recommended that governments should make provisions for the regular and transparent independent auditing of environmental water outcomes and the management arrangements in place to support them, given a lack of any consistent basis for such review.

## Interim assessment (2024)

There has been little change in management and institutional arrangements since 2021.

### Accountability of environmental water managers remains limited

Monitoring and public reporting on environmental and other public benefit outcomes from the management of water as set out in water plans is inconsistent and in some cases limited to the use of held environmental water entitlements in the MDB such as the annual reports produced by the Commonwealth Environmental Water Holder (CEWH), Victorian Environmental Water Holder, and South Australia (CEWH 2023a; SA DEW 2022c; VEWH 2023).

This inconsistent reporting on outcomes across environmental water defined by rules (sometimes referred to as planned environmental water) compared to environmental held water entitlements (box 7.1), prevents governments and environmental managers from being fully accountable to the communities they are managing water resources for. For example, the fish deaths in Menindee Lakes have occurred in both flood and drought conditions despite water sharing plans being in place as noted by reports by an independent panel (Vertessy et al. 2019) and the New South Wales Chief Scientist and Engineer (NSW ONSWCSE 2023), which made numerous recommendations to improve environmental outcomes in the Lower Darling.

### **Box 7.1 – How is environmental water allocated and managed?**

Environmental water provisions in water plans ensure that sufficient water is allocated and managed to ensure the ongoing environmental health of rivers, waterways, floodplains, wetlands and the ecosystems they support. They provide for the needs of both surface water and groundwater-dependent ecosystems.

#### **Planned environmental water**

In most jurisdictions, environmental outcomes are achieved through planned environmental water. Water plans generally set allocation limits for consumptive users to ensure sufficient water is 'left behind' to meet environmental outcomes.

The allocation limits on consumptive users are enforced by water managers using rules, including cease to pump rules, flow sharing arrangements<sup>a</sup>, passing flow releases from water storages<sup>b</sup> and groundwater access rules, all of which are designed to ensure environmental flows remain at sufficient levels to achieve environmental benefits.

#### **Held environmental water**

In the Murray-Darling Basin and some other parts of Victoria, planned environmental water is supplemented with specific entitlements for the environment. These entitlements are managed by government environmental water managers, and may be physically held in dams or other water storages. In these cases, environmental water holders and managers must make decisions on where and when to use and release water to achieve environmental outcomes. As an allocation, held environmental water can be traded and carried over to keep for use in subsequent years.

#### **Management of environmental water**

Jurisdictions have established entities with responsibility for defining and enforcing planned environmental water provisions. The Commonwealth, New South Wales, Victoria and South Australia also have bodies responsible for actively managing held water entitlements. These bodies determine when and how environmental water is released and traded.

**a.** Arrangements whereby water in a connected system is shared between jurisdictions, so that each may only take a percentage of the flow from each dam for the consumptive pool. **b.** Water that is released from storages (such as reservoirs) to operate river and water distribution systems.

Source: Updated from (PC 2021b).

The Northern Land Council criticised this lack of accountability for planned environmental water:

it is paramount that the NWI provides a similar level of prescription to the decision-making and reporting of planned environmental water as it does to held environmental water. This is particularly important in instances where there is no environmental water holder and the only provision of environmental water is as planned water. (NLC sub. 38 attachment, p. 24)

Furthermore, the Commission heard from several inquiry participants that the lack of outcomes reporting is a result of inadequate or insufficient monitoring with clear and appropriate indicators (ACT Commissioner for Sustainability and the Environment sub. 3, pp. 2-3; Lachlan Valley Water Inc. sub. 21, p. 11; Acid Sulfate Soil Centre sub. 25, pp. 7, 15). This is partly a result of a fragmented national monitoring and reporting landscape.

Without well resourced, scientifically sound monitoring of outcomes, there is no good basis for allocation of environmental water, nor an ability to assess the costs and benefits of environmental water against other

uses. Further, it inhibits adaptive management. Without timely information about how management actions are working to meet the environment and other public benefit outcomes set out in water plans, opportunities to iterate will be missed.

An extension to the Commission's 2021 NWI renewal advice on review processes for outcomes (8.4) is presented in section 7.4 below. Well-defined environmental outcome indicators should be established to ensure assessment is robust. These should be determined by the best possible environmental science, including Indigenous Cultural Knowledges. Any use of Indigenous Knowledges should be respectful of Indigenous Cultural Intellectual Property rights and follow established protocols (chapter 10).

### **Management arrangements for connected systems are being refined**

Most jurisdictions have invested in and improved information on groundwater resources since 2021, for example the *Beetaloo Strategic Regional Environmental Baseline Assessment* in the Northern Territory (NT DEPWS 2023e), and the development of the Groundwater Risk Assessment Tool in Tasmania (Tasmanian DNRE and Harrington 2023). Arrangements for a number of joint resources are in the process of being renewed or updated, while there has been little change to arrangements for high conservation value assets or environmental water holders being able to trade since 2021.

The Commission's renewal advice from 2021 for integrated management (8.2), waterway oversight (8.3), the management of environmental water entitlements (8.5-8.9), the system managers role (8.11) and commitment to adaptive management (8.12) remains relevant.

### **Independent review and auditing is absent in many jurisdictions**

Independent review and auditing of environmental and other public benefit outcomes supporting management arrangements is also ad hoc and inconsistent amongst jurisdictions.

Most jurisdictions undertake regular State of the Environment (SoE) reporting through a body separate to the agency responsible for water management (although with differing timeframes). While these reports focus on the condition of waterways and water resources at a high level and not on outcomes set in water plans, they provide an independent assessment of some elements of environmental water management.

For example, the Australia SoE 2021 report found compliance with water plans was problematic (DAWE 2021) and the Victorian SoE 2023 report found environmental entitlements of the Victorian Environmental Water Holder are not adequate to deliver the scientifically recommended flows needed for environmental outcomes (CSEV 2023).

Beyond SoE reporting, only New South Wales has completed an independent review of their environmental water management program since the Commission's last assessment (artd consultants 2021). The Commission also notes that as part of strengthening the Restoring our Rivers Bill in 2023, the Australian Government and the Australian Greens agreed to tasking the Inspector-General of Water Compliance to undertake an independent audit to the water allocated to the CEWH (Plibersek and Hanson-Young 2023), although no further information on this audit has been published.

An extension to the Commission's 2021 NWI renewal advice on independent managers and auditing (8.10) is presented in section 7.4 below.

### **Australian Government**

In response to the independent review undertaken in 2020 (Butcher et al. 2020), the CEWH has implemented a number of changes to strengthen the evaluation of outcomes from environmental watering,

including the establishment of an independent advisory group (CEWH 2023b). Outcomes from environmental watering continue to be monitored and evaluated independently by scientists through the Science Program, with evaluation reports independently and peer reviewed (CEWH 2024). The Flow-MER program has been updated following an independent review, with the latest version commencing in 2024. Outcomes of environmental watering in the River Murray are monitored through The Living Murray program (MDBA 2024) with regular report cards published by the Murray-Darling Basin Authority (MDBA 2023).

The Inspector-General of Water Compliance role was established in 2021 and is responsible for, among other things, monitoring and overseeing relevant Commonwealth, and Basin state and territory government agencies' performance in the management of MDB water resources (IGWC 2023b, p. 1). This includes responsibility for water resource plan compliance and ensuring environmental and other public benefit outcomes are consistent with the intentions set out in water resource plans to give effect to the Basin Plan (IGWC 2023b, p. 8).

## New South Wales



Since 2021, the Natural Resources Commission has reviewed 25 WSPs and amendments have been made to several to improve environmental and other public benefit outcomes. The New South Wales Government is finalising an evaluation and reporting framework for WSPs, which will include an evaluation of the environmental outcomes (NSW DPE 2022g, p. 18).

The New South Wales Government is also reviewing governance of environmental water holdings to ensure an appropriate level of independence (concerns were raised in the Commission's 2021 assessment). In response to fish deaths in the lower Darling-Baarka in March 2023, the New South Wales Government tasked the Chief Scientist and Engineer to undertake an independent review. An independent Connectivity Expert Panel has also been established (NSW DPE 2024a) to provide guidance on improving water connectivity between WSPs in the northern MDB.

## Queensland



Queensland has limited accountability in place for environmental water management. Since 2021 Monitoring Evaluation and Reporting Strategies have been included as part of the *Draft Water Plan (Mary Basin) 2023* and the *Water Plan (Barron) 2023*.<sup>39,40</sup> These Monitoring Evaluation and Reporting Strategies set out how the achievement of the outcomes of a water plan will be evaluated, however, these strategies are currently not publicly available. Ministerial performance assessment reports of water plans are required under the *Water Act 2000* (Qld)<sup>41</sup> and the *Water Regulation 2016* (Qld)<sup>42</sup> to take place every five years but appear to happen on an ad-hoc basis, as water plans that are being reviewed are excluded. Also, these Ministerial performance assessments are not independent as they are completed by the same agency responsible for water management.

The Department of Environment, Science and Innovation is responsible for preparing Queensland's SoE reports every two years (Qld DES 2018) and the various water quality, quantity and aquatic ecosystem monitoring programs that inform reporting of the condition of freshwater wetland ecosystems. Like other

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<sup>39</sup> Part 4 section 20 (1).

<sup>40</sup> Part 4 section 22.

<sup>41</sup> Section 49.

<sup>42</sup> Section 22.

jurisdictions, the Queensland SoE reports do not report against environmental outcomes defined in water plans. The last published Queensland SoE was the 2020 report (Qld DSI 2021).

## Tasmania

Where the Tasmanian environmental water manager is reporting on water, it is generally focused on river flows (e.g. the River Health Monitoring Program) with no detail on whether minimum flow requirements are meeting environmental outcomes or protecting and/or enhancing ecosystem values. However, it is developing new monitoring approaches through its river health advisory project and state wide monitoring program under its Rural Water Use Strategy Implementation Plan (Tasmanian DNRE 2022a).

The next Tasmanian SoE report is expected in 2024 (the previous one was released in 2009) and is being prepared by independent experts (Ferguson 2022; Tasmanian PC 2023). The Tasmanian Government has also engaged a consultant to review the Tasmanian water accountability framework, with findings expected to be released in 2024 (Tasmanian DNRE 2023e).

## Northern Territory

Since 2021 only the Alice Springs WAP has been reviewed. While there was some reporting on whether outcomes were met, there were several gaps.

The Northern Territory has also changed the format of WAPs, with new plans requiring annual reporting on progress against implementation actions. Since being introduced in 2022, this new format has been applied to the Georgina Wiso WAP but the first annual report on implementation actions is yet to be published. The Environment Centre NT stated that:

There is no independent oversight, reporting or auditing in the Northern Territory's management of environmental and cultural water. (sub. 54, p. 11)

## 7.3 Water recovery for the environment

### Summary of actions under the NWI

Parties agreed under the NWI to, where it is necessary to recover water to achieve modified environmental and public benefit outcomes<sup>43</sup>, adopt the following principles for determining the most effective and efficient mix of water recovery measures:<sup>44</sup>

- a) consideration of all available options for water recovery, including:<sup>45</sup>
  - Investment in more efficient water infrastructure
  - Purchase of water on the market, by tender or other market-based mechanisms

<sup>43</sup> The use of modified before environmental outcomes here reflects that the majority of our aquatic ecosystems are impacted by human activity. Actions to achieve modified environmental outcomes recognise that a return to a pristine state is unlikely but improvements to ecosystem functioning relative to measured baseline data are possible. In the Australia SOE 2021 report it states that 'in much of southern Australia, the greatest threat to freshwater ecosystems and biodiversity is the modification of water processes that has occurred as a result of changes to river and stream flow, surface water and groundwater extraction (primarily for agriculture), and land use change' (Cresswell et al. 2021).

<sup>44</sup> NWI paragraph 79(ii).

<sup>45</sup> NWI paragraph 79(ii)(a).

- Investment in more efficient water management practices, including measurement
  - Investment in behavioural change to reduce urban water consumption.
- b) assessment of the socio-economic costs and benefits of the most prospective options, including on downstream users, and the implications for wider natural resource management outcomes<sup>46</sup>
- c) selection of measures primarily on the basis of cost-effectiveness, and with a view to managing socio-economic impacts.<sup>47</sup>

## Previous findings (2021)

In 2021 the Commission did not assess commitments to select water recovery options based primarily on the basis of cost-effectiveness under the NWI as, at the time, water recovery was mostly being undertaken through the Murray-Darling Basin Plan (PC 2021b, p. 124) and would be assessed separately (PC 2018, 2023b).

Assessment of the processes in place to assess whether water recovery is necessary is in chapter 4, section 4.2 (water planning).

## Interim assessment (2024)

Outside the MDB (water recovery in the MDB is not considered in this report – see Murray-Darling Basin Plan Implementation Review 2023 (PC 2023a)), some limited examples of environmental water recovery have been identified since the 2021 assessment. However, from publicly available information it is not always clear what options have been considered before final decisions have been made and the costs and benefits of them.

As such, there is no interim assessment against these examples. The Commission has sought more information from jurisdictions to inform our assessment.

## Victoria

The recently updated *Central and Gippsland Sustainable Water Strategy* has identified the need to recover 99.5 GL of surface water for the environment and other public benefit outcomes, including returning water to Traditional Owners over the next 10 years (Victorian DELWP 2022a). The strategy sets out 14 potential options for recovering this water and meeting increased water demand into the future. Two options were assessed as unviable (despite being options explicitly listed to consider under the NWI) due to lack of social licence and socio-economic impacts (not estimated or published). As such, it is not clear whether the options identified in the strategy to be progressed will likely be the most cost-effective as consistent with the NWI.

## Western Australia

The revised *Gnangara Mound water allocation plan*, finalised, in 2022 aims to reduce annual groundwater abstraction by 54 GL (WA DWER 2022, p. x). It will use a combination of reduced water access for domestic bores, reductions to licensed water entitlements across industry (some exclusions), and reduction to the amount of water that the Water Corporation can access for the Integrated Water Supply Scheme. A number of programs will be funded by the Western Australian Government to support the transition to using less water for affected industries and the community.

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<sup>46</sup> NWI paragraph 79(ii)(b).

<sup>47</sup> NWI paragraph 79(ii)(c).

While this reduction of groundwater abstraction to meet environmental and other public benefit outcomes includes a range of options, it is not clear that the amounts being reduced by various sources and the supplementary options are the most cost-effective. The programs supporting the transition to less water are consistent with the NWI.

## South Australia

In South Australia, over allocation in groundwater allocation plans in the South East region is being addressed through stepped reductions to both irrigation (every two years from 2016 to 2022) and commercial forest (at the time of clear fell) water entitlement holders. The South Australian Government is reducing water allocations in management areas where allocations exceed 90% of annual average recharge and pose a high risk to groundwater users and/or GDEs. A risk assessment was undertaken in 2018 and some areas of reduction were put on hold due to change in risk (SA Government, personal communication, 19 March 2024).

The South Australian Government considered the stepped reductions to be the most cost-effective option as no buybacks of allocations were undertaken. Irrigators were provided time to adjust to reduced allocations and commercial foresters were given the flexibility in which compartments were replanted/not replanted within a management area despite the order of clear fell, as long as the reduction was met (SA Government, personal communication, 19 March 2024).

The Commission notes that the over allocation was not leading to overuse in most cases. The five year review of the water allocation plan in 2008 found water table levels had steadily declined under drought conditions. As such, Barnett and Williamson (2020, pp. 359–360) in their analysis of the allocation reduction process considered that a ‘large gap between usage and allocation will make future management responses more difficult and ineffective’ rather than that there were any ‘adverse impacts caused by extraction’. The analysis also noted that for 75% of the irrigators the changes in allocation did not change their usage and that as a result of extensive community consultation, revisions to the water allocation plan in 2012 to implement the reduced allocations were supported by irrigators (2020, pp. 361–362).



### Information request 7.1

Where water resources outside of the Murray-Darling Basin have been identified as overallocated, and options identified to recover water to meet environmental outcomes, the Commission invites further information on:

- the estimated cost of the options considered
- reasoning behind the selection of the options implemented if not the most cost-effective
- any programs or measures implemented to mitigate any identified socio-economic impacts with the selected options.

## 7.4 Draft findings and renewal advice

The NWI renewal advice in chapter 8 of the Commission’s National Water Reform 2021 inquiry report remains relevant. The Commission extends some of that advice below.

### Well-defined environmental and other public benefit outcomes



#### Draft finding 7.1

##### Environmental and other public benefit outcomes are inconsistently specified

There remain inconsistencies between jurisdictions about how environmental outcomes are defined in water plans, their level of detail and indicators.

Other public benefit outcomes continue to be undefined or defined only at a high level. While the achievement of environmental outcomes can also contribute to other public benefit outcomes, such as recreational opportunities, amenity benefits and public health, the Commission has found no clear long-term performance indicators specified linking these outcomes.

### Environmental water managers with accountability



#### Draft finding 7.2

##### Reporting on environmental outcomes is overall inadequate, particularly for planned environmental water

Jurisdictions generally report on how much environmental water was delivered, and there is reasonable reporting of outcomes by some environmental water holders. However, there is very little reporting on:

- what both held and planned environmental water achieved in terms of outcomes
- the counterfactual – that is, what would have happened if the water hadn’t been delivered, and
- whether the environmental water allocations are sufficient to achieve environmental outcomes specified in water plans.

In many jurisdictions it remains unclear how reporting arrangements for environmental water subsequently feed back into the water planning process and support adaptive management.

### NWI renewal advice 8.4: Review processes for outcomes

UPDATED IN 2024

Jurisdictions should commit to a long-term, consistent national approach to monitoring environmental outcomes delivered from both planned and held environmental water. Clear processes should be established for reviewing progress on environmental outcomes, understanding their feasibility given climate induced changes in water availability and other factors (such as sea level rise and increased temperatures), **ascertaining whether environmental water flows and allocations are sufficient to meet environmental objectives** and determining if and when management objectives should be revisited within planning review processes.

To support this, there should be adequate resourcing of long-term monitoring programs that report against well-defined environmental outcomes indicators. These indicators should be determined by the best possible environmental science, including Indigenous Cultural Knowledges.

## Independent audit of environmental outcomes



### Draft finding 7.3

#### Independent review of environmental outcomes is absent in many jurisdictions

There is no consistent basis for independent audit of whether environmental and public benefit outcomes from environmental water have been achieved, the adequacy of water provision for these objectives, or the performance of environmental water managers. While most jurisdictions have built-in reviews of their water management plans, these are not always undertaken in a timely manner or by an independent body.

### NWI renewal advice 8.10: Independent managers and auditing

UPDATED IN 2024

Where governments own significant held environmental water that can be actively managed they should ensure that decisions on the use of this water are made by independent bodies at arm's length from ~~government~~ **the agencies directly managing environmental water**.

~~Governments with held environmental water entitlements should provide for independent auditing, on a three-yearly basis, of the adequacy and use of environmental water entitlements to achieve the best outcomes.~~

**Jurisdictions should commit to independent auditing, on at least a five-yearly basis, of the achievement of environmental outcomes resulting from both planned and held environmental water, including the adequacy and use of environmental water to achieve outcomes.**

Where jurisdictions have independent environment commissioners or agencies with regular state-of-the-environment reporting, such as Victoria and the ACT, such auditing is ideally placed within the scope of their activities.



## 8. Water resource accounting

This chapter considers progress in achieving the following outcomes and objectives under element 5 of the *National Water Initiative* (NWI) – water resource accounting:

... to ensure that adequate measurement, monitoring and reporting systems are in place in all jurisdictions, to support public and investor confidence in the amount of water being traded, extracted for consumptive use, and recovered and managed for environmental and other public benefit outcomes.<sup>48</sup>

The NWI outlined six action areas against these outcomes<sup>49</sup>: Benchmarking of Accounting Systems (NWI paragraph 81); Consolidated Water Accounts (NWI paragraphs 82-83); Environmental Water Accounting (NWI paragraphs 84-85); Information (NWI paragraph 86); Metering and measuring (NWI paragraphs 87-88); and Reporting (89).

A summary of the Productivity Commission's assessment framework (appendix B) – which does not necessarily map perfectly against the action items – and progress against it, is in table 8.1. The notes to the table indicate which assessment items relate to which NWI actions.

**Table 8.1 – Assessment summary: water resource accounting**

NWI commitment	2021 assessment and progress indicator <sup>b</sup>	2024 assessment <sup>a</sup> and progress indicator <sup>b</sup>	Comments – progress since 2020
<b>Water accounts<sup>c</sup> (section 8.1)</b>			
<b>Practical, credible and reliable information</b>	Largely achieved 	Largely achieved 	Water accounting is generally providing practical, credible and reliable information. Improvements have been made in accessibility of this information. However, in most jurisdictions, information is not comprehensive, limiting its usefulness.
<b>Avoid unnecessary duplication of effort</b>	Largely achieved 	Largely achieved 	Jurisdictions collect information with minimal duplication of effort.
<b>Environmental water accounting<sup>d</sup> (section 8.2)</b>			
<b>Held environmental water is fully and publicly accounted for</b>	Largely achieved 	Largely achieved 	All jurisdictions with held environmental water publicly report their holdings annually.

<sup>48</sup> NWI paragraph 80.

<sup>49</sup> NWI paragraphs 81-89

NWI commitment	2021 assessment and progress indicator <sup>b</sup>	2024 assessment <sup>a</sup> and progress indicator <sup>b</sup>	Comments – progress since 2020
<b>Public reporting on use of held environmental water</b>	Largely achieved 	Largely achieved 	Jurisdictions report and account for the provision of held environmental water.
<b>Public reporting on planned environmental water</b>	Partially achieved 	Partially achieved 	Jurisdictions generally undertake public reporting on planned environmental water through rules-based arrangements agreed upon in water plans, but there is scope to improve how information is publicly reported. There is great variation between jurisdictions regarding the amount and types of information available, the frequency of reporting, and how navigable and accessible reported information is.
<b>Water metering and measurement<sup>e</sup> (section 8.3)</b>			
<b>Develop and implement metering actions</b> <b>Non-Urban Metering Framework implemented</b>	Partially achieved 	Partially achieved 	While jurisdictions continue to roll out non-urban water metering, no jurisdiction has achieved or appears close to achieving the requirements for AS4747 meter installation on all new and replacement meters. Many jurisdictions do not report on progress and those that do, have low adoption of the Metrological Assurance Framework 2.
<b>Compliance and enforcement<sup>f</sup> (section 8.4)</b>			
<b>National Compliance Framework implemented</b>	Partially achieved 	Largely achieved 	Jurisdictions have refined their compliance approaches to more closely match the standard set by the National Compliance Framework. There has generally been an increase in compliance activities across most jurisdictions.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraphs 82, 86, 89 ii) and iv) **d.** NWI paragraphs 84-85, 89 (iii) **e.** NWI paragraphs 87-88, 89 i) **f.** NWI paragraph 89 i). Note the actions in paragraphs 81 and 83 were date-limited and judged completed by the National Water Commission (NWC 2014), so have not been assessed.

## 8.1 Water accounts

### Summary of actions under the NWI

Parties to the NWI agreed to develop and implement ‘robust’ water accounting, which ultimately could be reconciled annually and aggregated to produce a national water balance based on all managed water resource systems. This includes a commitment to develop accounting standards and standardised reporting to enable ready comparison of water use, compliance against entitlements and trading information (NWI paragraphs 81-83).

## Previous findings (2021)

Recognising that water accounts are a necessary but not sufficient step in enabling good water management, this assessment also focuses on the outcomes and outputs associated with achieving action items: whether national water accounting produces i) practical, credible, and reliable information for planners, managers and users, and ii) avoids unnecessary duplication of effort (PC 2021b, p. 145).

In its 2021 assessment, the Commission found that both of these outcomes had been largely achieved, noting that:

water accounts provide key benefits to users (including better investment decisions, risk management and operation decision making), and inform policy decisions in relation to water services and infrastructure investment (ANAO 2014, p. 24; BOM 2016, p. 26) ... Initiatives to reduce reporting burdens and avoid any duplication of effort have progressed. (PC 2021a, pp. 150–151).

The Commission did find that there was still scope for improvement to address information gaps, inconsistencies across jurisdictions, and to meet the demand for more information at the system level<sup>50</sup> to further improve confidence in water system management and provide better data for planning and adaptation to climate change and extreme weather events.

## Interim assessment (2024)

### All jurisdictions supply water account data, but some could provide more comprehensive information

The NWI commits jurisdictions to create robust and useful water accounts. The level of detail of any water account is an important element and means to making them more useful. Participants in this inquiry support the need for detailed reporting. For example, the Water Justice Hub argued that effective NWI implementation be underpinned by:

comprehensive, robust, rigorous and transparent water accounting. (Grafton and Williams, sub. 40, p. 3)

Hughenden Irrigation Project Corporation stated:

water accounting in and of itself is not the primary requirement, as it is merely a tool to good management. (HIPco, sub. 1, p. 6)

Jurisdictions differ in the comprehensiveness of their published water accounts. All jurisdictions supply a basic minimal level of information to the Australian Bureau of Statistics (ABS) and the Bureau of Meteorology (BOM), who publish aggregated water account data (ABS 2023c; BOM 2022a). These accounts give only a high-level overview of water volumes without any catchment or river level detail, and no additional analysis or interpretation is supplied. The Northern Territory, Western Australia, Queensland and the Australian Capital Territory limit their reporting to this information supplied to ABS and BOM.

New South Wales, Tasmania, South Australia and Victoria have additional self-published comprehensive annual water account reports which contain catchment level detail including flow heights, historical and current inflows and outflows, physical flow diagrams, summaries of water allocations, among other statistics and analysis (Landscape South Australia Hills and Fleurieu 2023; NSW DPE 2022d; Tasmanian

<sup>50</sup> Waterways connected physically and in management, for example managed flow releases and transfers between reservoirs occur within the Goulburn Murray water system.

DNRE 2023c; Victorian DEECA 2024b). These reports are significantly more detailed than the ABS aggregated accounts.

Water users would benefit from other jurisdictions progressing towards a higher standard for water accounting. The limited detail in some jurisdictions' water accounts appears to be hindering achieving a higher level of water management:

Uncertainty over private water storage, floodplain harvesting and return flows undermines the perceived integrity of holders of water entitlements, increases the likelihood of errors in decision-making, and diminishes trust in decision-making by water governance agencies, especially by the owners of water entitlements. (Water Justice Hub, sub. 40, p. 4).

Even New South Wales, Victoria and Tasmania – who provide more detailed reporting – have scope for improvement, with participants stating that some water accounting data is:

patchy and in some locations, particularly in the Northern Murray-Darling Basin, is subject to large uncertainties. Importantly, data on who, what, how and when, of water use (and return flows) is not publicly available at an individual water diverter level. (Water Justice Hub, sub. 40, p. 2)

Additionally, although Victoria had a consistent track record of publishing water accounts annually going back to 2003, they delayed publishing their most recent 2021-22 annual water account until early 2024. This delay appears partly due to the move to a new digital platform (Victorian DEECA 2024b).

### **Some water account publications have been delayed**

Victoria's delays point to a broader issue of timeliness of annual national aggregated water accounts. The Commission heard that the lag time in aggregating water accounts is primarily due to the requirement to collate information from jurisdictions to provide a national picture, with recognition that a refresh of the approach to developing the National Water Account is required (personal communication, 20 Mar 2024). The latest national aggregated account from the BOM was released for the 2021-22 period making the latest accounting information almost two years old at the time of this report.

More concerning, as at the date of this report the Murray-Darling Basin (MDB) aggregated account had not been updated for the 2019-20 period (BOM 2022a). Although some Basin state governments have self-published accounts since 2020, the lack of an aggregated MDB account since then undermines the value in having a centralised source of updated information, as commented on by WaterNSW:

'It is important that this process is not fragmented among different agencies within any one jurisdiction and that the critical mass of skills and expertise is not also fragmented. There are advantages in there being a single source of truth of data [and] making data and insights available to the right end-users in a timely manner.' (WaterNSW, sub. 55, p. 6)

### **Many new online tools have been released improving access to water information**

Progress has been made by jurisdictions regarding making water accounting information available online, which improves accessibility for water users and government for water activity planning. South Australia, Queensland and New South Wales have all improved and implemented a variety of dashboards and interactive tools. New South Wales and Queensland have used the same private company to develop their software, creating consistency with the dashboard. Similar consistency exists across South Australia, Western Australia, Tasmania and the Northern Territory. The online dashboards have largely been funded by Australian Government grants.

Below are some examples of jurisdictions' progress, maintenance or backsliding under this policy area. Where a jurisdiction is not shown, it is because the Commission has not identified any significant change since 2021.

## New South Wales

New South Wales water accounting reports are comprehensive. They have the most detailed account reports of all jurisdictions. They also contribute to the ABS national account. An improvement since 2021 is that a water account for the unregulated Barwon Darling water system was developed with its first publication for the 2021–2022 water year (NSW DPE 2022a, p. 1).

## Queensland

Queensland contributes to the ABS national water account but does not self-publish comprehensive reports. Since the last assessment, Queensland has released new dashboards and interactive tools for water information, water maps and data. These tools include a water monitoring information portal, an entitlement viewer, the Queensland Urban Water Explorer, and a water monitoring information portal.

## 8.2 Environmental water accounting

### Summary of actions under the NWI

Parties to the NWI agreed to develop principles for environmental water accounting and establish and implement an environmental water register with annual reporting arrangements (NWI paragraphs 84-85). Key requirements for meeting the objectives of the NWI include that:

- held environmental water is fully and publicly accounted for, as applies for other entitlement holders,
- there is regular public reporting on how held environmental water is being used (to promote accountability), and
- there is regular public reporting on planned environmental water (to ensure that water is allocated as agreed in water plans). This section on environmental water outcome reporting is assessed in chapter 7.

### Previous findings (2021)

In its 2021 assessment, the Commission found that jurisdictions have largely achieved their NWI commitments for environmental water accounting. That said, there was scope for improvement. For example, while held environmental water was fully accounted for, data collected and reported on both held and planned environmental water could be more comprehensive and consistent between jurisdictions. The Commission also recommended that governments should make provisions for regular and transparent auditing of environmental water holdings.

### Interim assessment (2024)

There has been some limited change since 2021, when the Commission recommended making accounts more comprehensive and reliable (PC 2021b, p. 113). To this end, New South Wales and Queensland have implemented changes to their environmental accounting practices. New South Wales has added loss accounting methods which are intended to safeguard some environmental water delivery return flows from consumptive use from some parts of the MDB in New South Wales until they cross the South Australia border (NSW DPE 2022h, p. 46). Previously, return flows were not properly accounted for and could add to

the consumptive use pool. Similarly, Queensland and New South Wales have initiated accounting practices for held environmental water crossing their borders, ensuring protection against other uses even in cross-jurisdictional scenarios (NSW DPE 2020).

Given that held environmental water traverses interconnected river systems and jurisdictions, the adoption of cross-jurisdictional accounting standards is a goal that other states and territories should strive for – to achieve comprehensive and consistent environmental water accounting.

There is still potential scope for improvement in New South Wales and Queensland in the accounting for and protection of environmental water, with the National Parks Association of NSW stating:

there is also a perverse management situation regarding flows down the Darling. The river environment operates as system, but our administrative system has divided it into two different units where: i) environmental water once it reaches Menindee can become part of the consumptive pool; ii) there appears to be a lack of community transparency about flow agreements from Queensland to New South Wales (National Parks Association of NSW, sub. 33, p. 2).

In 2021, the Commission recommended that governments should make provisions for regular and transparent auditing of environmental water holdings. These recommendations continue to be relevant and were supported by participants to this inquiry. For example, Gywydir Valley Irrigators Association stated that environmental and other public benefit outcomes:

... could benefit from better implementation of 79 (d) in the [National Water Initiative] ‘periodic independent audit, review and public reporting ...’ (Gwydir Valley Irrigators Association, sub. 39, p. 16)

There have been no changes to environmental water accounting towards this standard from jurisdictions.

## New South Wales



New South Wales has new safeguards for accounting for environmental water (‘loss accounting’), which apply in the Murray, Lower Darling and Murrumbidgee Water Sharing Plan areas. The safeguards protect environmental water flows released from these areas by environmental water holders from downstream consumptive use until they cross the South Australia border. Previously, return flows not properly accounted for could add to the consumptive use pool.

## Queensland



Queensland and New South Wales have initiated accounting practices for held environmental water crossing their borders, ensuring protection against other uses even in cross-jurisdictional scenarios.

## 8.3 Water metering and measurement

### Summary of actions under the NWI

Parties agreed that metering should be undertaken on a consistent basis in particular circumstances (such as where water access entitlements are traded and in areas where there are disputes over the sharing of available water) (NWI paragraph 87). Supporting the NWI commitment for metering to be ‘practical, credible and reliable’ (NWI paragraph 88), the parties in 2009 agreed to a *National Framework for Non-Urban Water*

*Metering* (the Non-Urban Metering Framework), with a 10-year implementation period, so that all meters were compliant with the national standard (AS4747) by July 2020.

Jurisdictions agreed to develop implementation plans to document priorities and targets for non-urban water metering, to publicly report on the implementation of the Framework every two years from 2012, and that BOM would maintain and publish information from state and territory reports on its website.

## Previous findings (2021)

In its last report, the Commission found that while significant progress had been made to implement metering policies, no jurisdiction had fully achieved the NWI commitment of implementing the Non-Urban Metering Framework (PC 2021b, p. 137). MDB jurisdictions had pushed out the commitment to fully install AS4747 compliant meters until 2025, and other jurisdictions had indicated even longer timeframes. The Commission also found that during the severe drought that affected much of Australia between 2017 and 2020 there was evidence of widespread lack of compliance with metering requirements and commented that this had the potential to undermine confidence in the water management system and needed to be addressed.

## Interim assessment (2024)

Jurisdictions across Australia are facing difficulties meeting the objectives outlined in the Metrological Assessment Framework 2 (MAF2) and seem unlikely to achieve the 2025 goals for AS4747 meter implementation (for new and replacement meters).

## Metering progress

Table 8.2 shows the available data on current metering.

**Table 8.2 – Metered water use by jurisdiction**

Jurisdiction	Total metered	AS4747 metered	Non-AS4747 meter	Unmetered water use
New South Wales	81.8%	19.4%	62.4%	18.2% (2022)
Victoria	98.0%	16.0%	82.0%	2.0% (2023)
Queensland	76.0%	No data	No data	24.0% (2024)
South Australia	93.7%	8.3%	85.4%	6.3% (2022)
Western Australia	99.0%	No data	No data	1.0% (2024)
Tasmania	No data	No data	No data	No data
Northern Territory	77%	No data	No data	23% (2024)
Australian Capital Territory	100%	0%	100%	0.0% (2022)

**a.** Figures are from most recent data indicated by year. **b.** Some figures are best estimates as jurisdictions differ in complete knowledge of water licensee metering.

Source: (IGWC 2023a, pp. 5–6; SA DEW 2022d; Victorian DEECA 2024a).

Only Victoria, South Australia and the Australian Capital Territory comprehensively report on AS4747 metering. New South Wales does not, and the above figures for New South Wales are from the Inspector General of Water Compliance (IGWC) metering report card, which only covers MDB areas of New South Wales (IGWC 2023a, p. 5). The Northern Territory, Western Australia and Queensland report on metering but not AS4747 metering. Tasmania does not report on metering progress at all.

For jurisdictions that do report on AS4747 metering, table 8.3 shows progress since 2019-20.

**Table 8.3 – Jurisdictions progress on metering 2019–2022**

Year	New South Wales – AS4747	New South Wales – All	Victoria – AS4747	Victoria – All	South Australia – AS4747	South Australia – All
2019-20	N/A	N/A	14%	84%	1.4%	92.8%
2020-21	5.49%	78.4%	N/A	N/A	4.8%	93.5%
2021-22	19.4%	81.8%	16%	98%	8.3%	93.7%

Source: (IGWC 2023a, p. 5; SA DEW 2022d; Victorian DEECA 2024a).

Victoria, New South Wales and South Australia have all recorded increases in AS4747 metering, but the level of compliance remains low.

The limited reporting of AS4747 metering implementation across jurisdictions is problematic. Metering progress reporting is valuable as it can assist in identifying and diagnosing where and what the barriers to full pattern approved metering are. The difference between total metering rates and AS4747 metering rates for example, can indicate specific barriers to the attainment of higher standard AS4747 metering. Catchment or region-based breakdowns of uptake can additionally help at jurisdiction level in identifying specific local uptake issues to which governments can initiate tailored interventions to increase meter adoption.

### Regulatory barriers to compliant metering

Under the MAF2, each jurisdiction has discretion to decide their own grandfathering and exemption arrangements from the AS4747 standard, which has led to a patchwork of compliance arrangements across the country. This patchwork – characterised by a lack legislative consistency – is undermining implementation according to participants to this inquiry. For example, Lachlan Valley Water said:

Consistency of standards across jurisdictions is required to achieve best practice monitoring and compliance, so the NWI should be amended to require consistency among jurisdictions on the degree of accuracy of monitoring required to be achieved. (Lachlan Valley Water, sub. 21, p. 10)

In New South Wales, Victoria and the Australian Capital Territory (from 2024) 'existing meters can be retained provided they are validated as accurate to AS4747 requirements' (DEECA 2020, p. 4; DEW p. 1; IGWC 2023, p. 5), which is +5% accuracy in field conditions. Additionally, water users in these jurisdictions must actively apply for exemption/grandfathering status for their water meters or install new compliant meters.

South Australia has more generous blanket grandfathering:

Meters installed post 1 July 2019 must comply with the national metering standards ... Meters installed prior to 1 July 2019 do not need to comply with the national metering standards as these meters are grandfathered and therefore exempt. This means that these meters are not required to be pattern approved, validated or maintained by certified persons (SA DEW).

As a result 'All meters in South Australia are compliant with the State's metering policy' (IGWC 2023a, p. 7) with no reported non-compliance. An inaccurate meter from a water user in South Australia can remain undiscovered, and is only legally permitted to be tested by the regulator if:

- deemed necessary by the Minister
- to verify that the meter is operating within acceptable accuracy limits if:
  - meter security seals are broken by a person not authorised under this specification;

- it is reasonably suspected that the meter is not operating within acceptable accuracy limits;
- maintenance activities that affect or will affect the metrology of the meter are undertaken by a person not authorised under this specification
- where otherwise directed by the Minister.

Generous grandfathering arrangements mean that non-compliance has largely been rendered ineffective as an incentive for water users to comply with AS4747 standards. The results of this reduced incentive appear to be contributing to South Australia's relatively low AS4747 uptake.

And without rigorous reporting of non-compliance, regulators are limited in their ability to encourage uptake of compliant metering. The Australian Water Association stated a lack of transparent reporting, coupled with a lack of compliance and enforcement mechanisms were key barriers to implementation:

'... efforts to implement real-time monitoring and measuring of water extraction in the Murray-Darling Basin had been sluggish and inconsistent, highlighting the need for transparent monitoring, regulation, compliance, and enforcement mechanisms'. (AWA, sub. 43, p. 16).

### **Other barriers to uptake of AS4747 meters**

Beyond the classification of meter compliance by regulators, participants in this inquiry also flagged water users lack of knowledge and education about their metering requirements under MAF2, as a key barrier to meter uptake. Gwydir Valley Irrigators Association outlined several barriers, stating:

There were issues with availability and suitability of AS4747 meters, issues with availability of and requirements of Duly Qualified People, telemetry issues, as well as poor education and communication of metering requirements and reporting. (Gwydir Valley Irrigators Association, sub. 39, p. 16).

Similarly, New South Wales Irrigators Council stated a key barrier was:

Poor education and communication of metering report and recording requirements. (NSWIC sub. 16, p. 27)

In recognition of this issue, New South Wales has increased staged and targeted regional metering education programs (NSW DPIE 2023, pp. 9–25).

The purchase and installation of AS4747 meters can cost between \$1000 to \$10 000 for the meter, with an additional installation cost potentially increasing this to \$15 000. Participants in this inquiry have cited installation costs as a significant barrier to metering uptake, particularly for smaller users. New South Wales Irrigators Council stated:

metering requirements place undue costs on low risk (smaller) water users. (NSWIC, sub. 16, p. 27)

Similarly, the National Farmers' Federation stated:

while metering and measurement of surface water and groundwater is important, the cost of metering can be prohibitive. (NFF, sub. 32, p. 12)

New South Wales has introduced rebates for AS4747 metering purchase. Additionally, in water areas that are not overallocated, jurisdictions often have exemptions for smaller water users (often less than 100mm wide water pumps) or those with smaller water entitlements (often less than 10ML) (in New South Wales this exemption expires in 2024).

Under the MAF2, meters must be installed by a Certified Meter Installer (CMI), or equivalent Duly Qualified Person (DQP). Submissions to this inquiry have commented that some water users have been unable to

secure a DQP to install their meter (New South Wales Irrigators' Council 2023, p. 22). New South Wales Irrigators Council stated that there is a:

limited DQP supply in all New South Wales valleys. (NSW Irrigators' Council, sub. 16, p. 27)

CMI numbers have remained relatively steady in New South Wales, while decreasing between 2021 and 2022 in Victoria and Queensland (IGWC 2023a, p. 3). This has led the Victorian Government to implement a state exemption to account for the 'historic lack of pattern approved meters and the relatively high cost of the available AS4747 compliant meters' (Victorian DEECA 2024a). Similarly, Queensland has not implemented a timeframe for mandating AS4747 for all new and replacement meters, citing as insufficient, 'the availability of technology and equipment that would support the implementation' (Qld DRDMW 2023d, p. 4) .

## New South Wales



Unlike most other jurisdictions, New South Wales has a stepped-out plan for metering compliance, with different regions delivered in different years. Each rollout is packaged with engagement and education in that region. New South Wales has increased their metering rollout, particularly AS4747 metering, more than any other jurisdiction over the period 2020 to 2023.

Nonetheless it appears unlikely that New South Wales will meet their MAF2 requirement for all water take to be metered by 2025.

New South Wales has not yet achieved its 2020 commitment that all floodplain harvesting would be licensed and measured by 1 July 2022. Currently 4 out of 5 Northern Inland regions have licensed their floodplain harvesting up from none of them in 2020.

## Victoria



As of 2021-22, 98% of water take in Victoria is metered, up from 84% in 2019-20 (The remaining 2% not metered is exempt under the MAF2 exemption for when the costs of metering would exceed the benefits). Of the total metered water, 74% of what is metered is rated 'compliant' (measured to be +5% accurate), and only 16% of water through AS4747 meters.

## Queensland



Queensland has improved telemetry (automatic collection and transmission of data from remote sources) uptake using funding from an Australian Government grant. The funding was also used to develop an online digital water app to allow for water users to submit meter readings.

Queensland measures floodplain harvesting in the MDB region only, using estimates based on storage levels, not actual direct measurement.

## South Australia



There has been a small increase in AS4747 metering from 1.4% to 8.3% over the past three years. Of the jurisdictions that record AS4747 uptake, this is the slowest increase. South Australia does have the highest official rate of meter compliance, but this is because its local rules designate all previously compliant meters installed prior to 1 July 2019 as compliant under new MAF2 rules with no testing of actual accuracy required.

The Commission notes that South Australia's meter checking rates appear to have declined since 2020, alongside a high rate of reported meter compliance. Combined with low standards for metering compliance, declining meter checks is also likely to be contributing to poor AS4747 meter uptake.

## 8.4 Compliance and enforcement

### Summary of actions under the NWI

State and territory governments are responsible for administering water compliance and enforcement laws within their jurisdiction. The *National Framework for Compliance and Enforcement Systems for Water Resource Management* (the National Compliance Framework) implemented a 2009 Coalition of Australian Governments' commitment to improve compliance and enforcement of water resources, and represents the nationally agreed standard for ensuring compliance with state-based water laws and regulations.

The National Compliance Framework comprised six major components:

- water laws – each jurisdiction agreed to use 'best endeavours to introduce and pass legislation to adopt consistent offence provisions to minimise unlawful water take'
- risk assessment – assessment of all water resources according to a nationally consistent risk profile requiring minimum levels of compliance monitoring by jurisdictions in line with the level of risk categorisation
- toolbox – development of new and efficient processes and products to improve the efficiency of compliance activities and the skills of compliance officers
- stakeholder education – a structured approach to 'provide information to educate the public and the stakeholders on the importance of compliance and enforcement of water resources management to the environment and other water users'
- monitoring – compliance monitoring rates should be based on the level of risk. The majority of monitoring activity will take place where there is high competition for water resources with more compliance officers in the field to 'carry out annual monitoring events equal to 10% of the total number of water entitlement/licence holders of a water resource, using on ground officers'
- reporting – publication of annual reporting and compliance strategies, plans and statistics by water agencies<sup>51</sup>.

### Previous findings (2021)

In its 2021 report, the Commission found that there had been significant strengthening of compliance and enforcement activities in almost all jurisdictions, including several legislative changes to strengthen penalties and offences (PC 2021b, p. 28). However, the Commission considered that most jurisdictions were yet to fully implement the National Compliance Framework.

The Commission also called for a revised National Compliance Framework, as the current iteration lacked implementation of strong independent compliance culture and had insufficient resourcing and capability building. Several jurisdictions had pending reforms, and others did not publish sufficient information about compliance activities making it difficult to determine the effectiveness of their implementation, an issue highlighted by several inquiry participants.

<sup>51</sup> (COAG 2012).

## Interim assessment (2024)

### The National Compliance Framework has mostly been implemented

The commitment by jurisdictions to implement the National Compliance Framework is mostly being met. Jurisdictions conform to a similar compliance approach with cross jurisdiction consistency in enforcement activities utilised (National Compliance Framework 1). Likewise, all jurisdictions espouse – and reported compliance statistics support – a compliance pyramid approach whereby the principal method to increase compliance is a focus on education and information being used for lesser inadvertent infringements, with prosecutions and enforcements restricted for serious and deliberate non-compliance (National Compliance Framework 2, 4).

Further, increasing use of new monitoring technology is evident in some jurisdictions, with monitoring activities targeting catchments and water users based on a risk assessment framework (Framework 3, 5). Some exceptions to full implementation are present, however around the comprehensiveness of published annual compliance activities and some jurisdictions are not making progress in the range of compliance tools they deploy.

There are still improvements to be made by all jurisdictions to fully achieve implementation of the National Compliance Framework. In 2021, the Commission found that, Western Australia, Tasmania and Northern Territory were lagging in implementation. Since then, Northern Territory has made progress, while Tasmania is notably behind other jurisdictions.

### Compliance and enforcement activities

Reporting of compliance activities is mostly sufficient. Beyond publishing just annual high compliance level strategies, however, and to meet best practice, jurisdictions could try to meet transparent compliance activity statistics standards set by New South Wales, the Australian Capital Territory and South Australia.

Across jurisdictions, compliance activities show diverging trends. Most jurisdictions have increased compliance and enforcement activity:

- Annual meter site visits increased in the Australian Capital Territory from 2020 to 2023 from one to 47 (ACT TEDD 2023, p. 359).
- Annual audits of water management activities (water take, licence conditions compliance) increased in Queensland from 2021-22 to 2022-23 from 916 to 1454 (Qld DRDMW 2022, p. 19, 2023a, p. 26).
- Annual compliance investigations finalised increased in New South Wales from 2019-20 to 2022-23 from 1367 to 1,551 (NSW NRAR 2023).
- Northern Territory began reporting on license inspections since 2020, with a goal of 20% of water licenses per year inspected (NT DEPWS 2023d).

Decreased activity was apparent in the following jurisdictions:

- Annual site visits relating to unauthorised water take/use or non-compliant metering declined in South Australia from 2020-21 to 2022-23 from 2964 down to 1881 (21% of meters down to 13%) (SA DEW 2021c, p. 2, 2023, p. 3).
- Annual enforcement actions taken in Victoria remained steady in 2020-21 and 2022-23 despite potential compliance breaches almost doubling in these two years from 1393 to 2186 (Victorian DEECA 2023b).

## Compliance rates are generally improving

Jurisdictions that have increased compliance activity show trends of increasing compliance. Alongside increased compliance activity, New South Wales and Northern Territory have seen a declining non-compliance rate (IGWC, p. 24) (NT DEPWS 2023d). The use of technology also plays an important role in compliance activities in some jurisdictions. Victoria has the highest use of telemetry to monitor water users water take at 76% (Victorian DEECA 2024a). New South Wales has increased the use of remote sensing with numerous catchments monitored for volumetric changes in dams, with comparisons against metered take at properties used to ensure compliant water take (NSW DCCEEW 2020, p. 8). Queensland and Western Australia also report use of remote sensing technology in their compliance strategies (Qld DRDMW 2023f, p. 2; WA DWER 2024).

The Australian Capital Territory, Northern Territory and Tasmania do not report use of any form of remote sensing technology. In the Australian Capital Territory the small geographic size reduces the net benefit of implementing remote sensing.

The Northern Territory and Tasmania have had contrasting outcomes in terms of implementation effectiveness of the National Compliance Framework for jurisdictions that do not utilise telemetry for compliance checks and instead rely on site inspections. The Northern Territory has achieved its 2020 goal of inspecting 20% of meters annually. The Northern Territory has also observed major improvements resulting from a targeted compliance and enforcement priority list for 2021–26 (and a new compliance plan in 2022-23) which combines greater meter checks, with educational and behavioural strategies, such as monthly reminders to submit water meter readings, a new accessible MyMeter online digital app, and auditing of monthly meter reading submissions (NT DEPWS 2023c, p. 2). Alongside this tranche of efforts, audited compliant self-reported meter readings increased from 77% in June 2022 to 94% in March 2023.

Against Northern Territory's 20% annual meter inspection rate, in the same period (2020–23), Tasmania has audited only 13% of water licensees. The Northern Territory has accomplished its high inspection rate with only five Full Time Equivalent staff and a significantly larger land mass and dispersed population. Tasmania's comparatively low inspection rate may indicate under resourcing for this objective, or inefficient inspection practices, supporting the Commission's finding in 2021 that resourcing for these activities appears to be insufficient.

### New South Wales

Compliance rates and investigations into non-compliance have increased. New South Wales publishes full, regional breakdowns of compliance strategies and performance.

### Victoria

Victoria has legislatively expanded its tools for issuing infringements, adding an infringement notice option. The use of warnings and advisory notices has increased and so has Investigations into non-compliance, which has coincided with fewer enforcement actions, suggesting greater compliance rates. Victoria is the leading user of telemetry to monitor water take.

## Queensland

Queensland undertakes a high number of meter audits (6383 in 2022-23) and other investigations into unauthorised water take, however, this number has remained steady since 2020. Queensland has increased in education and social media presence to increase knowledge of water take rules amongst water users.

## Tasmania

Tasmania has a low rate of compliance and enforcement activity, visiting 13% of water licenses between 2020–23 (compared to Northern Territory 20% annually). They also do not use telemetry or remote sensing technology.

## The Northern Territory

The Northern Territory started producing an annual compliance report card in 2020. A new compliance and enforcement priority list (2021) and a compliance plan (2022) were also released. This plan contains development of a MyMeter app platform, auditing of monthly meter read submissions, monthly reminders and meter site visits.

## 8.5 Draft finding and recommendation

The Commission’s renewal advice from chapter 10 of the National Water Reform report 2021 remains valid, and the Commission reiterates that advice.

To meet existing objectives of the NWI, recommendations are below, with additional findings.



### Draft finding 8.1

#### Jurisdictions are not projected to meet their AS4747 metering installation commitments

No states or territories are on track to meet their commitment to have all new and replacement meters AS4747 compliant by July 2025. This undermines the ability of states to conduct proper measurement of watering limits and increases the risk of unreported water use and overextraction.

The private benefits for water users to upgrade their water meters to AS4747 standard are low and therefore not a sufficient incentive to upgrade.



### Draft recommendation 8.1 Improving the rollout of AS4747 meters

To better allow water users and the public to benefit from the improved AS4747 standard, jurisdictions should take steps to accelerate their rollouts.

Jurisdictions should:

- Report annually on non-urban water users' compliance with the AS4747 metering standards.
- Actively engage with non-urban water users to improve understanding of their metering compliance requirements.
- Set a higher bar when approving interim standard or grandfathered water meters.
  - For both interim and grandfathered meters, water users should be required to actively prove their meter is accurate to within  $\pm 5\%$  of AS4747 meters as is the requirement in Victoria, New South Wales and the Australian Capital Territory.



### Information request 8.1

What are the main causes of the low uptake of AS4747 meters by non-urban water users for new and replacement meters, and what targeted interventions would be most cost-effective in addressing this low uptake?

What are the public benefits of metering?

The Commission has heard that there is a shortage of Certified Meter Installers and Duly Qualified Persons. What is causing the shortage, and how can it be overcome?



## 9. Urban water reform

This chapter considers progress in achieving outcomes under element 6 of the *National Water Initiative* (NWI) – urban water reform.<sup>52</sup>

Under this element, all jurisdictions agreed to provide healthy, safe and reliable water supplies, increase water use efficiency and encourage innovation, achieve improved pricing, and facilitate water trading between the urban and rural sectors.<sup>53</sup><sup>54</sup> The NWI outlined specific actions on demand management, innovation and capacity building.

Past water reforms have delivered significant benefits for urban water users but many of these benefits were achieved in the early 2000s. In 2021, the Productivity Commission found that the lack of detailed actions in the urban water sector, coupled with the changing climate and the frequency of extreme weather events have made this element of the NWI largely irrelevant to the sector's future (PC 2021b, p. 161).

Nevertheless, a summary of the Commission's assessment framework (appendix B) – which does not map perfectly against the action items – and progress against it is in table 9.1. The notes to the table indicate which assessment items relate to which NWI outcomes.

**Table 9.1 – Assessment summary: Urban water reform**

NWI commitment	2021 assessment and progress indicator	2024 assessment <sup>a</sup> and progress indicator <sup>b</sup>	Comments – progress since 2021
<b>Urban Water Service Quality<sup>c</sup> (section 9.1)</b>			
<b>Achieving healthy and safe water supplies: Major cities</b>	Achieved 	Achieved 	Water quality compliance is generally achieved and is supported by appropriate regulatory frameworks and monitoring.
<b>Achieving healthy and safe water supplies: Regional and remote<sup>e</sup></b>	Largely achieved 	Largely achieved 	Some regional and remote areas still do not have access to safe drinking water supply. There is a lack of consistent monitoring and regulation in

<sup>52</sup> Urban water services are diverse in scale and scope. They are delivered to households and businesses in cities with millions of people through to regional town centres and remote communities that might have fewer than 100 people. Urban water services include the supply of potable (drinking quality) water, wastewater services, stormwater management and water recycling. Urban water systems are complex, and can be capital intensive, characterised by long lived and expensive infrastructure, such as water treatment plants, distribution networks and drainage systems.

<sup>53</sup> NWI paragraph 90.

<sup>54</sup> This chapter does not consider facilitating water trading between the urban and rural sectors (NWI paragraph 90 iv)) nor improved pricing for metropolitan water (NWI paragraph 90 vi)). These aspects of urban water reform are assessed in chapters 5 and 6 respectively.

NWI commitment	2021 assessment and progress indicator	2024 assessment <sup>a</sup> and progress indicator <sup>b</sup>	Comments – progress since 2021
<b>Urban Water Service Quality<sup>c</sup> (section 9.1)</b>			
			some communities. Jurisdictions are taking steps to improve regional and remote service quality.
<b>Water reuse, end use efficiency, water sensitive urban design and innovation<sup>d</sup> (section 9.2)</b>			
<b>Pursuing water reuse, end use efficiency, water sensitive urban design and innovation</b>	Largely achieved 	Largely achieved 	Jurisdictions have made some progress in this area and substantially met their commitments under the current NWI. Although efforts to embed integrated water cycle management as 'business as usual', should continue.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraph 90 i) **d.** NWI paragraph 90 ii), iii) and v). **e.** For the purpose of this chapter, 'regional and remote' are defined in accordance with the Australian Bureau of Statistics (ABS) remoteness (ABS 2023a). Broadly, this encompasses all areas (both urban and rural) outside of the capital cities and nearby major cities. Rural communities (smaller communities outside of cities and towns) are defined as a subset of 'regional and remote' communities in this chapter.

## 9.1 Urban water service quality

### Summary of actions under the NWI

The NWI committed jurisdictions to providing healthy, safe and reliable water supplies,<sup>55</sup> but did not include any specific actions to address these aspects of water service delivery. In the absence of specific actions, the Commission has considered the following to assess progress towards achieving healthy, safe and reliable water:

- the extent to which State and Territory drinking water quality management and reporting frameworks reflect the Australian Drinking Water Guidelines (ADWG)
- water service outcomes (including drinking water quality and reliability)
- policy changes and programs designed to improve water service outcomes.

### Previous findings (2021)

In 2021, the Commission (2021b, p. 175) found that water services in major cities were achieving the NWI outcome of safe, healthy and reliable water supply. Tasmania and Western Australia made progress in addressing areas of water supply risk in regional and remote areas, but issues persisted in the Northern Territory. Drought had led to significant service quality issues in parts of New South Wales and Queensland, which indicated that more could be done to ensure communities were prepared for drought.

The Commission also found that on balance, NWI outcomes were being achieved in most regional areas but problems with drinking water quality remained in many remote Aboriginal and Torres Strait Islander

<sup>55</sup> NWI paragraph 90(i).

communities. The Commission highlighted that there was limited, if any, data published by governments on communities that self-supply, or on remote Aboriginal and Torres Strait Islander communities (PC 2021a, p. 175). However, the studies and data that were available showed that water quality problems persisted in many of these communities, with chemical and biological contamination, palatability issues and water security concerns. The absence of a centralised register also made assessing compliance with the ADWG difficult in jurisdictions with a large number of utilities (e.g where local governments are responsible for urban water services such as Queensland and New South Wales). The Commission also found that New South Wales was not reporting regional and remote water quality outcomes in a timely fashion – remedying this would improve transparency.

## Interim assessment (2024)

### Drinking water quality management and reporting frameworks

The ADWG provide the framework within which drinking water quality outcomes can be monitored and managed, consistent with the overall objective of healthy and safe water supplies. The ADWG form part of the *National Water Quality Management Strategy* (paragraph seven of the NWI) and are overseen by the National Health and Medical Research Council. Since the Commission's 2021 inquiry, minor updates have been made to the ADWG to reflect current best practice in managing health risks from microorganisms, and radiation protection and measurement (NHMRC 2011).

All jurisdictions have arrangements in place to implement the ADWG, but these regulatory arrangements vary across and within jurisdictions. In 2021, the Commission noted that water quality regulation in regional and remote areas of New South Wales, Western Australia and the Northern Territory were less rigorous than the major cities.

Below are some examples of jurisdictions' progress, maintenance or backsliding under this policy area. Where a jurisdiction is not shown, it is because the Commission has not identified any significant change since 2021.

#### New South Wales



Since 2021, the New South Wales Government has made changes to the regulation of their local water utilities with the release of the Regulatory and Assurance Framework for local water utilities (NSW DPE 2022i). This updated and amended framework aims to improve regulatory settings and should allow for regulators to better identify risks and manage water more effectively and efficiently. The New South Wales Government has also developed guidance to support water utilities to incorporate health-based targets into drinking water management systems and proposals related to water treatment, sewerage and reuse works (NSW DoH 2023).

#### Western Australia



The Western Australian Government has made changes to the provision and regulation of water and wastewater services to remote Aboriginal Communities. In 2023, the Western Australian Government transferred responsibility for water and wastewater services for 141 remote Aboriginal communities to the Water Corporation (WA Government 2023a). These services were previously provided by the Western Australian Department of Communities and were unlicensed. These changes follow a Western Australian Auditor General's Report (2021, p. 22) which found that there were 44 Aboriginal communities where water was not tested for microbial contamination.

The Water Corporation has commenced a program of service upgrades and is working with the Western Australian Department of Water and Environmental Regulation to ensure it meets its regulatory requirements. The Water Corporation is working towards implementing higher levels of monitoring and reporting on water services so they can better understand requirements and identify potential improvements (Water Corporation nd).

## Northern Territory

In the Northern Territory, drinking water standards are still not set in legislation. Power and Water Corporation has a legal responsibility to deliver safe drinking water to urban centres but its subsidiary Indigenous Essential Services (IES) only has a non-binding agreement with the Northern Territory Government regarding the 72 remote centres and communities it services (WSAA 2022, p. 108). This gap was highlighted by the Central Land Council:

Different legal regimes govern how drinking water is supplied depending on the context in the NT. Specifically, the key legislation regulating the supply of drinking water, the *Water Supply and Sewerage Services Act* (NT) (WSSS Act), which requires water supply to be licensed (to Power and Water Corporation) and regulated by the Utilities Commission, only applies in the NT's 18 gazetted towns (including the major centres of Darwin, Katherine, Tennant Creek, and Alice Springs). In the 72 major Indigenous communities and some larger outstations, a private subsidiary of Power and Water Corporation (Indigenous Essential Services) provides water services with no legislative or regulatory oversight. This has resulted in a fragmented and racialised 'archipelago' of water governance in the NT, in which different standards apply to various jurisdictional 'islands' (sub. 44, pp. 25–26).

The Commission understands that the Northern Territory Government has committed to developing and legislating a Safe Drinking Water Act by 2024, which intends to guarantee safe drinking water and regulate all suppliers across the Northern Territory (NT OWS 2023b, p. 24). Although in its submission, the Environment Centre NT noted that it 'understands that this commitment has recently been delayed until 2026' (sub. 54, p. 11).

## All jurisdictions – Water service outcomes – major cities

The Commission has undertaken a high-level review of water service quality outcomes which incorporates both drinking water quality outcomes and service reliability for major cities. The National Urban Performance Reports in 2022 and 2023 show that there continues to be 100% microbiological compliance for drinking water in major cities of Australia, with no major supply issues reported in the capital cities over the past three years (BOM 2023, 2024a).<sup>56</sup> This continued high compliance is indicative of the strong regulatory arrangements and monitoring programs in place to ensure quality drinking water continues to be provided by the major service providers in each jurisdiction.

## All jurisdictions – Water service outcomes – regional and remote

Problems with service quality continue in some regional areas. Some minor microbiological compliance issues were identified by Coliban Water in regional Victoria in 2022-23 largely due to flooding in the area (BOM 2024a, p. 72). Although microbiological compliance has remained relatively high in other regional areas, boil water alerts have been issued in New South Wales, Queensland and Victoria, some as a result of

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<sup>56</sup> South West Water Corporation in Melbourne reported 99.9% compliance in 2022-23 (BOM 2024a, p. 72).

heavy rainfall and floods impacting water treatment plants (ABC Ballarat 2022; ABC News 2024; Cassowary Coast Regional Council 2023).

There have been extended water restrictions in parts of Queensland as a consequence of drought over the period 2021–2023. 25 town water schemes in Queensland had water restrictions in place continuously for the past three years, including:

- Rockhampton Regional Council, which had level 6 water restrictions in place for Mount Morgan due to low water supply and ongoing water carting (Queensland Government 2024a).
- South Burnett, which had level 3 water restrictions in place for all of its schemes to manage water quality risks (BOM 2024c).

Persistent water quality issues remain or have worsened for some remote Aboriginal communities. In some remote areas of Australia, people and communities still do not have access to safe drinking water as there are exceedances in the chemical health standards outlined in the ADWG. Some examples include:

- eight chemical health exceedances across eight different communities in the Northern Territory for the 2021-22 reporting period due to naturally occurring chemicals in the water sources (such as uranium, barium, fluoride, and manganese in groundwater) (PowerWater 2022, p. 40)
- three remote communities in Western Australia required bottled water to be provided due to elevated uranium levels and a further two required bottled water due to elevated fluoride levels (WA DoC 2023b)
- 22 remote communities in Western Australia had nitrate levels that exceeded the ADWG value for infants less than three months old that are bottle-fed. To avoid the risk of harm to these infants, free bottled water was supplied to households and the health clinic in these communities, for use in mixing baby formula for infants under three months of age (WA DoC 2023a).

Even when drinking water is considered safe from microbial or chemical contamination it may not be acceptable for drinking, washing, and other household water uses due to aesthetic issues. Aesthetic parameters are characteristics associated with the acceptability of water to the consumer in terms of appearance (colour), taste and odour. Some examples of aesthetic non-compliance in remote communities of the Northern Territory include:

- 35 out of 72 communities exceeded hardness levels as measured by calcium carbonate ( $\text{CaCO}_3$ ) (PowerWater 2022, p. 42). Hard water may lead to excessive scaling of pipes, taps and fittings, requires more soap to achieve lather and can impact infrastructure and kitchen appliances such as kettles (PowerWater 2022, p. 43).
- Five out of 72 communities exceeded the iron threshold of about 0.3 mg/L in water (PowerWater 2022, p. 42). High iron concentrations give water a rust-brown appearance and can stain laundry and plumbing fittings (PowerWater 2022, p. 43).
- 19 out of 72 communities had levels of pH below 6.5 which is likely to cause corrosion of pipes and fittings (PowerWater 2022, pp. 42, 46).

Although aesthetic non-compliance does not necessarily impact people's health, it has led to a loss of confidence in the water supply by people in some communities (Earle et al. 2023, p. 9). The World Health Organisation agrees that exceeding acceptability standards 'may be of great significance for consumer confidence and may lead consumers to obtain their water from an alternative, less safe source' (WHO 2017, p. 28).

Access to safe drinking water continues to be a challenge for residents in Walgett, New South Wales, creating an ongoing health risk. Data collected by the Dharriwaa Elders Group and University of NSW (UNSW) shows sodium levels coming from groundwater extracted from the Great Artesian Basin were regularly in excess of 300 mg/L (UNSW 2023). This level is 15 times higher in sodium than medical practitioners recommend for long-term consumption by people with severe hypertension or renal and heart

issues (Rosewarne et al. 2021, p. 3). But there are no health guidelines for sodium in the ADWG, only palatability guidelines of less than 180 mg/L (NHMRC 2011, p. 214), something the Dharriwaa Elders Group (sub. 47, p. 8) highlighted as needing to be rectified.

A survey of Walgett Aboriginal community members undertaken by the UNSW and The George Institute in April 2022 found that:

- 91% of respondents were concerned about water quality at some time during the year.
- 42% of participants experienced no usable or drinkable water and 36% going to sleep thirsty in at least one month in the last year.
- The burden and cost of access to safe drinking water has been shifted to individuals in the community that experience disproportionately higher levels of disadvantage and chronic disease, with some people reporting spending \$30-\$50 on bottled water each week, which made it difficult to afford a healthy diet (Tonkin et al. 2023, p. 8).

Ongoing water quality issues in some remote communities indicate that current arrangements for providing safe water are not adequate (draft finding 9.1).

The full extent of water quality issues is hard to determine given a lack of consistency in reporting drinking water quality and the lack of data available for self-supplied communities. The Commission notes that the Power and Water Corporation has improved the detail of water quality data for the 72 remote communities in the Northern Territory serviced by its subsidiary IES (WSAA 2022, p. 131). However, the Commission understands that there is no drinking water quality data published for 79 outstations supplied by IES. There are also 133 communities in Western Australia (generally with a population less than 50) that are self-managed and do not receive supports from government (WSAA 2022, p. 198).

### Changes to the national performance report

The Commission notes that from July 2024 the Bureau of Meteorology (BOM) will start collecting data from water utilities with under 10,000 connections as part of the National Performance Report (BOM 2024b, p. 1). BOM will initially collect information on the water quality risk management guidelines used by each water utility and information about the treatment of wastewater, rather than the more detailed water quality indicators collected from larger providers. Further development is required to centralise the reporting of drinking water quality indicators, such as percentage of the population where microbiological compliance was achieved, percentage of the population where chemical compliance is met and number of boil water alerts issued (draft finding 9.2).

Dr Paul Wyrwoll highlights the lack of consistent reporting and the opportunity for improvement under a renewed NWI:

Australia lacks a comprehensive strategy for transparent water quality monitoring and reporting. The new national agreement is an opportunity to develop a National Drinking Water Quality Database to monitor progress on improving household water access and support other government programs, including commitments under Closing the Gap Priority Reform 4 regarding disaggregated data and information sharing. The development of this publicly available database would be enabled by the establishment of consistent standards for annual reporting of drinking water quality monitoring across all jurisdictions, e.g. a defined set of summary statistics to report by ADWG characteristics. Power and Water Corporation (2022) provides an Australia-wide benchmark for better practice in reporting of drinking water quality data. An important component of a national database would be

education and information resources that support households and communities to interpret reporting and use the information to define their expectations for improvements.

Investments in new or improved monitoring programs would be supported by an Australia-wide audit of regional and remote water services, including funding for the development of community-led water safety plans. One of the key barriers to improved water quality monitoring and public reporting is the costs involved in laboratory testing, staffing and other costs borne by service providers. Major utilities have a larger revenue and customer base than smaller and remote service providers, and thereby have a greater capacity to absorb such costs. Hence, inclusion of “information accessibility” as a component of basic or minimum levels of service would support the sustainable provision of subsidies to ensure all service providers are monitoring and publicly reporting water quality outcomes. Government funding for community organisation-based water quality monitoring and education could reduce the costs of service provider reporting and empower customers to engage in shared decision-making (sub. 27, p. 4).

The Water Services Association of Australia recommends that:

All states and territories commit to transparency through ongoing public reporting of performance of all water utilities, including National Performance Report and data collection and reporting for Closing the Gap targets (sub. 15, p. 12).

The service quality problems identified in regional and remote communities highlights the relevance and importance of the Commission’s renewal advice from 2021 that jurisdictions should commit to a basic level of water services for all Australians (Renewal advice 12.4). Submissions to the inquiry support the importance of this renewal advice and highlight the sense of urgency required in taking action (Central Land Council sub. 44, p. 27; Environmental Defenders Office sub. 50, p. 35; South Australian Council of Social Service sub. 23, pp. 5–6).

### Policy initiatives commenced since 2021

Since 2021, most jurisdictions have introduced or extended programs or projects to improve drinking water quality. Some new investments focused on regional and remote areas include:

- The Australian Government has committed to invest \$150 million to ensure remote First Nations communities have access to clean drinking water. Yuendumu has been allocated \$15 million for the replacement of ageing water service lines, bores and mains, while Milingimbi will receive \$11 million for new bores and upgrades in three locations (ABC News 2023).
- The Northern Territory Government committed \$28 million to address critical water supply infrastructure needs in remote Aboriginal communities that are experiencing water quality and security stress. Of which, \$6.8 million was used on the Laramba Water Treatment Plant which became operational in April 2023 (Northern Territory Government 2023).
- The Queensland Government has invested \$2.6 million for an Urban Water Risk Assessment project (Queensland Government 2023a) aimed at better understanding drinking water and water security risks across remote and regional projects, and \$120 million to the Indigenous Councils Critical Infrastructure Program (Queensland Government 2020).

There are difficulties (and costs) associated with maintaining safe and reliable water services to regional and remote communities. A report prepared for the National Water Grid Authority identified the following challenges for water supply maintenance, infrastructure and governance:

- (i) insufficient ongoing and secure operating funding for maintenance and infrastructure upgrades;
- (ii) lack of clear, stable, long-term governance in many areas to oversee maintenance and upgrades; and
- (iii) lack of community involvement, training, and appropriate skills development opportunities in system maintenance (Doble et al. 2023, p. 13).

Inquiry participants also noted that skilled workers and a continuous revenue stream were essential for infrastructure investments to be maintained in the long-term (chapter 10).

## 9.2 Water reuse, end use efficiency, water sensitive urban design and innovation

### Summary of actions under the NWI

The NWI set out:

- an overarching objective to have policy settings which facilitate water use efficiency and innovation in urban and rural areas<sup>57</sup>
- outcomes to increase water use efficiency, encourage reuse and recycling of wastewater where cost effective and 'encourage innovation in water supply sourcing, treatment, storage and discharge.'<sup>58</sup>

Parties to the NWI agreed to a range of actions to support these aims. Many of these specific actions were implemented in the early years of the NWI, including 'substantial water efficiency gains through pricing reforms, public education, implementation and monitoring, the Water Efficiency Labelling and Standards Scheme, the Smart Water Mark for gardens, and water conservation rules and incentives' (NWC 2014, p. 63).

Given that many of the actions under this element of the NWI have been implemented, assessment is instead based on a broad consideration of overall progress towards achieving water use efficiency, integrated water management, supply innovation and water-sensitive urban design.

### Previous findings (2021)

In 2021, the Commission found that jurisdictions, both collectively and individually, had undertaken significant activities in this area and, therefore, had largely met their NWI commitments. The Commission noted that jurisdictions should continue to pursue initiatives where they are cost-effective.

As part of its renewal advice in 2021, the Commission proposed significant enhancements to this area of the NWI (renewal advice 12.1) designed to embed water use efficiency outcomes of urban water management as part of 'business as usual' – particularly, with regard to integrated planning and management of water supply, wastewater and stormwater. The renewal advice also proposed that all supply options should be considered and their relative merits subject to a rigorous, consistent and transparent assessment of benefits and costs.

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<sup>57</sup> NWI paragraph 23(viii).

<sup>58</sup> NWI paragraph 90(ii), (iii), and (v).

Finally, the Commission recommended that enhancements to this part of a renewed NWI should be combined with renewed actions to encourage innovation, and to further promote cost-effective implementation of water reuse and efficiency measures, and water-sensitive urban design.

## Interim assessment (2024)

Some jurisdictions have reported further progress towards embedding water use efficiency, integrated water management, supply innovation and water-sensitive urban design. Some examples include:

- The New South Wales Government released the NSW Water Efficiency Framework in 2022 which provides water utilities, councils and large businesses a best-practice guide to developing and delivering water efficiency in their local context (NSW DPE 2022e, p. 4).
- The Victorian Government has invested in a \$14.1 million Integrated Water Management Grants Program over three years (2021–2024), which Integrated Water Management Forum member organisations are eligible for (Victorian Government 2021).
- The Western Australian Government published the Kep Katitjin – Gabi Kaadadjan – Waterwise Perth Action Plan 2 in October 2022. Since the release of the plan, \$4 million has been granted to nine local governments in the Gnangara Plan area to assist with irrigation system upgrades and implementation of water-sensitive urban design principles in public open spaces (WA DWER 2023a, p. 54).

Despite progress, there are still concerns that water infrastructure planning is not being considered in an integrated way alongside other forms of urban infrastructure, such as roads and rail. In its submission, Sydney Water noted:

There is a risk that current accelerated housing planning intensifies planning silos. A sole focus on transit-oriented development means that growth impacts on water, wastewater, stormwater and waterway health may not be appropriately considered, or other constraints to timely delivery of housing identified. Other vital forms of urban infrastructure such as open space, canopy cover, urban cooling potential and walkability may not be adequately integrated into planning (sub. 41, p. 14).

WIM Alliance also raised concerns about progress in this area of the NWI:

There is no evidence of any progress on the development of frameworks, tools or processes to ensure that integrated management of water supply, wastewater and stormwater is embedded within urban water planning and management systems. Further the existing regulatory approaches for management of these water streams is not complementary or compatible and perverse outcomes frequently occur (e.g. no formal requirement for stormwater treatment and monitoring of stormwater performance however stringent requirements for wastewater pumping and overflow requirements based on arbitrary flow triggers) (sub. 4, p. 13).

These comments provide further support for the Commission's 2021 renewal advice 12.1.

## 9.3 Draft findings



### Draft finding 9.1

#### Some regional and remote areas still do not have access to safe drinking water supply

There continues to be drinking water quality issues in some remote areas of Australia caused by exceedances in the chemical health standards outlined in the ADWG. In addition, exceedances of aesthetic parameters such as colour, palatability have led to acceptability issues. This is leading to a loss of confidence in the water supply amongst the community in these areas.



### Draft finding 9.2

#### There continues to be a lack of consistency and transparency in relation to the publication of drinking water quality data

The detail, consistency and availability of drinking water quality reports continues to vary for regional and remote areas.

There have been improvements to the publication of data across all ADWG standards for the regions and communities serviced by Power and Water Corporation in the Northern Territory. Also, from July 2024 service providers with under 10,000 connections will now report on the water quality risk management guidelines used as part of the National Performance Report.

Further development is required to centralise the reporting of drinking water quality indicators, such as percentage of the population where microbiological compliance was achieved, percentage of the population where chemical compliance is met and number of boil water alerts issued.

# 10. Knowledge and capacity building

This chapter summarises the progress of jurisdictions in implementing the outcomes and actions related to knowledge and capacity building under the *National Water Initiative* (NWI). The key outcome sought was for knowledge and capacity building to assist in implementation of the entirety of the NWI.<sup>59</sup> Jurisdictions agreed to the following actions:<sup>60</sup>

1. Identifying the key knowledge and capacity building priorities needed to support ongoing implementation of the NWI.
2. Identifying and implementing proposals to more effectively coordinate the national water knowledge effort.

A summary of the Productivity Commission’s assessment framework (appendix B) – which does not necessarily map perfectly against the action items – and progress against it, is in table 10.1. The notes to the table indicate which assessment items relate to which NWI actions.

**Table 10.1 – Assessment summary: Knowledge and capacity building**

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
Knowledge and capacity building will assist in underpinning implementation of the NWI <sup>c</sup>	Largely achieved 	Largely achieved 	Most jurisdictions are undertaking activities to build knowledge to support water resource management and service delivery. Investment in capacity and capability does not appear to be an area of focus for most jurisdictional governments.
Identify key knowledge and capacity building priorities needed to support ongoing implementation of the NWI <sup>d</sup>	Partially achieved 	Partially achieved 	Most jurisdictions have published knowledge building priorities. Few jurisdictions have identified capacity building priorities.
Identify and implement proposals to better coordinate the national water knowledge effort <sup>e</sup>	Partially achieved 	Partially achieved 	Jurisdictions coordinate research efforts in specific areas, but there is still no national coordination of water knowledge generation. Two research coordination programs for the Murray-Darling Basin have ceased to operate since 2021.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraph 100. **d.** NWI paragraph 101 (i). **e.** NWI paragraph 101 (ii).

<sup>59</sup> NWI paragraph 100

<sup>60</sup> NWI paragraph 101 (i) and (ii)

## Previous findings (2021)

In 2021, the Commission found that jurisdictions had largely met their NWI commitments to build knowledge and capacity to support implementation of the NWI. However, the Commission considered that prioritisation and coordination processes required greater attention. The Commission also concluded that jurisdictions needed to dedicate more resources to monitoring the capacity and capability needs of the water sector.

## Interim assessment (2024)

### Priority setting and coordination of knowledge generation

As highlighted in 2021, there is no national process or forum for identifying water-related knowledge generation priorities, nor a framework for national coordination. There are some examples of coordination between jurisdictions within specific research areas. For example, eWater is a not-for profit company, jointly owned by all Australian governments, which manages and develops Australia's water management and modelling tools (eWater 2024). Jurisdictions also collaborate on specific topics through sub-committees of the National Water Reform Committee. However, the Basin Science Platform and Murray-Darling Basin Authority Knowledge Framework, two of the few inter-jurisdictional coordination and prioritisation programs identified by the Commission in 2021, have since ceased to operate (MDBA, pers. comm, 21 March 2024). At the national level, there is not a structured strategic approach to knowledge sharing, coordination and priority setting.

Several submissions have called attention to this lack of research coordination (ATSE, sub. 5, p. 5; WSAA, sub. 15, p. 14; ASSC, sub. 25, p. 4), and some have recommended that a reestablished National Water Commission take on this coordination and knowledge sharing role (ACCC, sub. 11, p. 8; ASSC, sub. 25, p. 4).

In 2023, the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) commissioned a review to 'advise and make recommendations that will enable the Commonwealth to ensure water science and research investments are strategically aligned, and appropriate to water policy'. These recommendations may address the lack of national strategic and coordinated knowledge sharing and priority setting. DCCEEW advises the review is expected to be completed in the first half of 2024.

With the exception of Western Australia and Victoria, all jurisdictions have published priorities for water-related research.<sup>61</sup> However, as identified in 2021, the processes used to identify those priorities are not always made publicly available.

### Knowledge generation

Most jurisdictions have also continued to progress research across a variety of topics relating to water resource management and water service provision. Australian Government investments, however, have been largely focused on the Murray-Darling Basin, and some jurisdictions have focused research efforts on the effect of climate change on water resources, with minimal investment in other research areas.

Most jurisdictions have made progress on research into the effect of climate change on water resource management. The Queensland (Qld DRDMW 2023e), New South Wales (NSW DPE 2023a) and South Australian (SA DEW 2022b) governments have all incorporated new climate data into their models to produce updated hydrological projections and have published guides for water practitioners using this new information. The Victorian Government is currently building its next generation of hydroclimate projections through the Victorian Water and Climate Initiative (Victorian DEECA 2022). The Tasmanian Government is incorporating

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<sup>61</sup> (ACT EPSDD 2020, p. 22; CRCNA 2023, p. 52; MD WERP 2021; NSW DPIE 2021c, 2021a, p. 6; Qld DRDMW 2020, p. 17; SA DEW 2022a, p. 18; Tasmanian DNRE 2022a, pp. 5–6).

the latest climate data into its hydrological models (Tasmanian DNRE 2023a). The Australian Capital Territory Government has been developing its climate and water modelling capability and will soon begin work to upgrade its water resource vulnerability assessment model (ACT EPSDD, pers. comm, 19 March 2024). The Western Australian Government is exploring options to update their hydrological projections and models (WA DWER 2023b, p. 11). The Northern Territory Office of Water Security and Office of Climate Change will undertake a Territory-wide climate risk assessment, which will identify risks to water security and information gaps and prioritise opportunities for adaptation (NT OWS 2023a, p. 35).

Participants in this inquiry have identified several other areas where additional research could fill in potential knowledge gaps, including:

- research and monitoring to provide evidence of the benefits of environmental water (Central NSW Joint Organisation, sub. 30, p. 4; ACCC, sub. 11, p. 5)
- further research into alternative water sources (LGAQ, sub. 12, p. 2)
- modelling of the interconnections of Australia's water resource systems, including surface water-groundwater interactions, and assessment and monitoring of soil-landscape systems (ATSE, sub. 5, p. 4; ASSC, sub. 25, p. 4).

### **First Nations knowledges**

Submissions also emphasised the importance of recognising First Nations cultural knowledge and integrating it with water management (Office of the Commissioner for Sustainability and the Environment, sub. 3, p. 3; ATSE, sub. 5, p. 4; WSAA, sub. 15, p. 14; Terri Janke, sub. 18, p. 5; Heather Ferguson, sub. 19, p. 2; Engineers Australia, sub. 34, p. 4; Watertrust Australia, sub. 35, p. 2; MDBA, sub. 36, p. 4).

Jurisdictions are engaging with First Nations communities and groups, and there are several examples of initiatives to incorporate First Nations knowledges into water management, including:

- The development of Aboriginal Waterways Assessments. These are tools developed by several First Nations groups and the Murray-Darling Basin Authority, that are used by First Nations groups to assess the cultural health of waterways. In 2020, an Aboriginal Waterways Assessment was conducted by the River Murray and Mallee Aboriginal Corporation on the Chowilla Floodplain in South Australia. Following the assessment, the corporation supported additional environmental water being supplied to the site to ensure the black swan breeding season was not compromised by low water levels, and an additional two gigalitres of water was pumped into the waterway (The Australian Water Partnership 2023).
- The Murray-Darling Basin Indigenous River Rangers Program, which funded four Indigenous river ranger groups to work on waterway health projects for a year (NIAA 2021).
- The Nimmie Caira project, through which the Nari Nari Tribal Council of local indigenous people were appointed managers of the Nimmie Caira wetland (Nari Nari Tribal Council nd).
- The introduction of Indigenous Participation Plans by regional National Resource Management organisations, to drive inclusion of First Nations ecological knowledge in water planning (National Resources Management Regions Australia nd).

### **Box 10.1 – Indigenous Cultural and Intellectual Property**

As governments integrate First Nations knowledges in water management, it is important that they also ensure adequate protection for Indigenous Cultural and Intellectual Property (ICIP).

ICIP ‘refers to Indigenous peoples’ rights to their cultural heritage’, and includes ‘all aspects of cultural practices, traditional knowledge, resources and knowledge systems developed by Indigenous people as part of their Indigenous identity’ (Terri Janke and Company 2022). Protecting ICIP is essential as the misuse or exploitation of ICIP may result in ‘direct and indirect economic, social and cultural harm’ to First Nations people (The University of Melbourne 2023). Further, if First Nations communities have concerns that their knowledge may be misused or misappropriated, they may be less likely to participate in water management and share their valuable knowledge.

The Australian Government has committed to introduce new stand-alone legislation to protect ICIP (Australian Government Office for the Arts 2024), and some jurisdictions, including New South Wales (New South Wales DCCEEW, pers. comm, 22 March 2024) and Queensland (Queensland DRDMW, pers. comm, 19 March 2024), have policies or measures in place to protect ICIP.

### **Water utility operator capacity**

Several submissions raised concerns about an aging water operator workforce and skills shortages at water utilities, which may compromise future water security (WIM Alliance, sub. 4, p. 2; Queensland Water Directorate, sub. 29, pp. 2–4; AWA, sub. 43, p. 9). The Queensland Water Directorate reported ‘high vacancy rates, especially for water treatment plant operator positions’ across Queensland’s urban water industry, and that ‘vacancies are protracted with 45% of water operator positions being vacant for greater than 13 months’ (sub. 29, p. 3). The Queensland Water Directorate also noted that the water industry is ‘struggling to compete with larger industries, in its visibility, competition for workers, skills support and subsidies’ (sub. 29, p. 2). Similarly, the 2022 *NSW water operations workforce and training analysis* report spoke of ‘staffing and turnover pressures’ within NSW water utilities, and noted that the ‘average water operator salary is significantly less than the average salary of other stationary plant operators around Australia’ (NSW DPE 2022f, p. 5). To try to resolve these issues, the Queensland Water Directorate has recommended that measures be taken to enhance ‘the perceived value of water services as a career option’, and to improve remuneration for water service workers, such as through a dedicated award (sub. 29, p. 2).

Some submissions also raised concerns about water operator skill levels (Queensland Water Directorate, sub. 29, p. 2; WIM Alliance, sub. 4, p. 2). The 2022 *NSW water operations workforce and training analysis* report noted the ‘absence of any specific legal requirements for water operators to complete training or qualifications’ (NSW DPE 2022f, p. 12). Further, Water Research Australia found that the ‘current governance approach to technical competency in the Australian water industry does not guarantee the implementation of L&D (Learning & Development) programs, that deliver the necessary competency required to undertake frontline operator roles’ (Water Research Australia 2023). To address this, the WSAA (sub. 15, p. 13) and Water Research Australia (Water Research Australia 2019) have recommended the development of nationally consistent certification for water operators.

Responsibility for attracting and retaining qualified water operators primarily rests with water utilities. However, potential risks to water security, and long-term maintenance of water infrastructure investments, mean governments have an interest in ensuring the training system is suitable for meeting the needs of water utilities. BuildSkills Australia, established in 2023 as the national Jobs and Skills Council for the built environment sector,

is responsible for the National Water Training Package ([training.gov.au](http://training.gov.au) nd) and is tasked with addressing skills and workforce needs through collaboration between industry and training providers (BuildSkills Australia 2024a). BuildSkills Australia is currently preparing a Built Environment Workforce Plan to guide the national response to skills shortages in the construction, property and water sectors (BuildSkills Australia 2024b).

It is worth noting that some jurisdictions are undertaking initiatives to improve water operator competency. For example, the NSW Department of Energy, Environment and Climate Change provides competency-based training for water operators, largely in regional NSW, where training providers (such as TAFE NSW) may not provide training (NSW DPE 2024c).

Some state and territory governments have also taken action to address internal capability and capacity gaps. For example, the Australian Capital Territory Government has actively sought to identify and resolve gaps in its capacity and capability to support water security planning and has taken action to build its modelling capability (ACT EPSDD, pers. comm, 19 March 2024). Overall, the Commission has limited evidence to suggest that the current capacity and capability of policy makers and water planners are inadequate to manage Australia's water resources.

## Overall assessment

Overall, the Australian, state and territory governments have largely met their NWI commitments to build knowledge and capacity to support implementation of the NWI. However, the Commission considers that governments should:

- give greater consideration to implementing prioritisation and coordination processes, including at the national level
- integrate First Nations knowledges in water management, and enhance protection for ICIP
- monitor the capacity and capability needs of the water sector, and work with the water utility sector to improve water operator training and enhance the attractiveness of water operator careers.



# 11. Community partnerships and adjustment

This chapter outlines the progress across two community related areas included in element 8 of the *National Water Initiative* (NWI) – community partnerships and assistance with structural adjustment. Community partnerships include the processes of community consultation and engagement, along with the provision of information to stakeholders on a range of water planning matters.<sup>62</sup> Assistance with structural adjustment relates to government programs and measures aimed at helping communities adjust to the effects of water reform.<sup>63</sup>

A summary of the Productivity Commission’s assessment framework (appendix B) – which does not necessarily map perfectly against the action items – and progress against it, is in table 11.1. The notes to the table indicate which assessment items relate to which NWI actions.

Governments’ engagement with First Nations people and communities, including with respect to their commitments under the *National Agreement on Closing the Gap* to partnerships for shared decision-making, is also addressed in chapter 2.

**Table 11.1 – Assessment summary: Community partnerships and adjustment**

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
<b>Community partnerships (section 11.1)<sup>c</sup></b>			
<b>Engage water users and other stakeholders by:</b> <ul style="list-style-type: none"> <li>• providing opportunities to communities to express their views in a range of processes</li> </ul>	Largely achieved 	Largely achieved 	Jurisdictions have provided opportunities to communities to express their views in a range of processes. Some jurisdictions have implemented changes to their engagement processes, including publishing ‘what we heard’ reports.  The evidence received by the Commission so far indicates that engagement on water-related matters have not been sufficiently responsive to stakeholder concerns and may not be informing decision making. The Commission would welcome further feedback on this matter.
	<ul style="list-style-type: none"> <li>• providing information to support decision making through these processes</li> <li>• taking steps to respond to</li> </ul>	Not assessed	

<sup>62</sup> NWI paragraph 93.

<sup>63</sup> NWI paragraph 94.

NWI commitment	2021 assessment <sup>a</sup> and progress indicator <sup>b</sup>	2024 assessment and progress indicator	Comments – progress since 2021
stakeholder concerns, and document outcomes from these processes.			
<b>Community adjustment assistance (section 11.2)<sup>d</sup></b>			
<b>Address adjustment issues raised by the implementation of the NWI</b>	Largely achieved 	Largely achieved 	The Australian Government recommenced open tender water purchases (known as water buybacks) to address overallocation and increase water for the environment. This addresses the primary area of concern raised in 2021, but further actions are now required to ensure development, and monitoring and evaluation of the proposed adjustment measures are effective.

**a. Achieved:** All requirements met (green shading). **Largely achieved:** Requirements generally met, with some exceptions (yellow shading). **Partially achieved:** Only some requirements met (red shading). **b.** Progress indicators reflect an overall assessment of whether, on the whole, reforms have moved closer to consistency with the NWI in the three years since 2021. An arrow pointing upward indicates progress, a flat-line indicates no change and a downward arrow indicates poorer performance or backsliding. **c.** NWI paragraphs 93 and 95-96 **d.** NWI paragraph 97.

## 11.1 Community partnerships

### Summary of actions under the NWI

The outcome related to community partnerships is:<sup>64</sup>

to engage water users and other stakeholders in achieving the objectives of this Agreement by:

- improving certainty and building confidence in reform processes;
- transparency in decision making; and
- ensuring sound information is available to all sectors at key decision points.

The NWI identified two actions to achieve this outcome: to ensure open and timely consultation with all stakeholders, and to provide accurate and timely information to relevant stakeholders.<sup>65</sup>

### Previous findings (2021)

In 2021, the Commission found that community consultation and engagement processes undertaken by Australian governments on water management matters largely achieved the relevant NWI requirements. They provided various opportunities to communities and stakeholders to express their views on a range of processes. However, concerns were noted in submissions and meetings about the adequacy and effectiveness of some consultation and engagement processes undertaken since 2017, particularly within the Murray-Darling Basin.

<sup>64</sup> NWI paragraph 93.

<sup>65</sup> NWI paragraphs 95-96.

Similarly, the Commission observed participants' reservations in submissions, and other inquiries and reviews about the adequacy and effectiveness of some information provision efforts undertaken since 2017, again with a particular focus within the Murray-Darling Basin. The Commission found there was insufficient feedback from jurisdictions on their information provision efforts to make a fully informed assessment of whether these efforts met the requirements of section 96 of the NWI. The Commission was also unable to fully assess whether jurisdictions had taken steps to respond to stakeholder concerns and document outcomes of engagement processes.

The Commission noted that all jurisdictions had sought to improve the scale and quality of their consultation and engagement with communities and First Nations people.

Finally, the Commission concluded that all Australian governments should further build their capacity and capability to:

- undertake effective, thorough and well-informed community consultation and engagement
- provide water information that is publicly available, accessible, credible and well communicated.

## Interim assessment (2024)

To assess the development of community partnerships by jurisdictions, the Commission has used the same framing for effective stakeholder engagement that was used for the assessment in 2021 (box 11.1).

### Box 11.1 – Effective stakeholder and community engagement

For stakeholder engagement mechanisms to be effective, they should be:

- representative – all relevant stakeholders and communities have an opportunity to express their views
- informative – all relevant stakeholders and communities have an opportunity to obtain information that enables them to increase their level of knowledge on issues that are being considered
- responsive – the information and views gathered through the engagement process are taken seriously by decision makers and are used to inform decisions.

Source: Hart and Doolan (2017) and Manwaring (2010) in (PC 2017).

As was the case in 2021, most processes associated with the development of water plans, policies and programs across the jurisdictions have provided stakeholders an opportunity to express their views through some form of public participation.

All jurisdictions have in some way, at some time, published a response or summary of engagement processes as a means of keeping stakeholders informed about the impact of engagement on decision making. The approach to this response process varies significantly between jurisdictions. For example, New South Wales and Victoria appear to systematically publish 'what we heard' or 'closing the loop' reports on their websites while other jurisdictions appear to have more of a project specific approach to publishing summaries or responses to engagement processes. Further, these reports do not always document how 'what was heard' was then used to inform decisions.

With a constrained timeframe, the Commission has not yet sought nor received sufficient evidence to fully assess whether information provision has been timely and effective in informing all relevant stakeholders of the water management issues being considered and is seeking further feedback on this issue. Despite some

effort to reflect to stakeholders the outcomes of engagement activities, many participants in this inquiry remain unsatisfied with engagement efforts (box 11.2).

Overall, governments are continuing to engage the public in most decision-making processes, and some are making improvements to engagement processes. However, there is still dissatisfaction in the community. The Commission is seeking further evidence on the extent that governments, including from outside the Murray-Darling Basin, are informative and responsive through their engagement processes. There is also a need for improved coordination of engagement efforts, especially in the Murray-Darling Basin where there are many simultaneous processes by different governments and agencies.

### **Box 11.2 – Participants’ views on engagement processes**

#### **Berrigan Shire Council**

Communities, including ours, have continuously complained they have been over consulted, under represented and completely unheard, in all consultation efforts. Further they have claimed loudly that the consultation provided is tokenistic. Online surveys and webinars, in areas where connectivity is at best questionable and invite only meetings where attendees have to travel, at times hundreds of kilometres, demonstrate how poorly those in Canberra and Sydney understand the people of our communities and the barriers they face. The form and lack of commitment to meaningful consultation also demonstrate the sheer unwillingness of those in power to actually communicate with those their decisions will affect. (sub. 2, p. 6)

#### **Melissa Ball**

The NT *Water Act* is inadequate in terms of ensuring meaningful community consultation because it does not require that water advisory committees are formed nor that they are comprised of local community representatives and Traditional Owners. (sub. 13, p. 1)

#### **NSW Irrigators**

The scope, framework, modelling and timeframes that will be used for this coastal sustainable extraction research remains unclear, demonstrating a lack of effective community partnership and engagement, preventing water users from understanding any risk or potential change to the consumptive pool. (sub. 16, p. 15)

#### **Terri Janke and Company Pty Ltd**

These standards of ‘having regard to’ and ‘consult’ do not meet the thresholds for Free, Prior and Informed Consent (FPIC), an inherent right of First Nations people, that is also protected under the [United Nations Declaration on the Rights of Indigenous Peoples]. While these standards may be met in practice, this relies on the goodwill of governments and public servants. (sub. 18, p. 7)

#### **Watertrust**

Watertrust’s extensive consultations across Australia have identified that reform processes with limited effective stakeholder and First Nations’ involvement have contributed to a growing mistrust of governments, increased mistrust among stakeholders, undermined reforms’ legitimacy and constrained policy implementation. ... Reform processes would greatly benefit

**Box 11.2 – Participants’ views on engagement processes**

from governments increasing the genuine involvement of stakeholders in decision-making across the policy cycle to work through the inevitable conflicts that arise. (sub. 35, p. 1, 2)

**Australian Water Association**

Community engagement in planning and decision-making has improved, but there is still a need to increase transparency and water literacy to protect and extend gains. (sub. 43, p. 7)

**Interim First Nations Water Working Group**

Cultural authority and governance systems are continually undermined by simplistic engagement geared towards satisfying minimum procedural requirements for token and minimalist forms of recognition, rather than genuine inclusion of First Nations’ enduring rights, connections to and responsibilities for Country. (sub. 48, p. 5)

**Arid Lands Environment Centre**

Community engagement processes in the Northern Territory are atrocious. ... Currently, community engagement falls well below the International Association for Public Participation code of ethics. (sub. 53, p. 35, 36)

**Environment Centre NT (ECNT)**

The NT Government did not involve the community in the Badu Advisory review, despite the clear public interest and a strong level of community engagement in water decisions in the Northern Territory. It is unclear to ECNT what, if any, stakeholder input was sought as part of the review. (sub. 54, p. 5)

Below are some examples of jurisdictions’ progress, maintenance or backsliding under this area. Where a jurisdiction is not shown, it is because there has been no significant change since 2021.

**Australian Government**

The Australian Government provides information to local communities through the use of Regional Engagement Officers and Local Engagement Officers, working for the Murray-Darling Basin Authority and the Commonwealth Environmental Water Holder respectively. These officers provide an opportunity for two-way information sharing between Australian Government agencies and local communities in the Murray-Darling Basin. In its inquiry into the Murray-Darling Basin Plan implementation, the Commission found that Local Engagement Officers had contributed to successful engagement with local communities and the building of partnerships with irrigation infrastructure operators. These partnerships and collaborations have been instrumental to the Water Holder’s credibility with communities and its success in facilitating the delivery of environmental outcomes (PC 2023a).

The Australian Government said it has worked to streamline and improve its engagement processes in the Murray-Darling Basin. However, through its inquiry into implementation of the Murray-Darling Basin Plan, the Commission heard that conversations continue to be one-way and not influence key decisions, and that little feedback was provided on the outcomes of engagement processes (PC 2023a).

## New South Wales

In 2020, the NSW Department of Climate Change Energy, the Environment and Water (NSW DCCEEW) established the Aboriginal Water Program and created a dedicated engagement team, which is responsible for ensuring First Nations communities are informed about new water initiatives or policy changes and where appropriate, can have a say on water matters (NSW Government 2024d). However, this change has not been supported by all. For example, the Dharriwaa Elders Group (DEG) observed:

We continue to see government creating more positions in departments as the means to achieve greater engagement with Aboriginal communities as if the lack of these positions is the cause of government failure to achieve improved outcomes in water management. However, this does nothing to address the structural and systemic changes that are needed to make or improve government accountability to communities. DEG now has an extra layer of government relations to navigate and educate to progress DEG's water priorities. (sub. 47, p. 3)

NSW DCCEEW has instituted changes to improve the provision of information and increase transparency and inclusion. This includes hosting a monthly webinar to provide updates on all consultation processes. NSW DCCEEW publish a monthly newsletter and maintain a 'have your say' website to keep interested stakeholders informed about the activities of the department (NSW Government 2024b). NSW DCCEEW are also taking steps to improve coordination of engagement across the department to address concerns of over engagement.

## Northern Territory

The Commission heard concerns from participants about the lack of appropriate engagement with First Nations communities, particularly in the Northern Territory (EDO, sub. 50; ALEC, sub. 53; ECNT, sub. 54). Consultation for the development of new water allocation plans for the Georgina Wiso (finalised in November 2023) and Western Davenport (under development) areas relied on a simple online form for community engagement. This approach was not considered to be appropriate or inclusive for remote First Nations communities that would be affected by the plan (chapter 2, 4).

The Northern Territory Government advised the Commission it is planning to establish Aboriginal reference groups in the future to ensure that Aboriginal cultural values and knowledge are understood, key groundwater dependent sites are defined, and specific cultural protections are developed for future inclusion in the plan (NT OWS 2023a). If implemented effectively, the use of Aboriginal reference groups could lead to an improvement in engagement and participation by First Nations groups, however, engagement should not be limited to these groups nor to cultural water requirements.

## Best practice for community engagement

A widely accepted international best practice for community engagement has been developed by the International Association for Public Participation (IAP2). The IAP2 participation spectrum is a means of selecting the level of participation that best defines the public's role in an engagement program and is a valuable tool for shaping effective engagement processes (International Association for Public Participation 2019). A number of jurisdictions indicated that they use the IAP2 spectrum to help plan their engagement processes. As summarised in box 11.2,

many stakeholders feel they are not engaged meaningfully, participation is not influencing key decisions, and at times they lack relevant information to feel informed. The IAP2 spectrum ranges from the provision of information (the minimum level of participation) through to collaboration and empowerment where the public are more involved in decision making and their advice is incorporated to the maximum extent possible (International Association for Public Participation 2019).

Based on feedback the Commission has heard through this, and previous, inquiries, governments should be ensuring that, where appropriate, best practice engagement processes in line with the IAP2 definitions of collaboration and empowerment are adopted. This would include the provision of information, listening to concerns and feedback, reflecting concerns in alternative options and also incorporating advice to the maximum extent possible, or placing decision-making in the hands of the public.



### Information request 11.1

In the past three years, what, if any, improvements have been made by governments to improve community engagement processes?

Where engagement has occurred or feedback provided by community groups, do those groups feel they have a greater understanding of how decisions were taken and what consideration was given to community views?

## 11.2 Community adjustment assistance

### Summary of actions under the NWI

Assistance with structural adjustment relates to government programs and measures 'to address adjustment issues raised by the implementation of' the NWI.<sup>66</sup> The actions agreed to achieve this outcome were:<sup>67</sup>

The Parties agree to address significant adjustment issues affecting water access entitlement holders and communities that may arise from reductions in water availability as a result of implementing the reforms proposed in this Agreement.

- i) States and Territories will consult with affected water users, communities and associated industry on possible appropriate responses to address these impacts, taking into account factors including:
  - a) possible trade-offs between higher reliability and lower absolute amounts of water;
  - b) the fact that water users have benefited from using the resource in the past;
  - c) the scale of the changes sought and the speed with which they are to be implemented (including consideration of previous changes in water availability); and
  - d) the risk assignment framework referred to in paragraphs 46 to 51.

<sup>66</sup> NWI paragraph 94.

<sup>67</sup> NWI paragraph 97.

- ii) The Commonwealth Government commits itself to discussing with signatories to this Agreement assistance to affected regions on a case-by-case basis (including set up costs), noting that it reserves the right to initiate projects on its own behalf.

## Previous findings (2021)

In 2021, the Commission found some positive developments in community adjustment assistance, namely the commitment to monitor and evaluate the Murray-Darling Basin Economic Development Program. But decisions inconsistent with the NWI were also identified, in particular the Australian Government decision to halt the use of water buybacks to recover water for the environment.

Overall, the Commission concluded that the NWI provided limited guidance on appropriate adjustment actions and, therefore, jurisdictions had largely achieved the NWI requirements. Monitoring and evaluation of adjustment assistance measures was identified by the Commission as a key ongoing priority for jurisdictions.

## Interim assessment (2024)

The Australian Government has recommenced open tender water purchases (known as water buybacks) to address overallocation and increase water for the environment (Plibersek 2023a). Compared to subsidies for on-farm water efficiency improvements, buybacks are more efficient. Reintroduction of buybacks addresses the primary area of concern raised in 2021, which noted that ‘Ruling out buybacks is inconsistent with NWI commitments for water recovery measures’ (PC 2021b, p. 207). With this in mind, the Commission notes with some concern that in February 2024 the NSW Government released its *NSW Alternatives to Buybacks Plan: Delivering on our commitments to implement the Basin Plan in full* that excludes the use of buybacks for water recovery (NSW DCCEEW 2024).

Other than buybacks there has been little change in adjustment programs in the past three years. Western Australia is currently undergoing a water recovery process for the Gnamptara Mound and is providing individuals, businesses, local governments, schools and communities support to adjust to reduced water allocations (Western Australian Government 2024).

As outlined in the NWI renewal advice (13.1) provided in 2021, any adjustment assistance that is provided should consider:

- community needs, understood through effective community partnerships and engagement
- generally available measures targeting the welfare and skills of individuals, and regional development planning and initiatives
- in rare circumstances where it is appropriate to take additional steps to address adjustment issues, the assistance option that:
  - delivers the largest benefits relative to costs
  - is likely to build adaptive capacity and secure employment
  - targets the most vulnerable individuals
  - includes a commitment to public monitoring and evaluation of effectiveness.

The Australian Government is currently consulting on a draft framework for delivering the 450GL of additional environmental water under the *Water Amendment (Restoring our Rivers) Act 2023* (Cth). The draft framework includes the Sustainable Communities Program, an adjustment assistance program for Basin communities impacted by voluntary water purchases (DCCEEW 2024c).

It is not clear from the draft framework the extent of community involvement in program development or if monitoring and evaluation is an intended part of the program. The Commission would encourage governments to consider the NWI renewal advice (13.1) provided in 2021 when designing the program, in particular, that it include ‘public monitoring and evaluation of the effectiveness of any assistance’. The government should also consider increasing the level of involvement of affected community members in the development of the program to build a sense of ownership and trust in the program (PC 2023a).

As noted above, monitoring and evaluation of adjustment programs is important. However, the Australian Government has not published evaluation reports for its Murray-Darling Basin Economic Development Program which commenced in 2020. This is despite the monitoring, evaluation, reporting and improvement framework identifying specific times for reporting in 2022 and 2023 (DCCEEW 2021).

Overall, however, the specific requirements of the NWI with respect to community adjustment assistance have been largely met by all jurisdictions.

## 11.3 Renewal advice

NWI renewal advice in chapters 13 and 15 of the Commission’s National Water Reform 2021 inquiry report remains relevant. The Commission extends some of that advice below.

### NWI renewal advice 13.1: Helping communities deal with adjustment pressures

UPDATED IN 2024

Inclusion of guiding principles in a renewed National Water Initiative would clarify how governments can respond to any significant community adjustment pressures resulting from policy-induced reductions in water availability.

- The socioeconomic impacts of any major potential policy change be assessed to identify possible community needs. Effective community partnerships and engagement are critical to understanding the wider context.
- Generally-available measures targeting the welfare and skills of individuals, and regional development planning and initiatives to leverage community capabilities and competitive advantages are usually the most appropriate responses to adjustment pressures.
- In rare circumstances, it may be appropriate to take additional steps to address adjustment issues if policy changes that are beneficial to the wider community impose increased risk of permanent disadvantage for groups of individuals. Where generally-available measures will be inadequate, more support could improve the efficiency of the adjustment process by addressing impediments to change.
- Where further support is warranted:
  - ~~consideration should be given to how existing regional development programs support the adjustment process and whether policies and regulations not directly related to water unnecessarily impede change~~

### NWI renewal advice 13.1: Helping communities deal with adjustment pressures

UPDATED IN 2024

- assistance programs should be integrated with regional development strategies and frameworks.
- options for further support need to be considered on a case-by-case basis and consider all factors affecting a community (not just changing water availability) and the chosen option should be the one that delivers the largest benefits relative to costs
- measures that are likely to build adaptive capacity and secure employment or business opportunities should be the focus, and targeted to the most vulnerable individuals (those at risk of permanent disadvantage)
- industry assistance and subsidies should be avoided
- a commitment should be made to public monitoring and evaluation of the effectiveness of any assistance.

### NWI renewal advice 15.1: Community engagement framework

UPDATED IN 2024

Australian governments should recommit to best practice, cost-effective engagement with their communities on all water matters. To achieve this, a renewed National Water Initiative should develop a community engagement framework focused on:

- continuously improving and sustaining government engagement effort across all aspects of water resource management and water service provision
- coordinating engagement actions between all levels of government, particularly in multi-jurisdictional activities
- ensuring that engagement effort and its resourcing are fit-for-purpose taking into account the scale of proposed change or reform, its sensitivities and its impacts
- ensuring that governments are clear about the purpose of their engagement, and the role of communities in decision making, and transparently report on how communities' views have informed decisions.
- improving the effectiveness of community engagement through enhancing:
  - water information accessibility and comprehensibility
  - community water literacy.

This framework should adopt the characteristics of inclusiveness, timeliness, partnership, respect, access to information, transparency, responsiveness and continuous improvement as a best-practice foundation for effective community engagement and information provision practice in water resource management and water service provision.

## A. Public engagement

This appendix outlines the engagement process undertaken for this inquiry and lists the organisations and individuals who participated.

Following the receipt of the terms of reference on 22 December 2023, an advertisement was placed in *The Australian* and the *Australian Financial Review*. A call for submissions was released on 5 January 2024 to assist people wanting to make a written submission to the inquiry.

The Productivity Commission received 55 submissions (table A.1), 4 brief comments and met with representatives from Australian, state and territory government water agencies, water regulators, water sector peak bodies, and First Nations people and organisations (table A.2).

In accordance with section 89 of the *Water Act 2007 (Cth)*, the Commission established a Stakeholder Working Group for this inquiry. The working group is an important avenue for engagement. It provides a forum to exchange information and views on issues relevant to this inquiry (table A.3).

The Commission welcomes submissions on the interim report, including responses to interim findings and recommendations by Wednesday 24 April 2024

The Commission would like to thank everyone who has participated in this inquiry so far.

**Table A.2 – Submissions**

Participants	Submission no.
Acid Sulfate Soils Centre (ASSC)	25
Alistair Watson	17
Arid Lands Environment Centre (ALEC)	53
Aurecon	28
Australian Academy of Technological Sciences and Engineering (ATSE)	5
Australian Competition and Consumer Commission (ACCC)	11
Australian Water Association (AWA)	43
Berrigan Shire Council	2
Business Council for Sustainable Development Australia (BCSD Australia)	7
Central Land Council (CLC)	44
Central NSW Joint Organisation	30
Cobram Estate Olives Limited	20
Colin Boyce MP	26
CSIRO	42
David Shearman	10

Participants	Submission no.
Desert Knowledge Australia and the Goyder Institute	24
Dharriwaa Elders Group	47
Engineers Australia	34
Environment Centre NT (ECNT)	54
Environmental Defenders Office	50
Gwydir Valley Irrigators Association Inc (GVIA)	39
Heather Ferguson and Carl Stephens	19
Hughenden Irrigation Project Corporation	1
Indigenous Land and Sea Corporation (ILSC)	52
Interim First Nations Water Working Group	48
Irrigation Australia	9
Lachlan Valley Water Inc	21
Local Government Association of Queensland (LGAQ)	12
Mark Leland Ames and Merielle Maureen Cooper	14
Melissa Ball	13
Murray-Darling Basin Authority (MDBA)	36
National Farmers' Federation (NFF)	32
National Health and Medical Research Council (NHMRC)	6
National Irrigators' Council (NIC)	51
National Parks Association of NSW (NPA)	33
Northern Land Council (NLC)	38
NSW Irrigators' Council (NSWIC)	16
Office of the Commissioner for Sustainability and the Environment – Dr Sophie Lewis	3
Dr Paul Wyrwoll	27
Prof Alex Gardner	46
qldwater	29
R Qution Grafton and John Williams	40
Ricegrowers Association (RGA)	37
South Australian Council of Social Service	23
Sydney Water	41
Tabitha and Celia Karp	31
TasFarmers	8
Terri Janke and Company Pty Ltd	18
Unitywater	22
Water Research Australia (WaterRA)	49

Participants	Submission no.
Water Sensitive Cities Australia	45
Water Services Association of Australia (WSAA)	15
WaterNSW	55
Watertrust Australia Ltd	35
WIM Alliance	4

**Table A.2 – Consultations**

Participants
Australian Competition and Consumer Commission (ACCC)
Australian Government Department of Climate Change, Energy, the Environment and Water
Australian Government Inspector-General of Water Compliance
Bureau of Meteorology (BOM)
Committee on Aboriginal and Torres Strait Islander Water Interests
Department of Climate Change, Energy, the Environment and Water (NSW)
Department of Energy, Environment and Climate Action (Vic)
Department of Environment and Water (SA)
Department of Environment, Parks & Water Security (NT)
Department of Natural Resources and Environment (Tas)
Department of Regional Development, Manufacturing and Water (Qld)
Department of Water and Environmental Regulation (WA)
Dr Phil Duncan
Economic Regulation Authority (ERA) (WA)
Essential Services Commission (ESC) (Vic)
Essential Services Commission of South Australia
Environment Centre NT
Environment, Planning and Sustainable Development Directorate (ACT)
Independent Pricing and Regulatory Tribunal (IPART) (NSW)
Joe Morrison
National Farmers' Federation (NFF)
Natural Resources Commission (NSW)
Professor Peter Yu
Queensland Competition Authority
Rene Woods

**Table A.3 – Stakeholder working group**

**Participants**

Australian Academy of Technological Science and Engineering

Australian Conservation Foundation

Australian Water Association (AWA)

Coalition of Peaks

Committee on Aboriginal and Torres Strait Islander Water Interests

Minerals Council of Australia

National Farmers' Federation

National Health & Medical Research Council

SA Council of Social Services

Water Services Association of Australia

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## B. Assessment of progress ratings and indicators

In the assessment parts of this interim report, the Productivity Commission has adopted the following ratings to indicate progress in meeting the outcomes and objectives of the NWI.

- **Achieved:** All requirements to achieve the relevant outcomes and objectives of the NWI have been met (green shading in table).
- **Largely achieved:** Requirements to achieve the relevant outcomes and objectives of the NWI have generally been met, with some exceptions (for example, there are one or two non-compliant jurisdictions or reforms do not extend to all water users or sectors) (yellow shading in table).
- **Partially achieved:** Only some requirements to achieve the relevant outcomes and objectives of the NWI have been met (for example, there are several non-compliant jurisdictions, or most jurisdictions do not meet a number of key requirements) (red shading in table).

Some requirements in the NWI are one off actions (such as removing legislative barriers to water trading) while others require ongoing effort (such as monitoring). One off actions can be undone, and progress is not unidirectional, hence, 'achieved' does not necessarily indicate that no further action is required in the future.

In addition to the point in time assessments provided by these ratings, the direction of progress since 2021 has also been assessed. Progress signals are used to reflect an overall assessment of whether, on the whole, across jurisdictions, reforms have moved closer to consistency with the NWI since 2021.

- An arrow pointing upward indicates progress. 
- A flat line indicates no change. 
- A downward arrow indicates poorer performance or backsliding. 

In some assessment chapters, the Commission has also indicated the direction of progress in specific jurisdictions since 2021. At this interim report stage, we are not presenting a full assessment of the progress of every jurisdiction against every NWI element – only the key findings where the evidence has indicated there are significant developments to report.

- Jurisdiction has made notable progress. 
- Jurisdiction has fully achieved outcome. 
- Jurisdiction has made no progress or minor incremental gains or losses. 
- Jurisdiction is backsliding or performance is notably poorer. 

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