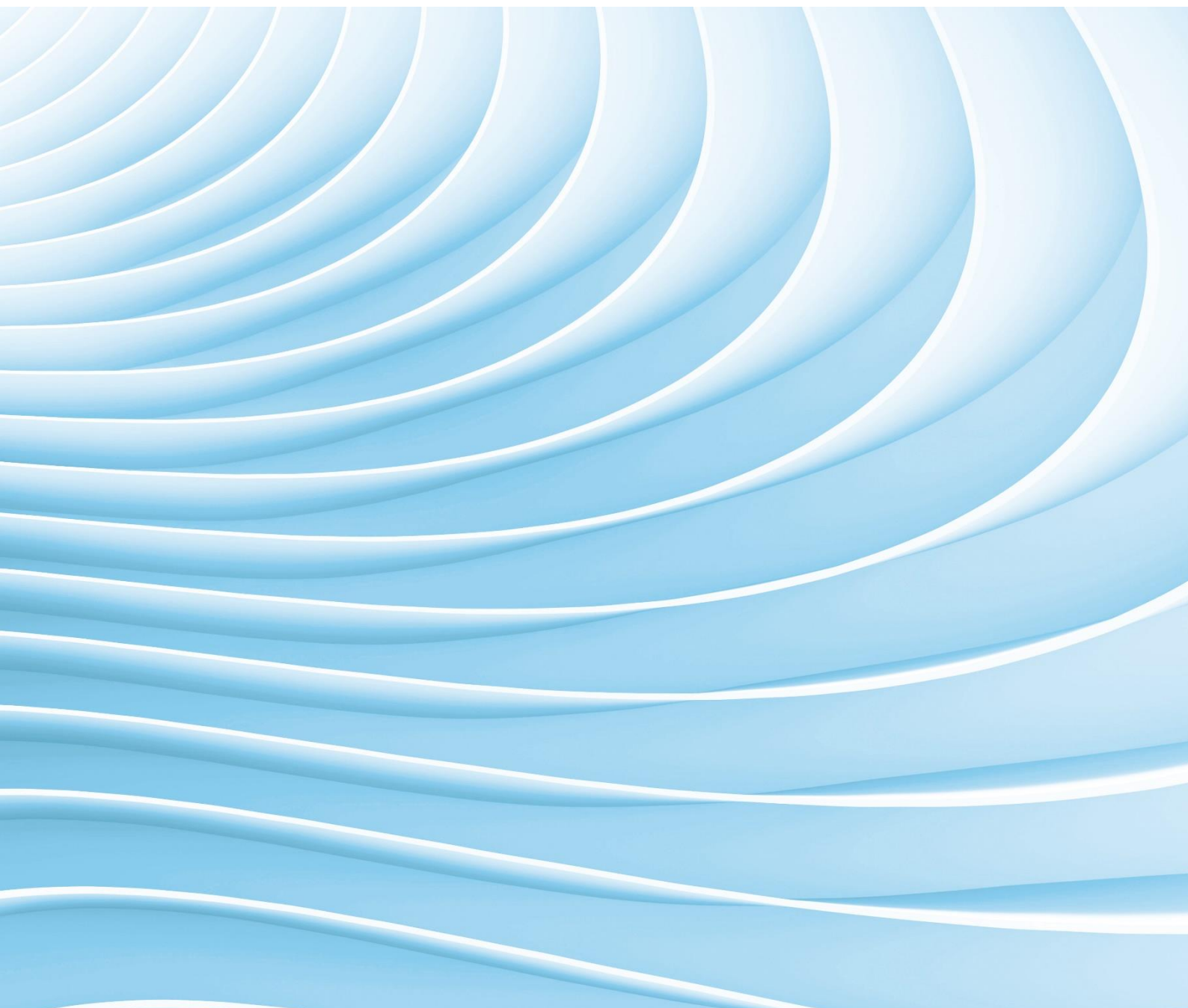




# National Water Reform 2024

## Inquiry report

### Overview



**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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28 May 2024

The Hon Dr Jim Chalmers MP  
Treasurer  
Parliament House  
CANBERRA ACT 2600

Dear Treasurer

In accordance with section 11 of the *Productivity Commission Act 1998*, we have pleasure in submitting to you the Commission's final report into *National Water Reform 2024*.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Joanne Chong', with a long horizontal flourish extending to the right.

**Joanne Chong**  
Commissioner

A handwritten signature in black ink, appearing to read 'Anne Poelina', with a stylized 'A' and 'P'.

**Professor Anne Poelina**  
Associate Commissioner

## 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.

Commissioner Joanne Chong holds an honorary position at the University of Technology Sydney.

Professor 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
- Member of the Indigenous Advisory Committee
- holds several academic positions, Professor, Chair Indigenous Knowledges at the Nulungu Research Institute, University of Notre Dame; Adjunct Professor, College of Indigenous Education Futures, Arts and Society Charles Darwin University; Research Fellow at the Water Justice Hub, Australian National University.

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## **Acknowledgments**

The Commissioners express their appreciation to the staff who worked on the inquiry report – Assistant Commissioner Jared Dent who managed the inquiry, and the team members: Shane Chisholm, Paul Gardner, Catherine McCombe, Phil Heaphy, Krista Clift, Cristy Alevizos, Cameron Van-Lane, Sally Harvey, Sebastian Broadhurst, Debasish Das, Ritaja Das, and Bowen Tan.

# 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 peoples' reverence and cultural responsibility for water and the continued involvement and participation of First Nations peoples 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 NWI.
  - 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 the Northern Territory, independent economic regulators do not have the power to set water prices.
  - Jurisdictions are in the process of developing action plans and strategies to include First Nations peoples in water planning and decision-making processes, but implementation is in the early stages.



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## About the inquiry 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 Water 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 (five months), only items 1 and 2 are covered in detail in this report. Item 3 is best considered as part of the Australian Government's planned 2027 review of the *Water Act 2007* (Cth).<sup>1</sup>

This report 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 updated renewal advice that the Commission first provided in 2021 (PC 2021b), and additional findings and recommendations from our 2024 assessment.

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

The rest of the report provides the Commission's assessment of progress of jurisdictions against the 2004 NWI and makes recommendations for how parties might better achieve its 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 public submissions on 5 January 2024. An interim report was published on 4 April 2024, along with a call for further submissions.

Over the course of the inquiry, the Commission received 96 submissions, six brief comments and conducted 49 consultations including with representatives from jurisdictional water agencies, water regulators, water sector peak bodies, academic institutions, industry associations and First Nations peoples and organisations – Appendix A). The Commission also met three times with a stakeholder working group.

The report and assessment of progress draws on a broad range of sources including information provided directly by governments, other independent reviews and inquiries, academic and policy papers, input from the stakeholder working group, and submissions to this inquiry.

The Commission thanks the state and territory governments, and the Australian Government, for their cooperation. We thank all participants for their contributions to the inquiry and acknowledge the time and effort spent contributing not only to this inquiry, but also to other previous as well as current government processes related to national water reform.

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<sup>1</sup> The Commission's response to this item in the Terms of Reference is in section 1.4 (chapter 1).

## 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 facing challenges of increasing demands on water resources, in 2004, the Council of Australian Governments (COAG) agreed to the NWI,<sup>2</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>3</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 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 longer-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. Rising temperatures leading to higher evaporation will put additional pressure on dam water storages and reduce the rates of groundwater recharge. These trends are driven by climate change and are forecast to accelerate further as the climate continues to warm (BOM 2024d). A warming climate and falling rainfall will impact the availability of water.

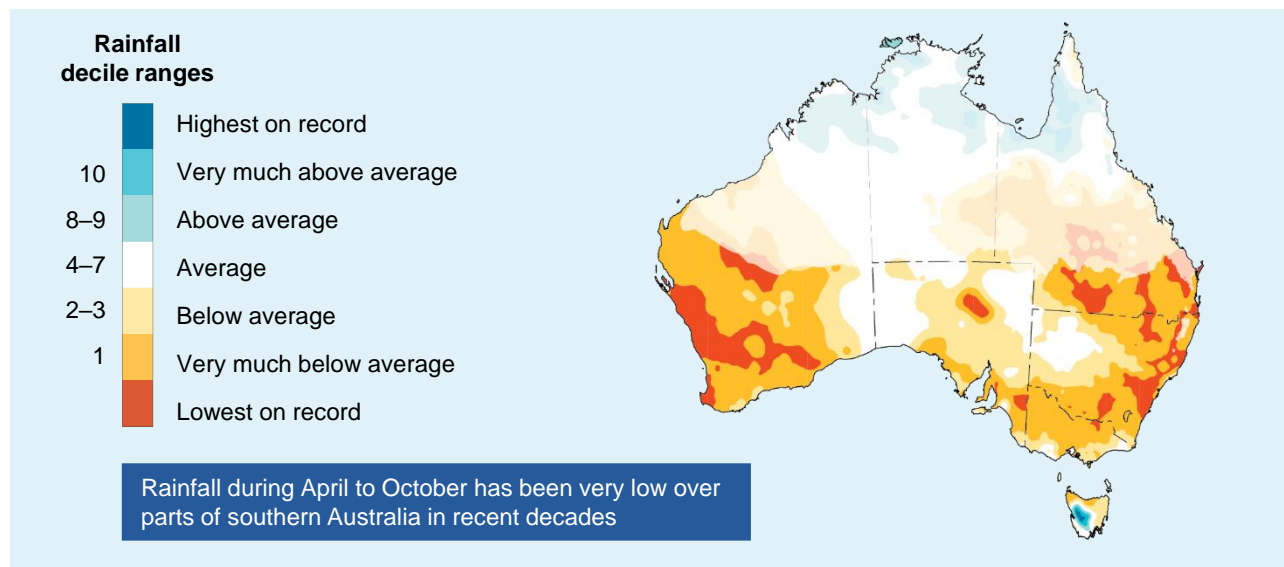
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<sup>2</sup> Tasmania and Western Australia did not become signatories to the NWI until 2005 and 2006, respectively.

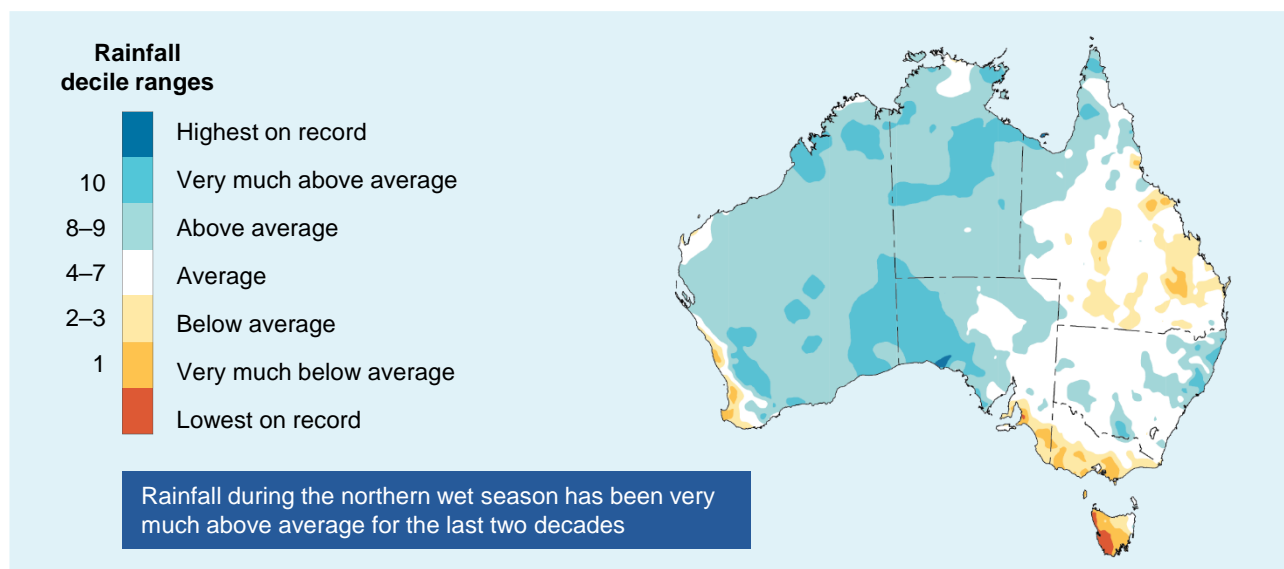
<sup>3</sup> NWI paragraph 5.

**Figure 1 – Australia’s 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 100-year average rainfall record for Australia for the period 1900–2000.

Source: BOM 2022.

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

Australia’s growing population is putting increasing pressure on water service systems and management, particularly in major urban centres (chapter 3). Higher temperatures resulting from climate change are also likely to drive an increase in per capita water demand (e.g. to cool buildings and irrigate parks and gardens).

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 peoples' 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.

## How should the NWI be renewed?

The Australian, state and territory governments are negotiating to renew the NWI in the form of a new intergovernmental agreement on water. 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 renewed NWI. 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 a renewed NWI should include priorities focusing on climate change and First Nations interests, and that there have been constructive cross-jurisdictional discussions about these areas.

The Commission has also heard some jurisdictions do not wish to retain some of the core NWI commitments in the new agreement. 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.

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

A summary of the Commission's recommendations for a renewed NWI follow, 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 NWI to implement.

The Commission recommends retaining this broad structure, but with an updated goal and overarching objectives of a new 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, there also needs to be a focus on water service provision.

The Commission proposes a revised framework of objectives for a renewed NWI that elevates water service provision – the outcome of good management – that is 'effective, equitable and efficient'. Central to this is the concept of a basic level of service, under which all governments commit to provide universal access to safe and reliable drinking water, to support broader public health outcomes.

Within this context, the Commission recommends new additional objectives for the renewed NWI that cover water quality, supply management, infrastructure, and community expectations (renewal advice 3.3).

Figure 2 illustrates the Commission's proposed renewed NWI structure and objectives.

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 peoples' 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.

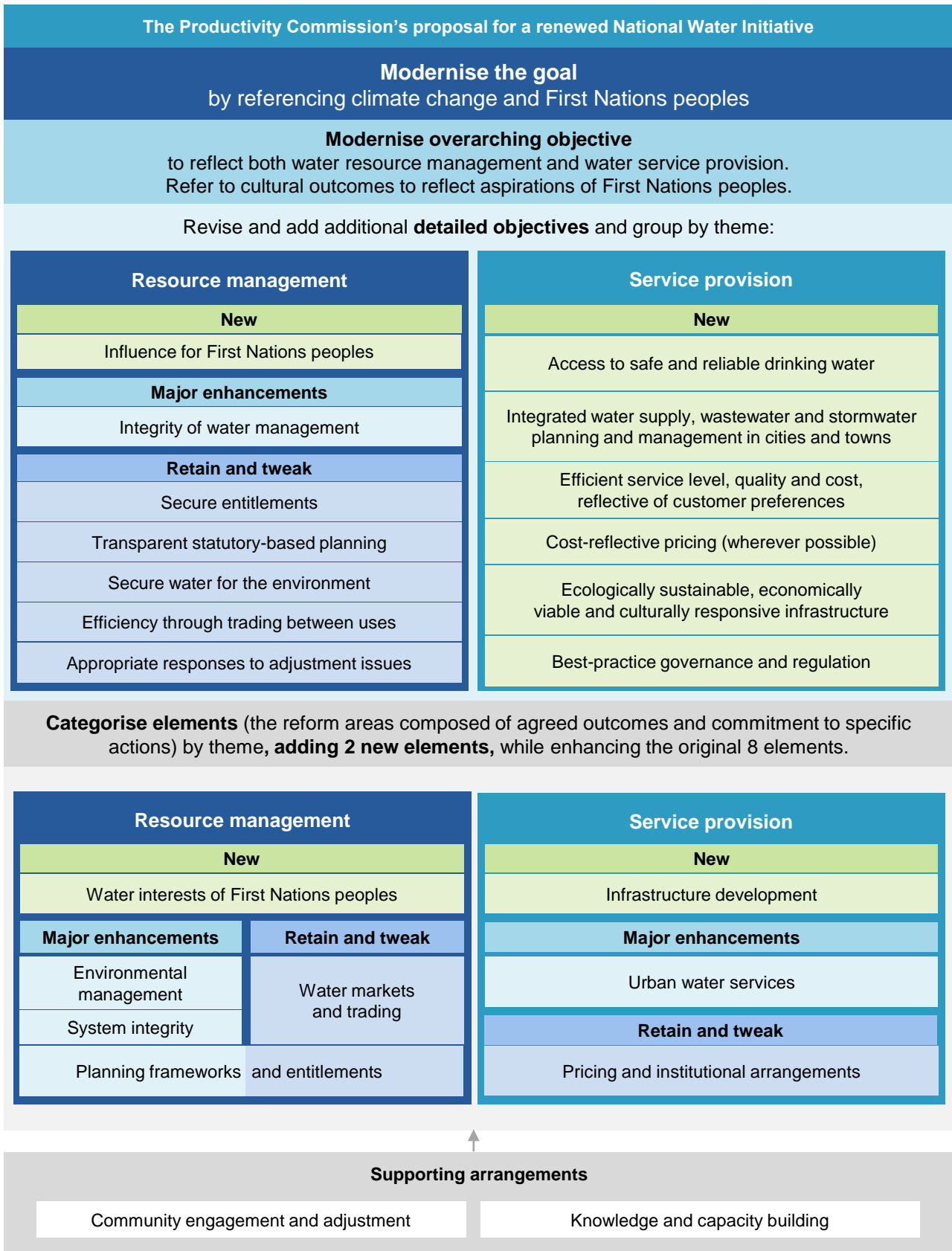
### New and enhanced agreement elements

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 renewed to reflect the contemporary context, and added to, to support the new objectives.

Figure 2 also illustrates the Commission's recommendations for new elements for a renewed NWI, and how they relate to the proposed objectives.

**Figure 2 – A renewed NWI needs to build on the 2004 agreement**



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

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## 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 formally 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 peoples' 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 illustrated in figure 3.

## An enhanced commitment to the participation of First Nations peoples in water management

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

The NWI has limited focus on the water interests of First Nations Australians. Element 1 of the NWI (Water Access Entitlements and Planning Framework) 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>4</sup> The NWI does not specifically recognise how water access contributes to achievement of First Nations peoples' economic objectives.

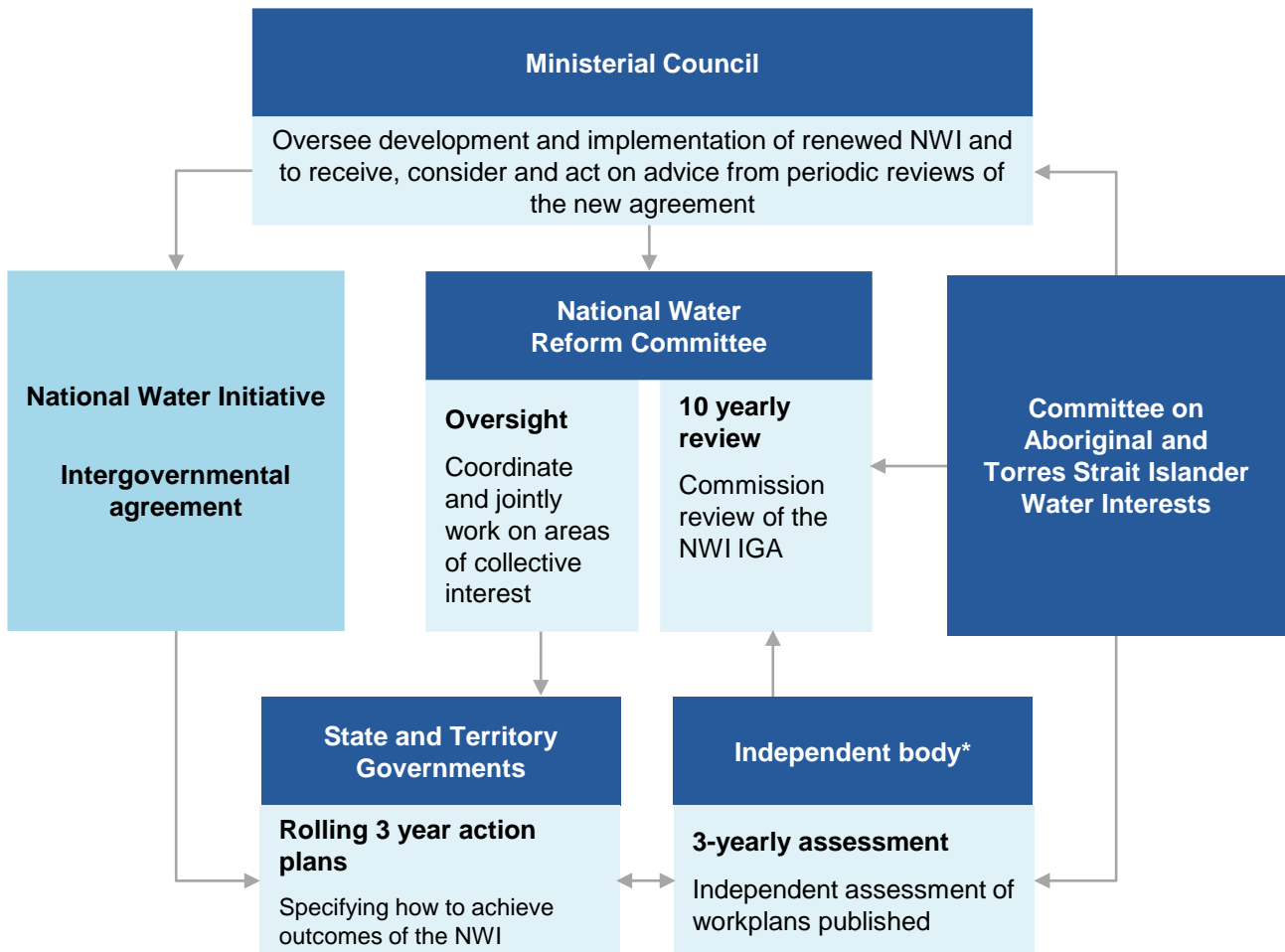
The Commission's 2021 report noted the NWI's shortcomings and pointed out that even with this lack of ambition, 17 years later the NWI actions had not been met (PC 2021a, pp. 42–44). In 2020 governments signed the National Agreement on Closing the Gap, committing to implementing its four priority reforms,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

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<sup>4</sup> NWI paragraph 52.

**Figure 3 – Renewed NWI governance arrangements**



\*This function is currently performed by the Commission under the *Water Act 2007* (Cth).

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

### 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 on First Nations social, spiritual and customary objectives. Some are more progressed than others with implementation, in partnership with First Nations peoples.

The Commission reiterates its 2021 renewal advice 3.1, 9.1 and 9.2 that First Nations peoples’ interests in water should be elevated to be part of the overarching goal of a renewed NWI, and interests be addressed through 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 three years. In addition, several inquiry participants supported CAWI’s continued advisory role in NWI renewal.



CAWI has published an Insights Paper (CAWI 2023a) outlining its ambition for First Nations peoples' water interests, and the Committee 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 3).

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

On the issue of sourcing water for First Nations peoples, the Commission reiterates its 2021 renewal advice 9.3. 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
- 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 peoples' 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 2024d). In light of these issues, governments and water planners need to take proactive steps to address future water security, including water quality for Australia. Chapter 3 discusses these issues, which are also summarised below.

### **Addressing water security requires engaging with risk**

There is no common definition of water security. Definitions are typically explained as broad goals such as 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 (recommendation 3.1).

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

In a drying and warming climate characterised by increasing uncertainty, the trade-offs between different water uses 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 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 (including 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 during 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.

While significant progress has been made on modelling and projecting the impacts of climate change on water availability, there is a need for jurisdictions to expand and improve how they incorporate the results of these efforts into water plans. The Commission reiterates its renewal advice 6.2 from 2021 that water plans:

- consider likely changes in water availability due to climate change
- include clear processes and triggers for rebalancing between environmental and consumptive use
- include clear provisions for allocating the risks associated with climate uncertainty.

Since 2021, an increased frequency and higher unpredictability of extreme events (BOM 2024d), including flooding associated with storm weather and cyclones suggests that specific attention is warranted to address risks to water security – including water quality – 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 (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 (IGBP 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 system transitions to new sources. But not all climate change responses or mitigation will cost water – some measures to reduce emissions will also save water.

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 (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 service 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.

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. Policy bans should be avoided. They constrain options, potentially resulting in outcomes that are not lowest cost or most efficient. All potential supply and demand options must be considered at different scales and combinations, including desalination, purified recycled water, managed aquifer recharge, scarcity pricing, water conservation and rural-urban trade.

## The 2024 assessment of progress against the 2004 NWI

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

### General summary of assessment

#### Jurisdictions are making progress in some areas

The following are aspects of the NWI against which jurisdictions continue to make gains, improving their practices and better conforming to the objectives of the NWI.

- 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.
- Some progress has been made in water security planning. New South Wales and Victoria have created comprehensive water security plans for some regions, guided by detailed climate and water demand modelling.
- The amount of engagement with First Nations peoples in the water planning process is increasing, although the quality of that engagement is variable.
- Water plans in general include more detailed and measurable environmental and public benefit outcomes.

- 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 being released that can assist water users to make more efficient decisions.
- There has been significant improvement in compliance and enforcement activities, with most jurisdictions now closely aligned with the National Compliance Framework.
- Most jurisdictions have taken action to build water resource management capacity, and New South Wales and Queensland are undertaking initiatives to support skills and training at water utilities.

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

Several jurisdictions still do 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 reduces confidence, increases transaction costs and investment risk, threatens environmental outcomes and risks political interference in decision making.
- Several jurisdictions do 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 associated water for mining and petroleum industries, which can undermine the integrity of the entitlements system, adversely affect environmental outcomes and reduces transparency.
- In Western Australia, Queensland and the 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 (finding 6.1).
- In some remote communities, access to quality water supplies in a manner consistent with the *Australian drinking water guidelines* remains problematic, particularly as a result of chemical health exceedances (finding 9.1). Other remote and regional areas experience aesthetic concerns, associated with the acceptability of water to the consumer in terms of colour, taste and odour. Exceeding acceptability standards may lead to consumers seeking alternative sources that are less safe (WHO 2017, p. 28).
- There remains limited national coordination and prioritisation of knowledge and capacity building activities to support water management.
- Monitoring and evaluation of community assistance programs is still lacking. Without this, the effectiveness of assistance programs to address social impacts, for example, in 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 peoples are under-represented in water planning and management decision-making processes, and engagement by governments is often perceived as not meaningful. Governments are not meeting their commitments made under the National Agreement on Closing the Gap, including establishing formal partnerships and sharing decision-making. First Nations peoples' access to water, including ownership, remains low according to available data. Monitoring, reporting and evaluation of First Nations peoples' engagement outcomes and water ownership is limited.
  - 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 peoples, but

often do not co-ordinate their activities. This can cause duplication and consultation fatigue amongst First Nations peoples and groups.

- There is limited and inconsistent reporting, monitoring and transparent accounting for environmental water outcomes in most jurisdictions (finding 7.2). 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 (finding 8.1). Governments' lack of practical implementation planning for this meter rollout is eroding trust by water users in water regulators and in other metered users.
- There remains room for improvement in the comprehensiveness, accessibility and ease of use of water registers (finding 5.1).
- While some have noted improvements in community engagement, many participants remain dissatisfied with jurisdictions' efforts to include the wider community in decision-making processes.

## Comments on jurisdictions

The Commission makes the following observations on progress made by jurisdictions since our last inquiry, and areas for continued policy focus relating to the 2004 NWI commitments. These should be read in conjunction with the general issues identified above, and our findings, recommendations, and NWI renewal advice.

### New South Wales

In contrast to the last assessment period, which was characterised by drought in much of New South Wales, the current period has seen extreme flood events along the New South Wales coast and parts of the Murray–Darling Basin.

The NSW Government has continued to progress a range of water policy reform commitments. It released a 20-year, state-wide water strategy, the Greater Sydney and Lower Hunter water security plans, and nine regional water strategies. It has developed new approaches to climate modelling to support water allocation and security planning, as well as drought preparedness and emergency response (in line with the Commission's 2021 report recommendations) and is relatively advanced in this area compared to many other jurisdictions.

The NSW Government has amended its legislative framework for water management to improve licencing of floodplain harvesting. Compliance and enforcement efforts have been enhanced, and the 3Cs (customers, costs and credibility) framework was developed to increase efficiency of water service providers and address key challenges like climate change and a growing population.

In the next three-year NWI assessment period, New South Wales should:

- obtain accreditation for its remaining eight water resource plans in the Murray–Darling Basin
- complete its planned rollouts of floodplain harvesting licences and AS4747 metering
- establish accurate, numeric long-term average annual extraction limits in water sharing plans for unregulated river systems
- continue its efforts to establish an agreement with the ACT Government to enable cross border trade between the two jurisdictions.

### Victoria

Like New South Wales and South Australia, parts of Victoria, especially along the Murray River and its tributaries, experienced major to extreme flood events during this assessment period.

Water management in Victoria continues to be guided by the 2016 *Water for Victoria* policy statement. Over the past three years, the Victorian Government has completed the *Water is life: Traditional Owner access to water roadmap* to increase Traditional Owners' participation in water planning and decision-making and provide more water entitlements. It has also completed several strategic planning instruments to guide long-term water security and supply, climate change adaptation and protection of waterways – these include the *Central and Gippsland region sustainable water strategy*, the *Greater Melbourne urban water and system strategy: water for life*, the *Water cycle climate change adaptation action plan 2022–26*, the *Groundwater management 2030* roadmap and the fourth iteration of community/government partnered *Regional catchment strategies*.

The Victorian Government has established a 'place of take approvals' framework in declared (unbundled) water systems to make water users' approvals to take water more consistent and clarify river diverters' entitlements to have water delivered during river rationing or shortfall events. It has also approved a new rule for efficient management of Goulburn to Murray inter-valley trade and improved the Victorian Water Register to enhance water market information and transaction efficiency.

In the next three-year NWI assessment period, Victoria should:

- clearly establish a specific risk assignment framework
- keep all options on the table in managing urban water supplies, particularly in removing explicit or implicit barriers to the use of purified recycled water for drinking water supplies, and to urban-rural water trade.

## Queensland

Whereas drought conditions prevailed in much of Queensland in the last assessment period, above average rainfall and several major flooding events in many regions have characterised this period. Reflecting this, the Queensland Government has focussed on managing these extreme events, and the subsequent recovery effort.

The Queensland Government has completed several strategic planning instruments for water security and supply, including the *Queensland water strategy*, the *Queensland water planning science plan 2020–2030* and the *Water resource management regulatory strategy 2022–24*. Infrastructure investment has included the Rookwood Weir being completed. Two First Nations water reserves on Minjerribah (North Stradbroke Island) have been established.

The Queensland Government launched a non-urban water measurement policy in 2022 (supported by legislation in 2023) to strengthen measurement, metering and reporting of non-urban water take (including the measurement of overland flow water take). It has also launched a WaterIQ dashboard to enhance water user information.

In the next three-year NWI assessment period, Queensland should:

- finalise and implement its First Nations Water Strategy
- progress its current program of approved water security infrastructure projects, focusing on cost effective investments
- continue its Urban Water Risk Assessment program to understand drinking water quality, water supply security and water and sewerage service delivery risks across remote and regional Queensland
- expand independent economic regulation for urban providers and replace capital grant funding for regional urban providers with transparent community service obligation payments.

## Western Australia

Western Australian water policy is focused on adapting to increasing challenges of climate change. Prominent in the southwest region was the commencement of the *Gnangara groundwater allocation plan* which seeks to achieve a 10-year staged reduction in consumptive groundwater use. The WA Government is

proceeding with a third desalination plant at Alkimos – absent a publicly released benefit-cost analysis – to enhance water security for communities and industries in Perth and its surrounding areas.

Outside of the southwest region, the WA Government is in the process of licensing a greater proportion of water resources for domestic, agricultural and commercial use. Water planning is being extended, but many regions remain outside water allocation plan areas.

In December 2023, the WA Government withdrew a package of proposed water reform legislation that would have made water licensing and planning activities consistent with the NWI. As a result, Western Australia lacks statutory water entitlements and plans, and water planning in the state continues to be based on out-of-date, 110-year-old legislation.

In the next three-year NWI assessment period, Western Australia should:

- introduce NWI-consistent water legislation
- strengthen independent economic regulation frameworks to align water service pricing with cost recovery principles
- increase the transparency of information on prices, costs and subsidies for irrigation services.

## South Australia

During this assessment period, parts of South Australia experienced above average rainfall, with major flood events for the River Murray and the Lower Lakes across 2022-23. Reflecting this, flood response management and recovery has been a priority for the SA Government.

The SA Government has implemented a range of planning instruments for long-term water security and supply, including the state *Water security statement 2022*, the *Urban water directions statement*, the *Barossa water security strategy* and completed *Annual water security updates* in 2023 and 2024.

The SA Government has also enhanced its climate modelling and planning, completing a guide to climate projections for risk assessment and planning, and the *Climate change science and knowledge plan for South Australia 2022*. It has also updated its compliance and penalty regime to enable the use of funds generated from water penalties to purchase water to offset the impact of water theft.

In the next three-year NWI assessment period, South Australia should:

- continue water security planning and investment activities in line with its *Water security statement*
- progress unbundling of remaining water entitlements, where feasible
- review grandfathering provisions to encourage greater uptake of the AS4747 metering standard.

## Tasmania

Tasmania has relatively abundant water resources relative to population and land area (12% of Australia's freshwater in less than 1% of the total land area of Australia (NRE Tas 2021, p. 1)), and its water resources are under-developed compared to the Murray–Darling Basin. Over the last three years Tasmania did not experience significant flooding.

The Tasmanian Government has improved aspects of its water planning and management framework by commencing implementation of its *2021 Rural water use strategy* (RWUS) in consultation with its Rural Water Roundtable participants – water managers, environmental managers and industry peak bodies. Key RWUS achievements include a new Groundwater Risk Assessment Tool to support groundwater management decisions, completing phase one of incorporating contemporary climate change projections into Tasmania's water management framework, and setting up a Water Managers and Data Custodians Working Group to improve collaboration and sharing of water resource, river health and water quality information.

Further reforms planned or ongoing include a new state-wide water quality monitoring program, and reviews of the Natural Resources and Environment Department Tasmania's surface water and groundwater monitoring networks and the state's water use accountability framework.

In the next three-year NWI assessment period, Tasmania should:

- address under-pricing by the state-wide water service provider
- increase transparency of information on prices, costs and subsidies for irrigation services
- publicly report compliance and enforcement activities and implement actions from the review of its water accountability framework under the RWUS
- specify cultural and spiritual outcomes for First Nations communities in water plans
- specify and implement risk sharing provisions between licence holders and government, based on the NWI risk assignment framework.

## Northern Territory

The Northern Territory's water resources are under-developed outside Darwin and its surrounds. Over the last decade the NT Government has worked to extend water planning and licensing to cover more of its water resources, and it is in the early stages of allocating water for domestic, agricultural and commercial use.

The NT Government has completed its first *Territory water plan*, which commits to a range of measures to enhance NWI-consistent water management. Legislative reforms have incorporated the minerals and petroleum industries and the Darwin rural area into the water licensing framework. The NT Government made an external appointment to the position of Controller of Water Resources to ensure that water allocation planning is separate from decisions about individual licensing and compliance. The NT Government has also enhanced its compliance and monitoring arrangements and started public reporting on these activities. The Power and Water Corporation has improved the detail of water quality data for the regions and communities it services.

The Commission assessed some processes for water planning in the Northern Territory as not NWI compliant. In particular, that water allocation plans are not binding on decision makers and that there is an absence of statutory protection for water allocations for the environment.

In the next three-year NWI assessment period, the Northern Territory should:

- progress its planned safe drinking water legislation and continue to improve water quality in remote communities
- strengthen the voice of First Nations peoples in water management and enhance access to water for Aboriginal peoples within its Strategic Aboriginal Water Reserves
- more clearly specify environmental and cultural outcomes in its water allocation plans, ensuring these outcomes are informed by high quality engagement and science.

## Australian Capital Territory

The Australian Capital Territory (ACT) lies wholly within the Murray–Darling Basin. The primary policy instruments for managing water resources within the ACT are the ACT *Water Resources Act 2007*, the ACT's *Water resource plan* developed as a requirement of the Murray–Darling Basin Plan, and the ACT *water strategy 2014–44: striking the balance*.

The ACT Government has commenced a process of reviewing components of its water policy and legislative framework to ensure they are contemporary and encourage continuous improvement. The most significant outcomes from these efforts to date are:

- completion of a comprehensive review of the ACT water sector



- establishment of the Office of Water to lead water policy and planning in the ACT.

At an operational level, the ACT Government has put in place arrangements to recover sufficient water entitlements to meet its sustainable diversion limit set under the Murray–Darling Basin Plan.

In the next three-year NWI assessment period, the ACT should continue its efforts to establish an agreement with the NSW Government to enable cross border trade between the two jurisdictions.

## **Australian Government**

The Australian Government is leading negotiations for a renewed NWI with the states and territories.

The Australian Government has implemented legislative reform with the passage of the *Water Amendment (Restoring Our Rivers) Act 2023* (Cth) to, amongst other things, reset Basin Plan implementation timelines and offer a greater range of water recovery options. It has also strengthened provisions in the *Water Act 2007* (Cth) to better support and fund First Nations peoples' role in water management and their ownership of water entitlements.

The Australian Government has pursued water market reforms to enhance transparency and confidence in market operations. It prepared and is implementing the Water Market Reform Roadmap in response to the findings and recommendations of the Australian Competition and Consumer Commission's 2021 Murray–Darling Basin water markets inquiry, and released the *Australian Government strategic water purchasing framework*. It also broadened the scope of the *National Water Grid investment framework*. While the investment criteria are clear, the way in which they are collectively assessed (and weighed, in arriving at a final decision) is not.

In the next three-year NWI assessment period, the Australian Government should:

- articulate its strategic vision for national water policy
- coordinate across jurisdictions on water policy matters of shared interest, and support collaborative innovation and knowledge sharing efforts through the NWRC to facilitate best practice water management
- ensure that new or refurbished water infrastructure projects are compliant with the NWI as a condition of Australian Government funding (and pre-conditioned, to encourage adherence to commitments agreed in a renewed NWI)
- continue its policy and investment efforts to rebalance already overallocated surface water and groundwater systems and avoid overallocation in 'at risk' systems.



# Recommendations and findings

## Water security in a changing climate



### 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.



### 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.



### 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, in terms of both quality and quantity 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



### Finding 5.1

**Further improvements can be made to trade registers to provide necessary information to market participants**

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



### 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.



### 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 of business cases.
- 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 estimated benefits to the community.

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



### Finding 7.1

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

There remains a lack of specificity about environmental outcomes 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.



**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 had not 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.



**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



**Finding 8.1**

**Jurisdictions are not projected to meet their metering installation commitments**

Most states or territories are not on track to meet their commitment to have all new and replacement meters AS4747 compliant and have all water entitlements metered 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.

**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  $\pm 5\%$  as is the requirement in Victoria, New South Wales and the Australian Capital Territory.

## Urban water reform

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

There continue to be drinking water quality issues in some remote areas of Australia caused by exceedances in the chemical health standards outlined in the *Australian Drinking Water Guidelines*. 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.

**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 *Australian Drinking Water Guidelines* standards for the regions and communities serviced by Power and Water Corporation in the Northern Territory. Also, from July 2024 water 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.