Australian Government
Productivity Commission

National Water Reform

Productivity Commission Draft Report
Overview & Draft Recommendations

September 2017

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

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The Productivity Commission

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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).

Opportunity for further comment

You are invited to examine this draft inquiry report and comment on it by written submission to the Productivity Commission, preferably in electronic format, by 19 October 2017 and/or by attending a public hearing. Further information on how to provide a submission is included on the inquiry website: http://www.pc.gov.au/inquiries/current/water-reform/make-submission#lodge.

The final report will be prepared after further submissions have been received and public hearings have been held. The final report will be forwarded to the Australian Government by the 31 December 2017.

Public hearing dates and venues

Location	Date	Venue
Canberra	Monday 16 October	Dialogue 4 National Circuit, Barton
Sydney	Tuesday 17 October	Tuscan Room SMC Conference and Function Centre 66 Goulburn Street
Brisbane	Thursday 19 October	Mercure Hotel 85-87 North Quay
Melbourne	Tuesday 24 October	Rattigan Rooms 1-2 L12, 530 Collins Street
Perth	Thursday 26 October	Travelodge Perth Floreat A 417 Hay Street

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:

Jane Doolan	Commissioner
John Madden	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 during an inquiry they must disclose the interests.

Dr Jane Doolan has advised the Commission that she is:

- Deputy Chair, Western Water
- Independent Chair, Yarra Consultative Committee

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The full report is available from www.pc.gov.au

OVERVIEW

Key points

- It is crucial that Australia manages its water resources well, given our dry and highly variable climate, and the importance of water to our economy.
- The National Water Initiative (NWI) has made a significant contribution to this objective, over more than a decade.
- While much of the attention has been on the Murray-Darling Basin, the NWI remains nationally relevant and the principles it contains are sound.
- There has generally been good progress in implementing the NWI, and its objectives and outcomes have largely been met.
  - Legislative and policy frameworks are in place for water entitlements, planning, trading, accounting and the provision of water for the environment in most jurisdictions. These are the key foundations of water management.
  - Urban water and irrigation infrastructure services have been improved through institutional and pricing reforms.
- Water reform has delivered significant benefits to irrigators, other water users and the broader community.
  - The expansion of water trading has provided irrigators with greater flexibility to manage change.
  - There is some evidence of improved ecological outcomes from increased environmental flows, but it will take time for the full benefits to be realised.
- However, there remains further work to do. Governments need to:
  - complete unfinished business from the NWI
  - address gaps and limitations in existing policy settings
  - respond to the challenges posed by population growth, climate change and changing community expectations, including the cultural and economic aspirations of Indigenous people.
- Reform priorities include:
  - maintaining the key foundations of water management and preventing bad policy habits re-emerging
  - improving national policy settings in areas such as entitlement and planning arrangements for extractive industries, and the water requirements of Indigenous people
  - enhancing national policy settings in:
    - urban water management, including clearer roles and responsibilities for supply augmentation planning, enabling decentralised solutions and more outcomes-focused environmental regulation
    - environmental water management, including better integration with waterway management, strengthening institutional and governance arrangements, and improved monitoring and evaluation for adaptive management
    - new irrigation infrastructure, where the focus needs to be on ensuring environmental sustainability and financial viability *before* any government resources are committed for construction.
- Continued guardianship of gains to date and new reform priorities are strong reasons for Australian, State and Territory Governments to recommit to a renewed NWI.

Overview

Australia's water sector is viewed internationally as a world leader in water management. We live in one of driest countries in the world with a highly variable climate. We, more than most countries, need to manage our water resources well because of the fundamental importance of water to our economy and the environment, and the significant challenges we face in managing a natural resource often impacted by periods of scarcity.

Our reputation on the world stage is the direct result of thoughtfulness and, for the most part, co-operation by the Australian, State and Territory Governments in water reform over the past 20 years. The cornerstone of Australia's more recent water reform efforts is the 2004 National Water Initiative (NWI). The NWI is a shared commitment by governments to: increase the efficiency of Australia's water use; provide investment confidence and supply security for rural and urban communities; provide greater certainty for the environment; and ensure regular reporting and independent assessment of progress.

The Productivity Commission was tasked with the role of monitoring the progress of the NWI, formerly undertaken by the National Water Commission. This review is the first activity in an ongoing program of work for the Commission, which will include assessing progress against the objectives and outcomes of the NWI every three years. For this first review the terms of reference have been widened to consider future reform priorities and the scope for improving the NWI to enable necessary reform.

Water reform and the National Water Initiative

Up until the 1980s, governments took a development-oriented approach to the management of water, with the focus on expanding irrigated agriculture and supplying the needs of growing cities and towns. Governments invested in dams and other water infrastructure without requiring that user charges recovered costs. Water rights were issued relatively freely, without always respecting the limits of water resources. While this approach arguably served Australia reasonably well at the time, by the 1980s a range of pressures and problems were emerging. These included environmental problems (such as salinity, algal blooms and deteriorating river and wetland health) and a growing awareness that traditional approaches to providing water infrastructure services, were costly and lacked incentives to improve service delivery over time.

In response, some State and Territory Governments began reforming aspects of water policy, with a comprehensive national approach commencing in 1994 with COAG's Water Reform Framework. This set out an ambitious agenda covering: pricing and institutional reform; the clarification of property rights; allocation of water to the environment; and the development of water trading.

The NWI was developed in 2004 as an extension of the 1994 reform agenda, to maintain the momentum of reform and to respond to overallocation, and also to address water scarcity issues arising from the early years of what was later to become known as the Millennium Drought (1997 to 2009). The aim of the NWI was to provide greater certainty for investment and the environment (box 1).

Box 1 Objectives and elements of the National Water Initiative

The NWI aimed to create a nationally-compatible, market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes by achieving the following objectives:

- clear and nationally-compatible characteristics for secure water access entitlements
- transparent, statutory-based water planning
- statutory provision for environmental and other public benefit outcomes, and improved environmental management practices
- complete the return of all currently overallocated or overused systems to environmentally-sustainable levels of extraction
- progressive removal of barriers to trade in water and meeting other requirements to facilitate the broadening and deepening of the water market, with an open trading market to be in place
- clarity around the assignment of risk arising from future changes in the availability of water for the consumptive pool
- water accounting which is able to meet the information needs of different water systems in respect to planning, monitoring, trading, environmental management and on-farm management
- policy settings which facilitate water use efficiency and innovation in urban and rural areas
- addressing future adjustment issues that may impact on water users and communities
- recognition of the connectivity between surface and groundwater resources and connected systems managed as a single resource.

To fulfil these objectives, the NWI included eight key elements for which there were agreed outcomes and actions:

1. Water access entitlements and planning frameworks
2. Water markets and trading
3. Best practice water pricing and institutional arrangements
4. Integrated management of water for environmental and other public benefit outcomes
5. Water resource accounting
6. Urban water reform
7. Knowledge and capacity building
8. Community partnerships and adjustment.

In 2007, the Australian Government introduced its National Plan for Water Security, which led to a range of reforms to the management of the Murray-Darling Basin (MDB), including the commencement of the Basin Plan in 2012 and a process for returning water to the environment. COAG also agreed to a range of specific measures in 2008, 2009 and 2013 to clarify and provide more detailed policy guidance on several aspects of the NWI, including urban water, water markets, and knowledge and capacity building.

What has been achieved through water reform?

Overall, good progress has been made

Most jurisdictions have made good progress in meeting the objectives and outcomes of the NWI. A summary of progress with reform is in table 1.

Notwithstanding these broad improvements, progress has slowed since the early years of implementing NWI water reforms (a point also made by the National Water Commission in their assessment of progress in 2014). Some slowing of progress is inevitable given that many key water reforms have, to a large extent, already been implemented; however, there are areas of reforms that remain unfinished.

Understanding the benefits of past water reforms and the factors that led to their successful implementation is important because it provides lessons for future reform and also an appreciation of what would be lost if there were backsliding.

The outcomes of past water reform

National water reforms have significantly improved the way in which water resources are managed and water services are delivered, and this has resulted in significant benefits for the community.

Water resource management

The introduction of NWI-consistent *water entitlement and planning frameworks* has created secure property rights and established transparent processes for deciding how water is shared between environmental and 'consumptive' use (that is, use by people and businesses), thereby capping consumptive use and providing water for the environment. These have been the fundamental steps in providing the systems that enable water trading and the establishment of water markets. The system of property rights and water planning has also underpinned the move towards improved environmental sustainability.

Table 1 **Summary of progress**

1. Water access entitlements and planning frameworks

- All jurisdictions, except Western Australia and the Northern Territory, have created statutory-based, clear and secure long-term water rights for consumptive uses.
- Water planning arrangements have been established for the majority of areas of intensive water use across Australia. Most jurisdictions have more than 80 per cent of water use managed under water plans. This means the sharing of water resources between consumptive uses and the environment has been established in consultative processes, informed by scientific and other assessments.

2. Water markets and trading

- Water markets have been established that have allowed water to be traded to higher value uses and other steps have been taken to improve the efficiency of water markets, most notably in the Murray-Darling Basin.

3. Best practice water pricing and institutional arrangements

- Urban service providers are generally pricing at the levels required by the NWI, despite some instances of underpricing.
- Independent economic regulators set prices or revenues for major urban water suppliers in New South Wales, Victoria, South Australia, Tasmania and the ACT. Western Australia, the Northern Territory, Queensland and regional New South Wales are exceptions in various forms.
- Cost-reflective pricing outcomes are generally being achieved for most *existing* irrigation infrastructure, but *new* irrigation infrastructure has tended to be underpriced. Queensland, Western Australia and Tasmania could make better use of economic regulation.
- There is inconsistent recovery of water planning and management costs from users across Australia.

4. Integrated management of water for environmental and other public benefit outcomes

- Environmental sustainability has been supported by formal provisions of water for the environment and progress has been made on rebalancing overallocated systems.
- All jurisdictions have managers with responsibility for environmental flows, and some arrangements are in place to coordinate water use in shared resources.

5. Water resource accounting

- Water metering, accounting and compliance systems are in place in all jurisdictions.

6. Urban water reform

- Water reuse, water use efficiency, water sensitive urban design and innovation has improved since the introduction of the NWI.
- Jurisdictions have taken action to address water quality issues, with some evidence of success.

7. Knowledge and capacity building

- There have been advances in knowledge and capacity across areas identified in the NWI.

8. Community partnerships and adjustment

- All jurisdictions have set in legislation, or policy, minimum requirements for stakeholder engagement and consultation when developing and reviewing water plans.
- State and Territory Governments have delivered improved decision making through open and timely consultation with stakeholders. This has been supported by the publication of supporting information at key decision points.

There is widespread agreement that these reforms have produced significant financial benefits. Water entitlements are now valuable business assets, with financial institutions accepting them as collateral for loans. The capacity to trade water has provided incentives for more efficient water use and infrastructure investment. Water trading has allowed water to move to higher value uses and has become a vital business management tool for irrigators, giving them flexibility to respond to changing climatic and market conditions. The benefits have been greatest during drought, as it has allowed the limited water supply to move to higher value uses, such as keeping perennial plantings, like fruit trees and grapevines, alive. One estimate is that water trading in the southern MDB increased Australia's gross domestic product by $220 million in 2008-09 (in 2008-09 dollars) (a drought year).

The southern MDB is the most important water market in Australia. The value of entitlements on issue in the southern MDB was over $13 billion in 2015-16 and annual turnover in the entitlement market was about 7 per cent of market value. The removal of trade barriers, quicker and easier trade approval processes, and better market information have enabled rapid growth in water trade, including across state borders. As a result, new industries, such as nut growing, have developed rapidly and established industries have become significantly more efficient. Reforms have contributed to improved water efficiency and economic growth. Over the 10 years to the late 2000s, on-farm irrigation efficiency in the cotton industry increased from 57 to 70 per cent.

While trading values are largest within the southern MDB, reforms have also opened up trade in other regions, including the northern MDB, cane growing areas of Queensland, groundwater systems in South Australia, and in southern Victoria. Trade between the irrigation and urban sector is still restricted in various ways, but it has increased the overall value to the economy when it has occurred.

The provision of *water for the environment* is also a key achievement of the reforms. In less developed systems, water plans have capped consumptive use and specified environmental flow provisions that should ensure the sustainability of these systems. In overallocated systems, additional water is being recovered for the environment. Since the Australian Government commenced recovering large quantities of water for the environment within the MDB, its holdings have grown to 2562 gigalitres of entitlements, with a long-term average annual yield of 1781 gigalitres (as at 31 July 2017). These entitlements, which represent 14 per cent of water entitlements within the MDB, are managed by the Commonwealth Environmental Water Holder (CEWH). The recovery of large volumes of water for the environment in overallocated systems has occurred only in recent years and it will take some time for the full environmental benefits to be realised. However, there is already some evidence of improved water quality and ecological outcomes at the local scale from increased environmental flows. These mitigated some of the most severe impacts of the drought by enabling environmental managers to protect key refuges and prevent some species extinctions.

Water service delivery

The modernisation of institutional arrangements for urban and irrigation infrastructure services has improved efficiency in water service delivery. Across both sectors, water pricing has played an increasing role in guiding investment decisions and levels of cost recovery have improved.

Institutional and pricing reforms in the *urban water sector* have brought significant benefits. The corporatisation of water utilities and introduction of independent economic regulation in many major urban areas has improved efficiency by separating service delivery from policy making, which increased the transparency of investment decisions and promoted more efficient pricing. The Commission has previously estimated that Australia's gross domestic product was about 0.35 per cent higher over the 1990s due largely to institutional and pricing reforms in the urban water sector. If gains of this magnitude had been maintained through to today, this would represent an annual economic gain of over $5 billion (in 2017 dollars).

The widespread introduction of consumption-based pricing (along with restrictions and awareness campaigns during droughts) changed consumer behaviour, leading to more efficient water use. For example, between 2000 and 2016 median annual water consumption in cities and towns decreased from 280 kilolitres to 182 kilolitres per residential property.

In the *irrigation infrastructure sector*, corporatisation and economic regulation of bulk water assets now cover the vast majority of water delivered. The corporatisation of bulk water providers has delivered more efficient water services and a stronger commercial focus that has benefited both irrigators and governments. Separating service delivery from the broader role of government has allowed more focused policy making to occur.

Local ownership and management of distribution networks, which has been introduced in New South Wales, Western Australia, South Australia and parts of Queensland, is generally considered to have improved productivity, accountability, long-term planning and responsiveness to irrigators. For example, Coleambally Irrigation's user charges fell by 5 per cent in real terms between 2008-09 and 2016-17.[1]

Overall, water reform under the NWI has delivered significant benefits to irrigators, other water users and the broader community.

[1] These productivity gains were driven by a number of factors including (but not limited to) management actions and investment by Coleambally Irrigation (and government) to improve the operating efficiency of their distribution infrastructure.

Why is further reform needed?

Notwithstanding the benefits of the water reforms implemented through the NWI:

- further agreements are essential to guide future co-operation, and without a severe drought to give focus to all minds, poor public policy may well re-emerge
- there is still unfinished business from the NWI that needs completion
- taking an adaptive management approach to national water reform by reviewing the experience of implementation is essential. This has already revealed some gaps and limitations in the NWI
- future challenges, such as climate change, will have major implications for water management, and a co-operative structure to deal with these issues is crucial to good public policy.

Jurisdictions should progress unfinished business from the NWI

There are several policy areas where jurisdictions still need to undertake further reform, some of which have languished for too long. The most urgent and important of these are discussed below. (There are other less significant issues specific to individual States and Territories that are identified in the relevant chapters.)

Western Australia and the Northern Territory should modernise their entitlement regimes

The NWI envisages clear and secure water rights that are separate from land, readily tradeable and defined as a perpetual or open-ended share of the resource. However, Western Australia and the Northern Territory have not yet introduced legislation to create the statutory-based entitlement and planning arrangements that provide for these features. Delay in adopting legislative reforms is likely to constrain economic activity in these jurisdictions, as investors will not have certainty about water rights and allocation arrangements. This may also potentially undermine environmental outcomes.

It is particularly important that these jurisdictions undertake these reforms now, given the prospect of new developments in northern Australia. As development increases, statutory-based entitlement and planning arrangements provide users with a secure, legally-defined water right and transparency for everyone about how water will be allocated. Such arrangements also provide greater certainty that development will be environmentally sustainable in the long term (as reasonably stipulated in the NWI).

All jurisdictions should improve economic regulation for the urban water sector

The use of independent bodies to set or review water prices has been a driver of better outcomes for urban water service provision. However, these arrangements are not currently in place for retailer-distributors in south-east Queensland (though price-monitoring was in place up to 2014) or in the Northern Territory. Further, existing processes in Western Australia and for bulk water in south-east Queensland would be enhanced by giving regulators a standing reference to set or review prices, rather than leaving the occurrence of a review subject to ministerial discretion. Where independent economic regulation has been introduced, there has been significant improvements in the rigour and transparency of water utility decision making, and this has reduced the politicisation of water supply decisions. Moreover, there is significant support from the water industry for strengthening economic regulation to provide certainty and encourage private investment.

The performance of regional urban water utilities needs to improve

Small regional water service providers face unique challenges including higher costs as a result of serving small and highly-dispersed population centres, and difficulties in attracting skilled staff. This makes it harder to provide adequate and affordable services that meet relevant health, safety and environmental standards. It can also make service providers dependent on government grants to maintain services, which can in turn distort decision making, reduce efficiency and result in underpricing, which is occurring in New South Wales, and possibly also Queensland.

The NWI recognises that remote communities that are expensive to serve can receive assistance in the form of transparent Community Service Obligation (CSO) payments. However, New South Wales and Queensland are providing assistance in the form of grants that are poorly targeted, and biased towards capital projects. These capital grants should be replaced by CSO payments that are tightly targeted at high-cost service areas and not tied to capital expenditure.

One way to overcome some of the challenges faced by small regional providers is to amalgamate them into larger entities so as to achieve economies of scale. Collaboration — for example joint procurement, joint planning and shared services — is another way, and is a more flexible approach to achieving economies of scale. It also overcomes some of the problems with amalgamation of local government-owned providers, which can undermine the ‘economies of scope’ that arise between water services and other local government functions. There has already been some amalgamation of regional water utilities in New South Wales and Queensland, though not to the same extent as in other States and Territories. Contingent CSO payments may provide an opportunity to promote further collaboration among these regional water utilities.

Governments should ensure better engagement of Indigenous people in water planning

Ensuring that cultural values are recognised and provided for in water plans has been an ongoing concern for Indigenous communities. This concern led to the NWI including provisions relating to Indigenous water. In recent years, some States and Territories have made progress in ensuring that water planning includes adequate consultation with Indigenous communities and explicitly considers the protection of cultural values. However, Western Australia and Tasmania have not yet established specific mechanisms for engaging Indigenous people in water planning. The complementary issue of providing Indigenous communities with access to water for economic development purposes is yet to be addressed, although several States and Territories have started discussions on this.

Policy makers should learn from experience

The experience of 13 years of implementation revealed some gaps and limitations in the NWI. This period included the worst years of the Millennium Drought, which proved to be a stress test for water management systems and the robustness of the NWI. As discussed earlier, experience during this period emphasised the importance of water planning, entitlement and market reforms and the need to maintain them, and their supporting processes of water accounting and compliance, into the future.

During this drought each of the large capital cities made major investments in new infrastructure, including desalination plants. These decisions were made quickly and were highly controversial, with questions raised about the efficiency of the investments. This highlighted areas where improvements to current water management practices are required. Most notably, improvements in planning and decision-making processes for major urban water supply augmentation are needed to ensure that decisions are deliberated, transparent and all options are considered.

Experience in implementing the NWI showed that adaptation was also needed in other areas of water management, for example:

- as extractive industries (such as mining, petroleum, and unconventional gas) grew significantly over this period, there were fears that they could adversely affect the environment and consumptive water users if not properly accounted for in water entitlement and planning frameworks
- as water utilities increased their use of recycled water and stormwater, there was concern that these new sources needed to be brought into water entitlement frameworks to provide additional security for these investments and to protect other entitlement holders
- as significant volumes of water were recovered for the environment, it became clear that the NWI did not provide adequate direction on the contemporary issues faced by environmental water managers in managing a large and growing portfolio of environmental water

- while the NWI provided high-level outcomes for urban water management, it provided little policy guidance to the sector on issues other than pricing
- as water reform progressed, it became clear that the NWI provisions for community adjustment were not properly targeted.

Finally, in some parts of Australia, as the reform program matured over 13 years, some elements have moved from an establishment phase to a new phase where the frameworks are in place, functioning well and are well accepted by stakeholders and communities. These include water entitlements, water planning, water markets and water accounting. The priority for these mature parts of the system is to protect and maintain these frameworks and allow continuous improvement to deal with contemporary issues. Failure to do so properly will result in erosion in stakeholder, investor and community confidence in our system of water management.

There are significant challenges that need to be addressed

There are significant challenges facing the water sector that have emerged or intensified in the 13 years since the NWI was signed. These challenges need to be addressed in policy frameworks, including the NWI, to ensure that policy frameworks are up to date and can continue to serve the Australian population into the future. The key challenges are:

- population growth and urbanisation — by 2050, there is expected to be an additional 8.3 to 13.3 million people living in Australia's capital cities and the Australian population is expected to be between 34.3 and 41.9 million people
- climate change — rainfall and runoff have already declined in some regions and CSIRO predicts future decreases in runoff across much of southern Australia as well as an increase in the frequency of extreme droughts
- changing community expectations — these have changed significantly over 13 years, in many cases, reflecting community experience during the Millennium Drought. The drought highlighted the social dependence of both urban and rural communities on water and water environments when many of these environments dried up and the related services ceased. As a result, there is now far more appreciation of the contribution that water management and water environments can make to amenity, liveability, recreation and regional tourism.

Effectively, water managers in the future will have to manage a potentially reducing water resource in key parts of Australia to meet the demands of a rapidly increasing population for a wider range of water services.

Given the unfinished business from the NWI, the potential areas for improvement and challenges facing the water sector, the Commission considers there is still considerable scope to improve the efficiency, productivity and environmental sustainability of Australia's water use and prepare for an uncertain future. There is still a real need to continue on with water reform.

What are the future reform priorities?

The Commission has identified the key priorities for a future national water reform agenda. These are:

- maintaining the key foundations of water management (prevent backsliding)
- reflecting evolving water management practices, acting on lessons learnt during implementation of the NWI and taking account of the challenges of population growth, climate change and evolving community expectations:
  - revise policy settings in a number of areas, outlined below
  - significantly enhance policy settings for urban water, environmental management and new infrastructure investment.

Maintaining the key foundations

It is essential to maintain the achievements of the NWI in water entitlements and planning, water markets, water accounting and compliance, water pricing and governance. They are the key foundations underpinning sustainable water resource management and efficient infrastructure service delivery. There must be no backsliding if we are to maintain and build on the gains of past reform.

Water sector policy has been enabled by a strong commitment to community and stakeholder engagement in all areas of water management, and to building knowledge and capability to enable innovation. These will also need to be maintained to deliver the new priorities for reform.

Revising existing policy settings

There are areas where revisions to current policy settings are required to deal with contemporary issues and concerns. These revisions should be made by States and Territories as quickly as possible.

Arrangements for extractive industries

Since 2004, the growth of extractive industries has increased competition for water resources in many parts of Australia. The NWI is ambiguous about how it applies to extractive industries. In some cases, alternative water rights arrangements for extractive industries exist outside the water entitlement and planning frameworks, raising concerns about risks to the supply of other water users and the environment. There are also concerns that alternative water rights arrangements may inhibit water trading.

Water entitlement and planning frameworks should more fully incorporate all major water uses. Governments should remove entitlement exemptions for extractive industries (unless there is a compelling reason otherwise), so they are issued entitlements under the same framework applied to other consumptive users.

Transparent water planning processes provide a more effective means of considering the management of water use by extractive industries than relying on separate (and in some cases, non-transparent) management arrangements.

Incorporating alternative water sources

Water entitlement frameworks should enable inclusion of recycled water and stormwater to facilitate their use in situations such as managed aquifer replenishment and streamflow enhancement. This will protect other entitlement holders and reduce barriers to investment in these supply options. For example, without arrangements in place to allow for extraction of managed aquifer recharge, any water injected into the aquifer would add to the pool available for all groundwater users. This would undermine the incentive for any party to invest in a managed aquifer recharge project.

Developing contemporary water entitlement and planning frameworks

Contemporary guidance on water planning is needed to underpin the second and third generation water plans now being developed across Australia. One important addition should be a process for regularly assessing the impact of climate change on water resources. Where these are significant and detrimental, the next water plan review should fundamentally re-examine the objectives of the plan (including environmental and consumptive) and the consequent balance between environmental and consumptive uses of water to ensure that it is suited to a drier climate.

More fully recognising the water requirements of Indigenous people

Accommodating the distinctive water requirements of Indigenous communities is a key feature of the NWI. However, governments must undertake further work to recognise the water requirements of Indigenous people in water entitlement and planning frameworks, taking into account the distinction between the provision of water for cultural purposes and for economic development.

There is more work to do in all jurisdictions to achieve clear, measureable and well-informed Indigenous cultural objectives in water plans, tangible actions in support of the achievement of those objectives, and monitoring and reporting arrangements that promote accountability and foster learning about what does (and does not) work. Environmental water management should also take into account the protection of cultural values wherever this is compatible with its primary objectives.

Where State and Territory Governments provide access to water for Indigenous economic development, they should source water within existing water entitlement frameworks, such as by purchasing water on the market or as part of transparent processes for releasing unallocated water. They should also ensure adequate supporting arrangements (such as training and business development) are in place to enable Indigenous communities to maximise the value of the resource, involve Indigenous communities in program design, and ensure future governance arrangements are specified and implemented.

Removing remaining barriers to trade

Trade restrictions designed to protect production, water infrastructure utilisation or employment in particular locations or industries are not permitted under the NWI and considerable progress has been made in removing them. However, some restrictions still remain. Of these, restrictions on purchasing, or otherwise transferring, water between the irrigation and urban sectors are the most costly to the community. Gains from trade in water between the two sectors can be significant — households are frequently willing to pay between 10 and 100 times more for water than the price irrigators are willing to accept. Restrictions on trade between the two sectors have also resulted in the development of higher-cost sources of water for urban supply — for example, desalination plants.

The main contention for preventing trade is that it would have a negative effect on communities reliant on irrigation. However the Commission has assessed that these effects are likely to be modest. Given the potential gains from trade, State and Territory Governments should continue to remove trade rules, policies (whether or not explicitly stated) and other barriers that prevent water being traded, or otherwise transferred, between the irrigation and urban sectors.

Better targeting adjustment assistance

Programs and measures to assist individuals and communities to adjust to water-related structural change have been largely focused within the MDB. This is due to a combination of overallocated water resources and a past dependence on water within many regional economies.

To date the Australian Government has spent over $8 billion to recover water in ways that minimise the adverse impacts of rebalancing under the Basin Plan. The Basin States have also funded projects focused on adjustment assistance and regional development.

In addition to this government spending on water recovery, a combination of the ability to trade water and the extended implementation time for the Basin Plan has given entitlement holders the tools and necessary support to respond to reduced water availability.

Looking forward, governments should focus assistance programs on developing the capacity of communities to deal with the impact of structural adjustment. Doing so will require

governments to avoid broad industry assistance measures and to consider all factors impacting communities (not just water reform).

Enhancing national policy settings

There are three key priorities for a future national water reform agenda. These areas require a significant enhancement of current policy settings and, associated with this, considerable effort by all governments to make the necessary changes.

Making urban water management more robust and responsive

Future urban water management will have to provide water supply and sewerage services for rapidly growing cities and towns, while being efficient and affordable. Accompanying this will be expectations of improved urban amenity and the liveability of cities in a potentially drier climate.

More robust major supply augmentation planning is one imperative. Australia's experience during the Millennium Drought showed that bulk water augmentation decisions can be very costly and highly contentious. Past Commission analysis indicates inefficient augmentation decisions in Perth and Melbourne could impose costs on consumers as high as $3.2 to $4.2 billion over 20 years, substantially sourced to a late start in planning. Jurisdictions should improve arrangements for major supply augmentation planning in cities by:

- ensuring that roles and responsibilities are clearly allocated between governments and utilities, and that planning processes involve all relevant bodies
- requiring that decision-making processes are consistent with good planning principles — which require transparency, early adaptation to new information, and full consideration of all options for augmentation. In the latter case, this would encompass both centralised and decentralised approaches, including indirect and direct potable reuse and use of stormwater.

Competition can promote efficiency, even with monopoly water utilities. Jurisdictions have adopted a range of reforms to promote competition, such as removing obstacles to private sector investment in the water and wastewater industries, and the potential for third party access to existing infrastructure. The most advanced is New South Wales, which legislated the *Water Industry Competition Act 2006* (NSW). There is likely to be scope for other jurisdictions to take further action through, for example, enhancing regulatory frameworks.

The Commission has previously highlighted the potential for more flexible pricing (this could include 'scarcity pricing') to achieve greater efficiency in balancing water supply and demand. While current policy does not preclude going beyond consideration of a simple estimate of the long-run marginal cost of supply in setting water prices, there may be value in considering the case for further guidance on this issue. It will be too late to do this once we again enter a drought phase.

In recent years, there has been a move towards the use of more decentralised approaches to providing water and wastewater services. These include on-site wastewater treatment and reuse, stormwater harvesting, and managing stormwater locally through water-sensitive urban design measures, such as rehabilitating wetlands. These approaches are collectively referred to as integrated water cycle management (IWCM). While IWCM offers a range of benefits — social, environmental and liveability — it is difficult to measure and value some of these benefits. The benefits can also be challenging to capture when they are spread across multiple beneficiaries. But these opportunities may matter at local levels and, if implemented widely, their effect on the urban water sector may be significant. Governments should ensure that these approaches can be considered alongside conventional centralised approaches by developing IWCM plans for major growth corridors and significant infill developments accompanied by evaluation of costs and benefits.

Current environmental regulations for the management of wastewater and sewerage may not be flexible enough and may preclude the adoption of alternative approaches — such as IWCM — that can achieve environmental objectives more cost effectively. Prescriptive regulations can also forgo opportunities to make cities more liveable — for example, by using IWCM to provide the water needed to sustain parklands, ponds and street trees. The Commission considers that there is potential for greater community benefits by taking a more outcomes-focused approach to environmental regulation.

Improving environmental management

Australian governments have invested significantly in providing water for the environment through water plans and by acquiring entitlements. To get the best possible environmental, social and economic outcomes from that investment, it is critical that water for the environment is managed efficiently and effectively. This requires additional work in three key areas:

- integrated management of environmental water and waterways
- governance arrangements for managing entitlement-based environmental water
- monitoring, evaluation, reporting and adaptive management.

It is important to recognise that providing water for the environment is not necessarily sufficient to achieve improvements in environmental health. Other complementary waterway management activities — for example, water quality improvement, habitat restoration and the management of pest species — have a direct impact on these outcomes. As a result, it is critical that efforts to deliver environmental flows and to manage rivers, wetlands and floodplains are coordinated and aimed at common objectives at the local scale.

These activities are usually managed by separate bodies that can lack the authority or incentives to coordinate the development of their priorities. Better coordination could be achieved by integrating planning responsibilities from the bottom up, where possible, and having the same local organisation set objectives for environmental flows and waterway

management. Where this is not feasible due to the scale and cost of change, State and Territory Governments should amend their legislation, policies and planning frameworks (as relevant) to ensure objectives are consistent and planning processes are coordinated to deliver improved environmental outcomes at the local scale.

As a result of water recovery efforts in overallocated systems, environmental water managers have entitlements worth billions of dollars and make important decisions on the use and trade of water that can affect regional environments and communities, are of significant interest to other water users, and involve substantial funds. It is critical that the community has confidence in the objectivity of the body making these decisions and that decisions are free from public and political influence, whether real or perceived. To ensure this, decisions on water use and trade should be made by independent bodies at 'arm's length' from governments. Institutional separation from government should be accompanied by simple and widespread community access to water holders' decision-making processes.

The need for independence is particularly relevant to the CEWH given the scale of (and public interest in) the Commonwealth holdings. Greater independence in arrangements in New South Wales also merits consideration. Governments should primarily exercise their undoubted responsibility via setting clear legislative and policy frameworks to guide the operation of these bodies, but should not then interfere in operational matters.

We propose streamlining planning and delivery arrangements for environmental water and removing duplication in roles and responsibilities. This is particularly important given that organisations at three scales (local, state and territory, and national) are involved in these activities. In that context, there would be significant efficiencies in disbanding The Living Murray program. It adds unnecessary complexity and coordination to an already difficult task, now that the Basin Plan provides a framework that seeks to benefit the entire system. Further streamlining should come from environmental water holders generally, and the CEWH in particular, devolving management to state or local levels, where capability exists.

Effective and efficient management of environmental water also requires adaptive management to ensure continuous improvement over time. This is particularly important for entitlement-based environmental water, which requires decision making in the face of uncertainty. Timely information is critical to learning. Governments need to improve efforts to monitor and review the environmental and other public benefit outcomes from flow management.

We recognise this is not easy to do, so effort should be commensurate with the risk to these outcomes and their value to the community. Improvement will require better coordination (particularly for shared resources), more consistent methods, and long-term investment. Governments should also provide for independent auditing to increase accountability.

Delivering new irrigation infrastructure that is viable and sustainable

With over $4 billion of Australian Government grants and loans available for irrigation infrastructure projects, and funding also available from State and Territory Governments, it is crucial that poor past decisions and outcomes are not repeated. As set out in the NWI, the focus needs to be on ensuring the environmental sustainability and financial viability of new infrastructure *before* any government resources are committed for construction. Without this focus there are risks that public funds will be wasted, water users will be left with assets they cannot afford and costly environmental damage will be left for future generations.

Past irrigation infrastructure projects have been justified by benefits that have overwhelmingly been captured by private irrigators, but with no thought given to the recovery of capital costs from them. As a result, an important check on the viability of those projects — irrigators' preparedness to pay — was missing.

The role of governments in new irrigation infrastructure should be to deliver cost-reflective pricing, independent assurance of project viability, investor confidence and environmental sustainability. Specifically:

- NWI-consistent entitlement and planning frameworks should be in place before any new infrastructure is considered — this includes northern Australia, where such structures are weak or nonexistent
- an independent analysis should be completed and made available for public comment before any government announcement on new infrastructure is made
  - the analysis should: assess economic and financial viability of the new infrastructure; quantify the benefits delivered and the recipients of those benefits; and assess users' willingness to pay for the infrastructure through a combination of ongoing infrastructure charges and the purchase of water entitlements
- governments should not provide grant funding for infrastructure, or that part of infrastructure, that is for the private benefit of irrigators. Government grants should be limited to those projects, or parts of projects, delivering a clearly articulated and evaluated public good
- the financial risk of new infrastructure should be reduced by requiring the presale of water entitlements as a precondition for commencing construction.

Governments need to exercise caution in any decision to provide finance (such as loans) for new irrigation infrastructure where the private sector is unwilling to accept the same risks. That unwillingness may be a commercially and economically sound decision. Governments should only provide loans (or financial support) once robust decision-making frameworks are in place that, in addition to the points above, provide for:

- a selection of projects on merit, without favour or bias
- ongoing monitoring against agreed performance measures and the implementation of remedial action should the investment underperform
- public reporting of investment performance.

Progressing reform

The new reforms proposed by the Commission could be advanced in (at least) three ways: jurisdictions could go it alone and pursue reforms as and where they are relevant; bilateral agreements could be formed between jurisdictions to pursue reform actions; or the reforms could be packaged and progressed as a *national* reform agenda.

The NWI has served Australia well. It has spurred difficult reform across the water sector, produced sizeable benefits and been widely supported by the water sector, industry and stakeholders. Understanding why is important for considering the next steps in water policy.

The design and implementation of the NWI is likely to have been an important contributor to its effectiveness. First, it is an inclusive, national agreement involving all governments with material responsibilities for managing water resources and providing water. In signing up to the NWI, all governments agreed the objectives for water management and committed to a clear agenda and rationale for water reform that was visible to all water users and stakeholders. In establishing the process for independent review of progress, they showed they were willing to be held accountable for their actions.

Second, the objectives, outcomes and actions are generally clear and measureable, and progress against reform commitments has been independently monitored and scrutinised regularly. Third, the agreement provides jurisdictions with sufficient flexibility to progress reform in least-cost ways, given local conditions.

Finally, in establishing the NWI, governments not only worked on water reform within their jurisdictions, but established systems for working together on the mechanics of reform. They have developed principles and guidelines for various aspects of the NWI key elements. They have jointly responded to the independent reviews of progress. In doing so, they have shared information and ensured greater coordination across jurisdictions and greater consistency in management arrangements. This has provided stakeholders and investors with greater certainty.

The Commission considers that retaining and renewing the NWI is the best approach to progressing national water reform.

The NWI — recommit, revise and enhance

Progressing the new areas for reform through a renewed NWI would preserve and build on the strengths of the NWI as an enduring blueprint for national reform. It would also mean that the national water reform agenda is consolidated. Renewing the NWI would ensure existing reform commitments remain on the agenda, while providing an opportunity for new reforms to come into prominence.

Progressing reform through a renewed NWI would also allow governments to capitalise on the considerable goodwill and buy-in associated with the NWI, potentially smoothing the way for future reform efforts.

The Commission recommends that the Australian, State and Territory Governments recommit to a revised and enhanced NWI that maintains gains to date; progresses the unfinished business; and provides guidance on new reform priorities that have emerged as a result of current and future challenges facing the water sector.

However, the development of a renewed NWI is not a prerequisite for — and need not hold up — jurisdictions progressing with the Commission's recommended reform priorities. The Australian, State and Territory Governments should get on with progressing reform.

Negotiating a new agreement

Implementation of the new reforms proposed by the Commission variously involve the commitment of the Australian, State and Territory Governments. While this means that not all governments need to be involved in progressing reforms in all areas, it is still important to have agreement led at a national level. The Commission recommends that a renewed NWI be negotiated through COAG.

A renewed NWI to be in place by 2020

The Commission considers that a renewed NWI could be negotiated within three years — in time for the 2020 inquiry into progress towards achieving the objectives and outcomes of the NWI. Jurisdictions should update the actions they commit to after six years to ensure that they remain relevant. Jurisdictions should develop a renewed NWI in an open and public manner. Indigenous people should be more directly involved in developing provisions relevant to them. As such, the Commission recommends that an Indigenous working group be established to provide advice on the development of relevant provisions.

Monitoring and reporting on progress

Ongoing audit and assessment of progress against reform commitments by an independent body lifts public confidence. Moreover, each government can be surer that others are playing their part. A three year cycle of assessment of progress against a renewed NWI would give jurisdictions sufficient time between reviews to make meaningful progress (for example, by passing new legislation or undertaking a comprehensive consultation exercise), while also maintaining reform momentum.

Draft recommendations and findings

Chapter 2 — Water reform — past, present and future

DRAFT FINDING 2.1

Water reform has brought about significant benefits to communities and stakeholders; however, there is further work to do. There is unfinished business in some areas of the National Water Initiative, and in some jurisdictions, that should be progressed. There is also a range of future challenges facing the water sector that will require further water reform.

Chapter 3 — Water entitlements and planning

DRAFT FINDING 3.1

Entitlement and planning reforms have provided economic benefits and promoted certainty through more transparent and inclusive decision making. They have also enabled a significant move towards improved environmental outcomes.

However, there are still areas where further reform and / or ongoing effort is required to meet the outcomes and objectives of the National Water Initiative. These include the failure of Western Australia and the Northern Territory to enact the legislation required to create secure, National Water Initiative-consistent water access entitlements.

DRAFT RECOMMENDATION 3.1

State and Territory Governments should ensure that entitlement and planning reforms are maintained and improved.

Priorities are:

a. Western Australia and the Northern Territory should establish statutory-based entitlement and planning arrangements that provide for water access entitlements that are long-term, not tied to land, and tradeable

b. State and Territory Governments should ensure that water entitlement and planning arrangements explicitly incorporate extractive industries, such as by ensuring entitlements for extractive industries are issued under the same framework that applies to other consumptive users unless there is a compelling reason otherwise

c. State and Territory Governments should develop a process to regularly assess the impact of climate change on water resources. Where this is considered to have been significant and detrimental, they should ensure that the next water plan review fundamentally reassesses the objectives of the plan (including environmental and consumptive) and the consequent balance between environmental and consumptive use of water, to ensure it is suited to a drier climate

d. State and Territory Governments should ensure that, as water plans reach the end of their planning cycle, suitable review processes are undertaken that allow optimisation of water use and system operation across all users, include explicit consideration of Indigenous cultural values and involve adequate community and stakeholder engagement

e. State and Territory Governments should ensure that their entitlement frameworks can incorporate alternative water sources, such as stormwater, wastewater, and managed aquifer recharge, so they do not present a barrier to efficient investment in these supply options.

Australian, State and Territory Governments should revise relevant provisions in the National Water Initiative to align with recommendations 3.1(b) to 3.1(e).

DRAFT FINDING 3.2

Indigenous access to water resources to achieve cultural values is increasingly addressed by using specific mechanisms for engaging with Indigenous groups in the development of water plans – the exceptions are Western Australia and Tasmania.

The Northern Territory Government is also taking steps to provide Aboriginal landowners with increased opportunity to access water resources for economic development.

There has been evidence of environmental water managers using held environmental water to achieve Indigenous cultural objectives, without forgoing environmental benefits.

DRAFT RECOMMENDATION 3.2

State and Territory Governments should ensure that:

a. Indigenous cultural objectives are explicitly identified and provided for in water plans, and progress in achieving Indigenous cultural objectives is regularly monitored and publicly reported on

b. there is public reporting of how Indigenous cultural objectives have been considered in the management of environmental water — both held and planned.

DRAFT RECOMMENDATION 3.3

Where State and Territory Governments provide access to water for Indigenous economic development they should:

a. source water within existing water entitlement frameworks, such as by purchasing water on the market or as part of transparent processes for releasing unallocated water

b. ensure adequate supporting arrangements (such as training and business development) are in place to enable Indigenous communities to maximise the value of the resource

c. involve Indigenous communities in program design

d. ensure future governance arrangements are specified and implemented.

Australian, State and Territory Governments should revise relevant provisions in the National Water Initiative to align with recommendations 3.3 (a) to 3.3 (d).

Chapter 4 — Water trading

DRAFT RECOMMENDATION 4.1

Australian, State and Territory Governments should maintain trade reforms to date and improve arrangements to facilitate open and efficient water markets.

Priorities are:

a. State and Territory Governments should remove those residual trading rules, policies (whether or not explicitly stated) and other barriers that prevent water being traded, or otherwise transferred, between the irrigation and urban sectors

b. the Australian Government should commission an independent review of the effectiveness and efficiency of service standards for trade approvals. The review should consider whether the standards should require shorter approval times

c. the role of governments in providing water market information should be focused on ensuring the quality and accessibility of basic trading data. In fulfilling this role, State and Territory Governments should improve the quality and accessibility of trade data in water registers.

Australian, State and Territory Governments should revise relevant provisions in the National Water Initiative to align with recommendation 4.1 (a).

Chapter 5 — Environmental management

DRAFT RECOMMENDATION 5.1

Australian, State and Territory Governments should ensure that their policy frameworks provide for the efficient and effective use of environmental water to maximise environmental outcomes, and where possible, provide additional community outcomes relating to water quality, Indigenous values, recreation and economic benefits.

Australian, State and Territory Governments should enhance the National Water Initiative to align with this recommendation.

DRAFT RECOMMENDATION 5.2

State and Territory Governments should ensure the management of environmental flows is integrated with complementary waterway management at the local level.

To achieve this:

a. State and Territory Governments should ensure that consistent management objectives for rivers, wetlands and floodplains govern the use of environmental water and complementary waterway management activities

b. where possible, one planning process should be used to set objectives for both activities, but if not, State and Territory Governments should ensure planning at the local level is aligned and coordinated. Planning processes should also provide explicitly for other public benefit outcomes where these are compatible with environmental outcomes.

Australian, State and Territory Governments should enhance the National Water Initiative to align with recommendations 5.2 (a) and 5.2 (b).

DRAFT RECOMMENDATION 5.3

Where governments own significant environmental water holdings, they should ensure that decisions on the use of the holdings are made by independent bodies at arm's length from government.

The Australian and New South Wales Governments should review current governance arrangements for held environmental water to ensure holdings are managed:

a. independently of government departments and political direction

b. by statutory office holders with an appropriate range of expertise.

Australian, State and Territory Governments should enhance the National Water Initiative to align with this recommendation.

DRAFT RECOMMENDATION 5.4

Australian, State and Territory Governments should ensure there are clear roles and responsibilities for managing environmental water in shared resources, with no duplication.

Consistent with this principle, The Living Murray program should be disbanded as there is no clear rationale for its continued existence in the context of the Murray-Darling Basin Plan. Each Basin jurisdiction should manage its share of former Living Murray entitlements as part of its broader portfolio of held environmental water. The Murray-Darling Basin Authority should complete the divestment of its holdings.

DRAFT RECOMMENDATION 5.5

Where capable partners are available, Australian, State and Territory Governments should devolve the use of held environmental water to the lowest practical level, consistent with the principle of subsidiarity.

Australian, State and Territory Governments should enhance the National Water Initiative to align with this recommendation.

DRAFT RECOMMENDATION 5.6

Australian, State and Territory Governments should improve monitoring, evaluation, auditing and reporting to demonstrate the benefit of allocating water to the environment, build public trust in its management, keep managers accountable and make better use of environmental water over time.

Priorities are:

a. Australian, State and Territory Governments should increase their focus on monitoring environmental and other public benefit outcomes — not just flow delivery — where additional effort would be commensurate with the risk to, and value of, those outcomes

b. monitoring and evaluation should involve collaborative and complementary partnerships, consistent methods that enable the synthesis of outcomes across different temporal and spatial scales, and long-term investment. In the Murray-Darling Basin, governments should develop a strategy to coordinate monitoring and evaluation of the outcomes of environmental flows, both planned and held

c. all managers of environmental flows should publicly report on whether outcomes have been achieved or not, and the reasons why

d. Australian, State and Territory Governments should establish arrangements for independent auditing of environmental flow outcomes to support transparency

e. managers of held environmental water should use the results of monitoring, evaluation and research to improve water use as part of an adaptive management cycle. To achieve this, managers should clearly allocate responsibility and provide adequate resourcing for adaptive management.

Australian, State and Territory Governments should enhance the National Water Initiative to align with recommendation 5.6 (e).

Chapter 6 — Urban water

DRAFT FINDING 6.1

Metropolitan and jurisdiction-wide providers' pricing practices are generally consistent with the requirements of the National Water Initiative. However, there is some evidence of underpricing in south-east Queensland (bulk water) and Tasmania.

Some providers in regional New South Wales are pricing below the level required by the National Water Initiative. It is not possible to determine whether pricing practices among smaller regional Queensland providers are consistent with the National Water Initiative due to a lack of data.

DRAFT FINDING 6.2

The New South Wales Government's definition of 'full cost recovery' is not consistent with the requirements of the National Water Initiative to achieve lower bound pricing.

DRAFT RECOMMENDATION 6.1

State and Territory Governments should ensure that independent economic regulation is in place for all urban water service providers of an appropriate scale, to further promote efficient service delivery.

Priorities are:

a. extending independent price regulation to retailer-distributors in south-east Queensland and the Northern Territory's Power and Water Corporation
b. establishing a standing reference for the Economic Regulation Authority in Western Australia and the Queensland Competition Authority to set or review prices.

DRAFT RECOMMENDATION 6.2

To promote competition by comparison, Australian, State and Territory Governments should ensure that performance monitoring data are transparently reported for providers of all sizes and subject to independent scrutiny.

Priorities are:

a. the Queensland Government extending the reporting of financial information to service providers with fewer than 10 000 connections
b. the New South Wales and Queensland Governments requiring appropriately qualified independent bodies to review financial performance frameworks to ensure that the pricing practices of regional service providers are monitored for consistency with National Water Initiative pricing principles
c. the Bureau of Meteorology, and the New South Wales and Queensland Governments, requiring providers to report a financial return metric that excludes developer charges and contributed assets alongside the economic real rate of return metric.

DRAFT RECOMMENDATION 6.3

State and Territory Governments should:

a. ensure that roles and responsibilities for supply augmentation planning are clearly allocated between governments and utilities
b. require that decision-making processes are consistent with good planning principles, in particular that they consider all options fully and transparently, including both centralised and decentralised approaches (including indirect and direct potable reuse, and reuse of stormwater), and are adaptive in response to new information.

Australian, State and Territory Governments should enhance the National Water Initiative to align with recommendation 6.3 (b).

DRAFT FINDING 6.3

In some cases integrated water cycle management (IWCM) projects will be justified by their benefits to a single beneficiary. In other cases, the multiple potential benefits of these approaches, such as improved liveability and ecological health of urban waterways, mean that collaboration across multiple beneficiaries will be required to capture these benefits.

To ensure that this complexity does not mean that cost-effective IWCM opportunities are missed, governments should ensure that material barriers and distortions to the adoption of IWCM approaches are removed from the general policy framework.

DRAFT RECOMMENDATION 6.4

State and Territory Governments should ensure that decentralised integrated water cycle management (IWCM) approaches are considered on an equal footing alongside other water supply and management approaches, particularly in the planning of new developments to support growth.

Priorities are:

a. ensuring that place-based IWCM plans are developed for major growth corridors and significant infill development locations
b. ensuring that options identified in IWCM plans are considered in water system planning, including both high-level system-wide planning and detailed investment planning, and in land-use planning
c. ensuring that IWCM projects are implemented when they are shown to be cost-effective (considering their full range of benefits)
d. reviewing the role that developer charges play in planning for new developments.

Australian, State and Territory Governments should enhance the National Water Initiative to align with recommendations 6.4 (a) to 6.4 (d).

DRAFT FINDING 6.4

Environmental regulations applying to wastewater treatment plants and sewer overflows can be overly prescriptive in many cases, and so can exclude alternative approaches that achieve the desired environmental outcomes at lower cost. Further, some alternative approaches can offer better environmental and social outcomes, such as improved urban amenity and reuse of wastewater as environmental flows to improve waterway health.

DRAFT RECOMMENDATION 6.5

State and Territory Governments should ensure that current environmental regulations protect urban waterway health as cost-effectively as possible, and do not prevent the achievement of other public benefits.

Priorities are:

a. reviewing existing regulatory regimes for wastewater discharges, beneficial use of wastewater and sewer overflows to ensure that they are sufficiently flexible and outcomes-focused
b. considering the need to amend relevant national policies and standards.

DRAFT FINDING 6.5

The substantial capital subsidies available for water and sewerage projects in regional New South Wales and regional Queensland are inconsistent with the National Water Initiative.

DRAFT RECOMMENDATION 6.6

To improve service efficiency and address remaining water quality issues, funding arrangements for local water utilities in regional New South Wales and regional Queensland should be significantly reformed.

These States should replace existing capital grants to water utilities with Community Service Obligation payments that are not tied to capital expenditure, and are tightly targeted at unviable (high-cost) regional and remote services.

DRAFT FINDING 6.6

About half of small providers (with fewer than 10 000 connections) in New South Wales participate in some form of regional collaborative arrangement or obtain services from a larger regional entity, and 18 of 50 small providers in Queensland participate in the Queensland Water Regional Alliance Program. While these jurisdictions have made progress, there is likely to be further scope for them to capture economies of scale through collaboration.

DRAFT RECOMMENDATION 6.7

Local water utilities and State Governments in New South Wales and Queensland should strategically examine opportunities to improve service delivery through collaboration. Contingent Community Service Obligation payments may provide an opportunity to promote this collaboration.

Chapter 7 — Water infrastructure for agriculture

DRAFT FINDING 7.1

The pricing of government-owned bulk irrigation and distribution services has tended toward lower bound outcomes in Queensland, Western Australia and Tasmania, where economic regulators have not been responsible for setting prices. In New South Wales and Victoria, where economic regulators have been responsible for setting prices, upper bound outcomes have generally been achieved.

DRAFT RECOMMENDATION 7.1

State and Territory Governments should ensure the delivery of government-owned irrigation infrastructure services is underpinned by full cost recovery and economic regulation that is proportionate to the scale of the regulated service.

Priorities are:

a. any terms of reference issued to the Queensland Competition Authority by the Queensland Government for advice on the pricing of irrigation infrastructure services should be aligned to the National Water Initiative Pricing Principles. The reason(s) for any Government decision to diverge from price recommendations based on those principles should be published
b. the Western Australian Government should amend the role of the Economic Regulation Authority (ERA) so that irrigation bulk water customers can request the ERA to review the infrastructure prices and / or services proposed by Water Corporation (WA) as part of bulk water supply contract negotiations
c. the Tasmanian Government should amend the role of the Office of the Tasmanian Economic Regulator (OTTER) so that irrigation bulk water and distribution customers of Tasmanian Irrigation can request OTTER to review the infrastructure prices and / or services of Tasmanian Irrigation
d. an equitable share of the cost of any price review requested by users should be treated as a regulatory cost and passed through to users at the discretion of the bulk water supplier in Western Australia and Tasmania.

DRAFT RECOMMENDATION 7.2

Relevant jurisdictions should ensure that the cost of River Murray Operations (RMO) are recovered from water users. RMO costs should also be subject to a periodic independent review. Specifically:

a. South Australia should pass through RMO costs to bulk water entitlement holders
b. RMO should be subject to transparent and independent five-yearly efficiency reviews overseen by the economic regulators in New South Wales, Victoria and South Australia. The next review should be completed by 31 December 2019.

DRAFT FINDING 7.3

The transfer of existing irrigation distribution networks to local ownership and management in New South Wales, South Australia, Western Australia and parts of Queensland has benefited irrigators. In exchange, irrigators have accepted responsibility for all the risks and costs associated with ownership — including the potential for, and costs of, a distribution network's financial failure.

Local ownership and management is the preferred model for any *new* distribution network. In contrast, the transfer of *existing* government-owned distribution networks to local ownership needs to be considered on a case-by-case basis.

There are rules in place to limit the exploitation of market power by distribution networks in the Murray-Darling Basin. Those rules and the approach to their enforcement:

- are proportionate to the risk posed and potential detriment
- are focused on outcomes and seek to avoid undue limits on the ability of networks to manage their business risks (such as declining water delivery volumes)
- have been subject to a transparent review process to ensure they remain fit for purpose.

DRAFT FINDING 7.4

The past failure of governments to deliver new irrigation infrastructure projects that are financially viable, environmentally sustainable and economically efficient is due to a combination of factors, including:

- prices that do not reflect the full cost of infrastructure due to governments providing grants for what is essentially private infrastructure
- poor analysis of the viability of new infrastructure projects
- an absence of robust water entitlement and planning frameworks.

DRAFT RECOMMENDATION 7.3

Governments should not provide grant funding for irrigation infrastructure, or that part of infrastructure, that is for the private benefit of irrigators. Rather, Australian, State and Territory Governments should ensure that:

a. National Water Initiative-consistent water entitlements and planning are in place before any new irrigation infrastructure is considered (including infrastructure being financed under the Northern Australian Infrastructure Facility)

b. government grant funding is limited to those projects, or parts of projects, delivering a public good. Any grant funding should be subject to an independent analysis of the project being completed and available for public comment before any government announcements on new infrastructure are made. The analyses should establish that the project will be:
   - environmentally sustainable
   - economically viable and deliver public benefits that are at least commensurate with the grant funding being provided

c. government financing (such as loans) for infrastructure generating private benefits should only be provided after:
   - an independent assessment has confirmed the finance can be repaid on commercial terms. The assessment should be released for public comment before any announcement on new infrastructure is made
   - robust governance arrangements have been put in place to deliver merit-based decision making and the ongoing monitoring of (and public reporting on) the government's investment
   - sufficient water entitlements have been sold to reduce the project's risk profile and provide assurance the finance will be repaid.

Australian, State and Territory Governments should enhance the National Water Initiative to align with recommendations 7.3 (a) to 7.3 (c).

Chapter 8 — Other National Water Initiative elements

DRAFT FINDING 8.1

Ongoing research and capacity building will be central to Australia's ability to deliver the sustainable management of water resources in the face of challenges from climate change, population growth and increasing community expectations.

DRAFT RECOMMENDATION 8.1

Australian, State and Territory Governments should:

a. identify the key knowledge and capacity building priorities needed to support the ongoing implementation of the National Water Initiative (including the revisions and enhancements recommended in this report)

b. develop mechanisms through which the jurisdictions can work cooperatively and share knowledge to build overall capability and capacity.

Australian, State and Territory Governments should update relevant provisions in the National Water Initiative to align with recommendations 8.1 (a) and 8.1 (b).

DRAFT FINDING 8.2

State and Territory Governments have delivered improved decision-making through open and timely consultation with stakeholders on water planning. This has been supported by the publication of relevant supporting information for consultation at key decision points.

State and Territory Governments have taken steps to document the outcomes from water plans and whether plan objectives have been achieved.

The Murray-Darling Basin Authority has increased stakeholder consultation and engagement since 2011.

DRAFT RECOMMENDATION 8.2

Where Governments consider there are significant and rapid adjustment issues affecting communities as a consequence of water reform, the response should:

a. avoid industry assistance and subsidies

b. consider all the factors impacting on the community (not just water reform)

c. target investment to developing the capacity of the community to deal with the impacts of structural adjustment

d. be subject to monitoring and publicly reported evaluation of outcomes.

Australian, State and Territory Governments should revise relevant provisions in the National Water Initiative to align with recommendations 8.2 (a) to 8.2 (d).

Chapter 9 – Progressing reform

DRAFT RECOMMENDATION 9.1

Australian, State and Territory Governments should recommit to a renewed National Water Initiative through COAG by 2020. This should:

a. maintain the achievements in water entitlements and planning, water markets, water accounting, water pricing and governance, knowledge and capacity building, and community engagement delivered by the current National Water Initiative as the key foundations underpinning sustainable water resource management and efficient infrastructure service delivery

b. revise a number of policy settings:
   - incorporating extractive industries and alternative water sources into water entitlement frameworks
   - water planning to take account of climate change and enable ongoing optimisation
   - Indigenous access to water for economic purposes
   - arrangements for water trading between irrigation and urban sectors
   - better targeted adjustment assistance

c. significantly enhance policy settings relating to:
   - urban water management to ensure innovative and efficient provision of services in the future under the combined pressures of population growth and climate change
   - environmental water management to ensure maximum return on government investment in this area
   - decision making on building and supporting new infrastructure for agriculture.

DRAFT RECOMMENDATION 9.2

In developing the renewed National Water Initiative, Australian, State and Territory Governments should:

a. consult with relevant stakeholders, including by establishing an Indigenous working group to provide advice on the development of relevant provisions

b. ensure that progress with implementing a renewed National Water Initiative continues to be independently monitored and reported on every three years.