

**AUSTRALIAN
WATER**

ASSOCIATION

*Emerging challenges
and opportunities to
secure our water future*

DISCUSSION PAPER

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Discussion Paper Purpose

Water reform in Australia has delivered solid progress on managing the nation's water resources during the past two decades which has delivered tangible benefits to governments, communities and industries.

Thirteen years on from the signing of the National Water Initiative (NWI), water reform in Australia is now back in the spotlight with the Productivity Commission undertaking an inquiry that will assess progress in achieving the objectives and outcomes of the NWI and the need for any future reform.

The National Plan for Water Security (2006), with its focus on rural water reform, especially in the Murray-Darling Basin, does not address many of the key issues. Outstanding issues include addressing mining and indigenous water, urban water and achieving nationally consistent water pricing and regulation.

Reviews following the millennium drought highlighted community concerns over the lack of long term planning and commitment by governments across the nation.

The purpose of this discussion paper is to set out the context of the Association's work for water security and to stimulate discussion on the need for, and priorities in, delivering water security for all Australians.

Water leaders from across Australia will meet for a workshop at Ozwater to discuss and debate water security issues summarised in this paper. Your participation at this workshop is encouraged and the Association will draw from the discussion at the workshop to continue advocating on water security.

The Ozwater workshop will seek to:

- Obtain views on current and emerging issues that will affect our future water security
- Understand our long-term water supply and demand challenges and the interventions required to protect our future levels of water security
- Focus the attention of the Australian water sector to support wider community engagement on our water security challenges
- To prepare an industry led position statement to COAG on the challenges and priorities for the monitoring and foresight of our long-term water security needs.

Context for Water Security Globally

In recent years, the issue of water security has been gaining traction in the global political agenda and earning attention from national governments at the highest level, in particular for its links to peace and national security, but also for its implications for development issues.

Water security offers opportunities: for cooperation, collaboration, and for addressing challenges in a

multi-disciplinary and cross-sectoral way in order to reduce risks for potential conflicts and manage continued sustainable development and growth.

Australia's focus on water security is timely as the international community prepares for the post-2016 implementation of the Sustainable Development Goals (SDGs). In particular, SDG6 commits all countries by 2030 to "achieve universal and equitable access to safe and affordable drinking water for all".

There exists a range of international frameworks (aiming to secure the future) and scorecards (reviewing the current) for water security, that need to be considered and assessed for their relevance to Australia's approach to water security.

The frameworks include:

- The National Water Initiative 2004
- The National Plan for Water Security - 2006
- United Nations Water Security Framework
- European Union Water Framework
- Water Governance in OECD Countries - A Multi-Level Approach 2011
- High Level Panel on Water Plan of Action - 2016

The scorecards include:

- National Water Accounts – Australian Bureau of Meteorology
- Water in Australia - Australian Bureau of Meteorology 2014-15
- State of the Environment Report - Australian Government 2016
- Australian National Outlook – CSIRO 2015
- Asian Development Bank – Asian Water Development Outlook 2016



Definition of Water Security

The United Nations define Water security as the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.

This definition implies that water is managed sustainably throughout the water cycle and is done so through an inter-disciplinary focus, so that it contributes to socio-economic development and reinforces societal resilience to environmental impacts and water-borne diseases without compromising the present and future health of populations and ecosystems.

Water Security in Australia

Australia's water sector warrants national policy attention. It is a sector that provides essential services to almost all Australians, delivers a vital input to businesses across the industrial, agricultural, and services sectors. Water is also playing an increasing role in enhancing the liveability of our urban and rural communities.

The efficiency and quality of our water services can impact positively or negatively on our national economic health and the health and well-being of our population. Internationally Australia is a recognised leader in many aspects of water reform, including water allocation and scarcity management.

While the Australian Government's leadership role in water policy has shifted in recent years, there remains a focus in federal processes on the effectiveness of our use of water and water infrastructure. The Productivity Commission is now undertaking a review of the National Water Initiative and the need for future water reform, including water resource management, urban water reform, rural water reform and water planning. A central focus of the review is to drive productivity and unlock economic growth from water, including for regional economies.

It is important that the State Governments, the water industry (both public and private) and the research community continue the drive for reform to provide improved management of water security for all Australians. There are numerous examples of State governments taking responsibility for water planning within their regions, with several plans recently produced including:

- Queensland - Water for life - South East Queensland's Water Security Program - 2016-2046
- New South Wales - 2017 Metropolitan Water Plan - Water for a Liveable, Growing and Resilient Greater Sydney

- New South Wales - various Regional Water Resourcing Plans (2016 - 2017)
- Victoria - Water for Victoria 2016
- Western Australia - Water for Growth - Water Supply and Demand Outlook to 2050 - 2016
- Australian Capital Territory - Water Strategy - Striking the Balance - 2014-44
- Northern Territory - 'Our Water Future Discussion Paper: A Conversation with Territories' - 2015

Whilst, many of these are ground-breaking and establishing best practise, there is no nationally harmonised or consistent approach to regulating water security, which might bring considerable benefits to our governments, industry and communities. Water security management should be seen as both a long term and bipartisan issue.

Water security for Australia has driven some of Australia's most significant reform and investments over the past decade. However, there is still much to do to safely secure our long term water requirements. One of the strongest lessons from the Millennium Drought was the need for long term and integrated planning for both investment in assets and community engagement.

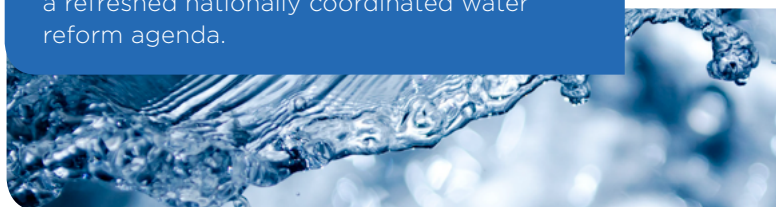
As the National Water Commission pointed out in their final assessment of progress under the National Water initiative:

We now have a better understanding on the stresses across our surface water, river flows, ground water and manufactured water cycles. The monitoring of these levels of water security is being done by the Bureau of Meteorology and an update on our surface water storage levels, our river flows, soil moisture, and ground water will be presented at the OZwater'17 Water Security Workshop.

However, does Australia have a good enough understanding of the looming impacts that climate change, population growth, agricultural and industrial development will have on future water security?

It is time to look forward ten and thirty years into the future and agree on what water security needs to look like and determine how, as an industry, we can help achieve water security.

Summary: Australia has much to gain from a refreshed nationally coordinated water reform agenda.



Background

Over the last 12 months much work has been done by the Association around raising levels of awareness of water security issues with government and the community. Australia is yet to develop an overarching, cohesive and clear water security framework, and this discussion paper asks the question – do we need one, and if so, what would it look like?

Some key discussion items have been summarised below;

1. In last year's member survey, our members told us that water security for all Australians was their number one priority.
2. With the demise of both Australian Government's Standing Council on Environment and Water, and the National Water Commission, there is no single federal structure for the Commonwealth and the States and Territories to drive water security initiatives. Do we need one?
3. The United Nations General Assembly adopted the resolution "International Decade (2018–2028) for Action – Water for Sustainable Development" to help put a greater focus on water during the next ten years.
4. In December 2016, the Australian Government signed an agreement with New South Wales, Western Australia, Tasmania, the Australian Capital Territory and the Northern Territory to *"...focus on more efficiently and sustainably securing urban water services."* and to *"...promote improved governance, better economic regulation and a better understanding of where competition can be deployed.."*
5. The United Nations General Assembly adopted the resolution *"International Decade (2018– 2028) for Action – Water for Sustainable Development"* to help put a greater focus on water during the next ten years. This is on top of the adoption of the sustainable development goals, to which Australia has signed up to and the establishment a high-level implementation panel of national heads of government including our Prime Minister.
6. The Productivity Commission has commenced an inquiry that will assess progress in achieving the objectives and outcomes of the National Water Initiative (NWI) and the need for any future reform.
7. There is no clear and agreed national framework for water security in Australia. What should be our national security objectives?
8. Australia faces significant environmental and economic impacts from evolving changes including climate change, population growth, agriculture, mining, industry and the growth of our coastal communities.
9. The Productivity Commission has commenced an inquiry that will assess progress in achieving the objectives and outcomes of the

National Water Initiative (NWI) and the need for any future reform.

10. The United Nations, European Union, United States and Asian Development Bank all have significant framework / scorecard approaches to planning and managing water security that warrant consideration in Australia. Would such a national framework deliver greater water security?
11. Under the Australian Constitution the States are responsible for water management. However, there are significant and proven benefits from nationally coordinated water reforms. The Australian water sector invested many billions of dollars in delivering reforms under the National Competition Policy and NWI including in R&D, technological and managerial innovation. Are we capturing the legacy of this work by ensuring that the lessons and innovations of the past are shared nationally and internationally?

Summary: there remains unfinished business under the NCP and NWI and emerging issues that require national attention



Influencing Factors for Water Security

We need to understand and manage the future risks that can disrupt Australia's long term water security.

These risks include:

- ▮ the failure to foresight water security challenges and develop mechanisms to allocate water amongst competing users in an economically efficient manner
- ▮ Failing to heed the lessons of Millennium Drought by not taking long term water security out of short term budget cycles
- ▮ Failing to forecast and plan for future water supply/ demand balance with expected extremes of climatic conditions (drought and flood)
- ▮ The need to address indigenous water rights
- ▮ Population growth and urban sprawl leading to higher demand and increasing pollution
- ▮ Expanding demand for water in creating livable communities (in both urban and rural areas)
- ▮ Changes in managing water quality from new supply sources and technologies;
- ▮ Failing to integrate planning processes across the water cycle and urban planning
- ▮ Increasing need for aligning institutions and regulatory frameworks to maximise efficiency
- ▮ Not developing alternative water sources to provide enhanced supply resilience;
- ▮ Failing to obtain long-term community engagement in tackling water security challenges;
- ▮ Addressing the unique water security challenges around our coastlines
- ▮ The failure of environmental security

There are real and emerging opportunities to assist Australia in securing our future water needs. These opportunities include:

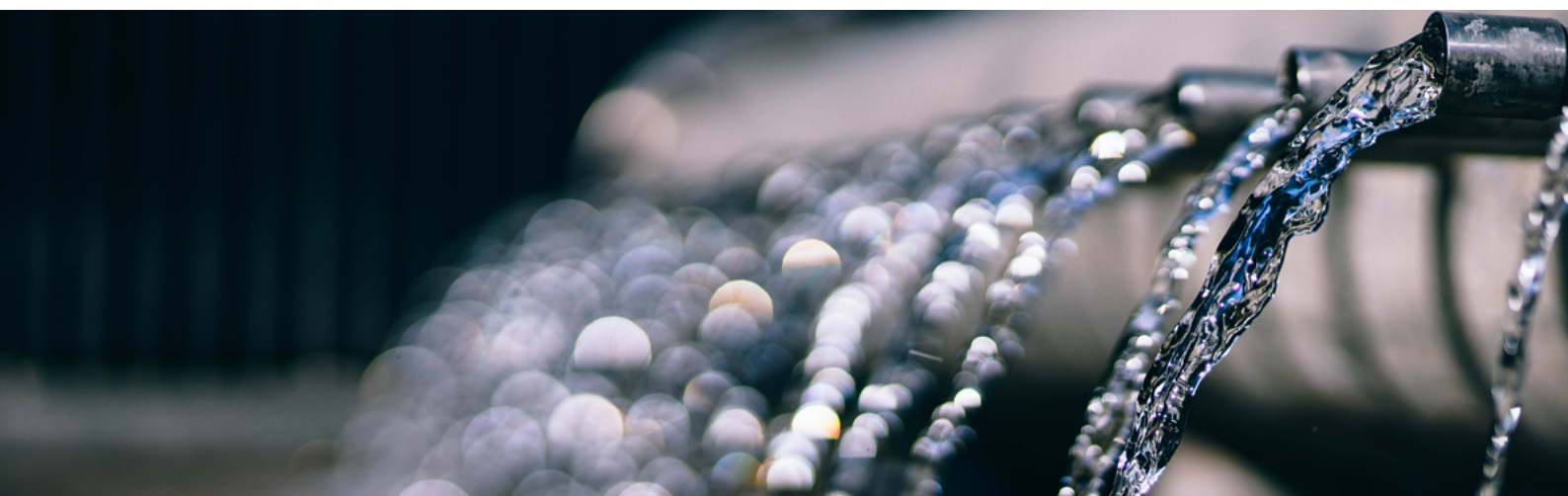
- ▮ Introducing new innovations and technology including 'smart water cities' and big data to drive greater efficiencies;
- ▮ Addressing the water challenge of the development of the north
- ▮ Improved price regulation of water security
- ▮ Ensuring institutional arrangements that enable water / energy / food nexus outcomes

- ▮ Greater investment in water R&D to build new innovations and to fill knowledge gaps across the industry and community;
- ▮ Greater transparency in policy decisions, governance, and market regulation;
- ▮ New sources of finance to underwrite our future water infrastructure needs
- ▮ Increased investment in climate resilient water assets from both the public and private sectors;
- ▮ Recognition of the nexus between water and energy management that can deliver new efficiencies
- ▮ Improved understanding of the value of water to our communities including recognition and valuation of externalities (social, environmental, commercial, tourism etc)
- ▮ Recognising the importance of environmental sustainability to the economic security and society wellbeing

These factors play a role in shaping the types of intervention Australia will need to cope with the long-term changes to our water supply and demand balance.

To inform our analysis the following questions need to be considered:

- ▮ To what extent has nationally coordinated water reform enabled water security to support Australia's economic development, our communities and our environment?
- ▮ What does the industry consider to be enduring principles to guide future water security in Australia?
- ▮ What are the other emerging risks and opportunities that need to be considered that are not covered in this discussion paper?
- ▮ What are barriers to implementing water reforms to achieve water security and how can they be overcome?
- ▮ Are there more efficient or effective ways, including industry and private sector participation, of achieving increased water security outcomes
- ▮ Are there opportunities to better manage the interface of water policy with other policy realms such as energy and resources, agriculture, and urban planning?



Water Security in the Australian Context

The Australian Water Association currently defines water security as the certainty the Australian community can have that its water needs will be met into the future on an economically, socially and environmentally sustainable basis.

In providing water security Australia needs to provide water for the competing demands of drinking water, agriculture and industry, water for livable communities, and water for the environment.

The Association advocates that water security in Australia needs to embrace the following:

- ▮ **Water fit for purpose:** Water supplies that are safe and are fit for use
- ▮ **Water efficiency:** Supporting water that is managed efficiently, delivering maximum environmental and social benefit at least cost
- ▮ **Water performance:** Effective measurement and reporting on water security to our community
- ▮ **Water sustainability:** Supporting water that is managed within sustainable limits, delivering whole of water cycle outcomes

- ▮ **Water reliability:** Supporting water supplies that are secure, resilient and deliver customer value.

In formulating a national framework to provide water security the following guiding principles may be appropriate:

- ▮ **Resilience**—having sufficient capacity to adapt to external shocks to the system as a whole, such as those associated with the impacts of climate change.
- ▮ **Flexibility**—being able to identify and respond to changing and diverse customer and community needs in a smooth, timely and efficient manner.
- ▮ **Efficiency**—responding to incentives to deliver maximum overall benefit at the least overall cost.
- ▮ **Transparency**—building and maintaining a proactive culture of complete openness to stakeholders and the public about performance and decision making.
- ▮ **Accountability**—being held responsible for clearly defined objectives and provided with rewards for good performance and sanctions for poor performance.
- ▮ **Customer-focus**—not simply providing least-cost services, but understanding and meeting the diverse needs of all customers in differentiated ways and providing value for money.



Water Security for Urban Towns and Cities

In the past 10 years the Australian urban water sector has weathered new extremes in drought and flood and emerged far different to its predecessor. The provision of safe, secure, efficient and sustainable water and waste water services remain the primary drivers for urban water reform. However the challenges and opportunities to improve nationally significant social, economic and environmental outcomes from urban water have evolved considerably.

Many have identified the need for the urban water sector to focus on customers, ensure efficient regulatory arrangements, clarify the role of the urban sector in delivering on liveability outcomes and implement further change around institutional arrangements and policy settings to enable competitive neutrality.

However, it should be remembered that many of the debates and controversies after the millennium drought investments, were a result of the lack of long term planning by many governments to prepare for such a drought, which could recur at any time, possibly for even longer periods.

Delivering water services across Australia's vast regional, remote and very remote areas presents its own range of complex economic, demographic and geographic challenges. The diversity of circumstances – ranging from larger, sometimes fast growing regional centres, to the most remote indigenous communities – means that there is no 'one size fits all' approach to addressing these issues.

In some regional areas, the provision of appropriate water supply solutions will always depend on ongoing economic cross-subsidies and tailored community participation strategies. The Association expects, nevertheless, that nationally applicable reforms across the urban water sector will lead to efficiency gains in the regional water sector. To the extent that some of the problems confronting these utilities are driven by the sub-optimal operating scale of businesses, there is a role for structural reform.

Summary: The provision of safe, secure, efficient and sustainable water and waste water services remain the primary drivers for urban water reform. However, the challenges and opportunities to improve nationally significant social, economic and environmental outcomes from urban water have evolved considerably.

The focus now is on creating the institutional, regulatory and market conditions favourable for the integration of urban water services with the objectives for productive and liveable cities.

Rural Water Security

The rural water reforms delivered under the NWI was built on a history of Australian water reform, including the 1994 COAG Water Reform Framework. Major outcomes of the 1994 agreement included recognition of the environment as a legitimate user of water, the establishment of water markets, and the separation of regulatory and operational institutional roles.

The concerns that drove the NWI are still relevant today including environmental degradation, increasing competition for scarce and highly variable water supplies, less than optimal governance and pricing arrangements, and a realisation that opportunities to augment supplies, at least in inland areas, were limited because few cost-effective, large-scale dam sites remained in regions of high water demand.

The rural water reforms delivered over the past decade saw some fundamental shifts in water management, driven as part of Australia's wider competition policy reform agenda, recognising the continuing national imperative of increasing the productivity and efficiency of Australia's water use and the need to ensure the health of river and groundwater systems.

This has included an unprecedented (over \$10 billion) Commonwealth government investment aimed at sustainable water use in rural areas by improving the water use efficiency of irrigation districts, which is currently rolling out.

Experiences under the NWI, which has included extremes of wet and dry, has highlighted the benefits of transparent, soundly based and adaptive water planning, secure water rights for consumptive and environmental purposes, and efficient pricing and markets to drive the most productive use of Australia's water resources. Rural water reforms have provided rural water users in most jurisdictions with a more secure and tradeable water asset and established a legal basis for environmental water allocations. These fundamental elements of the NWI have demonstrated their worth but experience has also shown there is a continuing need to develop and maintain these instruments.

Ensuring rural water security in Australia is not yet done. There remains a need to improve the way communities are engaged in rural water planning and the implementation of plans. There are opportunities to improve the ways that water plans and regulatory structures respond to variability, particularly extremes, while providing water users with confidence to make decisions for their future. Australia's scientific knowledge of water resources and environmental assets and the understanding of the social and economic impact of reform must continue to develop. There is room to achieve environmental objectives more efficiently by closely coordinating water management and broader natural resource management policies.

Existing water management arrangements will continue to be tested by changes in the wider economy and developments in the policy environment.

Despite these hurdles, overall, the reforms in the rural water sector have been a success. They are internationally recognised as having placed Australia at the forefront of good rural water management, and the foundational reform effort delivered so far has positioned Australia to reap significant benefits into the future.

Despite the significant gains in the rural water sector, the Association now asks the question,

How can Australia ensure rural water security now and into the future?

So where now?

With the review of the National Water Initiative

currently underway and 2018 having been earmarked by the United Nations as the start of the decade of water, we need to set a vision for the future.

The outcomes from this process will be a call on the Commonwealth and State Governments to:

- ▶ Make a clear “National Statement on Water Security for Australia - 2030”
- ▶ Consider in that statement the issues and feedback from this industry workshop
- ▶ Make a commitment to increase our water foresight ability and build stronger monitoring of our water security
- ▶ Commit funds to support the development of a refreshed 2030 water reform agenda

What do you want water security to look like in Australia in 2030?



ozwater'17
*Embracing Innovation and
Disruption for a Smart Water Future*

**JOIN THE WATER SECURITY WORKSHOP AT OZWATER AND
SHAPE THE FUTURE DIRECTION OF AUSTRALIA'S WATER
SECURITY AGENDA**

Water security for all Australian's remains at the heart of our water sector's needs and an area that warrants national policy attention. Your contribution to the discussion at the Ozwater17 water security workshop will provide valuable input in shaping an industry led position statement on the future of our nation's water security.

We encourage your participation at the Water Security Workshop at Ozwater'17 Wednesday 1.15pm-3.15pm.

Registration is required with a workshop / panel pass available. Visit www.ozwater.org to register.

DISCUSSION PAPER

GIVE US YOUR FEEDBACK:

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