ENGINEERS
AUSTRALIA

National Water Agreement Submission

National Water Agreement Submission 2024

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Introduction

Engineers Australia appreciates the opportunity to provide input to the Department of Climate Change, Energy, the Environment and Water's consultation on the National Water Agreement. This submission has been developed to highlight the many interactions between water planning and engineering and highlights areas of agreement, areas that may need to be strengthened and some that may need to be included.

Engineers are essential providers of integrated delivery of water, wastewater and stormwater infrastructure and services, contributing to the full suite of water security, public health, environmental and urban amenity outcomes. Their involvement encompasses all aspects of water policy, governance, management, and compliance ensuring the efficient and sustainable use of water resources and the best management of the total water cycle.

Engineers Australia has long been active in water governance and management through interactions with governments, peak bodies and our members to bring about better water governance and management, for a more resilient future. This submission builds upon the feedback provided to the Productivity Commission's Inquiry into the National Water Initiative (NWI) and the National Water Inquiry 2024.

About Engineers Australia

As Australia's national body for engineering, we are the voice and champion of our 120,000-plus members. We provide them with the resources, connections, and growth they need to do ethical, competent and high-value work in our communities.

A mission-based, not-for-profit professional association, Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community. We back today's problem-solvers, so they can shape a better tomorrow.

Contact

To discuss the points raised in this submission further, please contact policy@engineersaustralia.org.au

National Water Agreement

Objectives Overview

Engineers Australia would like to offer some overarching comments before providing detailed responses to each of the seven objectives listed in the discussion paper:

- By numbering the objectives, it provides a sense of priority or hierarchy, which should not be the case.
- The objectives seem to be focussed on sustainable take, which is something inherent in the first National Water Initiative - and in current circumstances, represents only part of the situation.
- The objectives could further demonstrate how the NWA gets implemented through outlining incentives.
- The objectives can be substantially simplified and clarified to avoid overlap and confusion. For example:
    - Objective 1 can be seen as an outcome of Objective 3.
    - Objective 4 can be seen as a best practice principle adopted to ensure decisions are robust and defensible.
    - Objectives 1, 2, 3, 4, 6, and 7 all pertain to aspects of planning and management, which can be simplified.

Key Recommendations

Engineers Australia recommends redefining the current seven Objectives (as per the Discussion Paper), into the following three objectives.

Objective: Develop and Implement an Environmentally Sustainable and Integrated Water Management Framework

Integrated water management deserves greater emphasis, and the NWA should outline necessary changes to achieve improved outcomes. These changes might encompass adjustments to legislation, governance structures and jurisdictional arrangements, as well as the introduction of incentives and the removal of obstacles.

- For example, stormwater for potable use and direct portable reuse has been historically prohibited – and for good reason, however, consideration should be given to developing a roadmap to permit stormwater re-uses in specific circumstances, noting the extensive community consultation required to do so. Lifting these bans in certain circumstances could foster innovation and the proactive introduction of stormwater reuse offsets demand for treated potable water.

Further, consideration should also be given to incorporating collaborative integrated planning, incorporating Indigenous knowledge, and where flooding & flood protection, land use, transport, water, energy and other services are coordinated more effectively.

- For example, Indigenous communities traditionally moved and adapted in harmony with their environments, and today's water challenges require innovative approaches. Valuable lessons can be gleaned from Indigenous practices, especially concerning sustainability and resilience. Integrating these insights with contemporary knowledge is essential to effectively address

modern water complexities. Recognising the wisdom of Indigenous perspectives, we must develop nuanced and contextually appropriate solutions to tackle present-day water management challenges.

Key Outcomes from this objective may include the current objectives (Objectives 1, 2, 3,4, 6 and 7) redefined as Outcomes:

- Provides for a safe and secure water supply (current objective 1)
- Recognises and protects Human Rights (current objective 2)
- Adapts and responds to climate change (current objective 3)
- Utilises robust science, data and cultural knowledge (current objective 4)
- Enables sustained community trust and confidence (current objective 6).
- Facilitates water efficiency (current objective 7).

Objective: Water Infrastructure Investment is proactive, strategic, effective and transparent

Given the challenges of population growth, investment in water infrastructure is appropriate, however hastily developed infrastructure during crises or delaying investments often results in increased costs and suboptimal solutions, as demonstrated during previous droughts such as the Millennium Drought. Drawing lessons from these events, it is prudent to invest proactively to meet the demand. This approach promotes economic growth, prevents reactionary decisions, ensures more efficient solutions, and enhances the resilience of our communities and ecosystems for the long term.

While it might seem challenging to justify building a new water scheme in a small, shrinking rural area from a purely economic standpoint, it is crucial to remember that water is an essential need for all communities, regardless of size or population trends. By prioritising access to clean water, even in areas experiencing demographic shifts, we uphold fundamental human rights and ensure the sustainability and resilience of communities in the long term.

Further, metrics for investment for regional water infrastructure should cater for unique local environments and not be subject to the same economic analysis that urban centres undergo. Regional water infrastructure investment needs to consider unique, local conditions.

- For example, the same investment metrics being applied to a new hospital in a growing urban area as well as a new water scheme in a small, shrinking rural area will always be problematic.

Suggested outcomes may include:

- Differentiated economic and investment metrics for regional and urban water infrastructure investments.
- Water infrastructure investments are planned in a proactive fashion, enabling better outcomes such as improved water quality, access and efficiency, resilient infrastructure, and environmental stewardship.

Objective: Water is a Prioritised Public Good

Water is vital for life and should be accessible to all, however, ownership of water can lead to exploitation and inequality, particularly in regional areas. Sustainable management practices and the principles of equitable access work towards providing clean and safe water for our populations.

Water infrastructure investment however faces limitations due to the user-pays principle and its impact on pricing. The provision of water should be considered a public good and water infrastructure investment deserves equal favour to other public investments such as transport, health and education.

Suggested outcomes may include:

- The social cost of water is factored in decision-making.
- Pricing mechanisms are not discriminatory.
- Infrastructure investment decisions value the provision of water.

Detailed Responses to Objectives

Below is some detailed commentary on each of the seven objectives as they are presented in the discussion paper, for consideration.

Objective One: Securing Water for all Uses

Australia's vast landscape and extreme climate present intricate and evolving challenges to managing water. These challenges necessitate a robust and forward-thinking approach to ensure sustainable water use and security. Prioritising integrated water management can ensure greater resilience against droughts, floods, emerging contaminants and reduce disaster risks. Further, widely known principles such as the precautionary principle, circular economy and polluter-pays principles should be applied to ensure water quantity, quality for all uses (environment, society and economy).

Objective Two: Supporting Human Rights Principles

Water justice is a critical issue, especially in parts of regional Australia and Engineers Australia supports the recognition of Indigenous knowledge and rights, especially as part of community decision making processes. Further:

- Water is an essential human right where everyone has access to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic use.
- The right to sanitation entitles everyone to have physical and affordable access to sanitation that is safe, hygienic, secure, and socially and culturally acceptable, ensuring privacy and dignity.
- A clean, healthy, and sustainable environment is a human right. This recognition emphasizes the importance of environmental well-being for the full enjoyment of various human rights, including life, health, food, water, and sanitation.

Objective Three: Adaptive and Responsive to Climate Change

- A holistic systems-based approach needs to be taken, with the incorporation of principles and approaches like the precautionary principle, adaptive management, circular economy and nature-based solutions.
- Population changes due to factors such as population growth from people forced to migrate away from uninhabitable areas (climate refugees) needs to be considered as part of water resource planning, and adaptive management. Promote adaptive measures to withstand changing conditions.
- Addressing water pollution's (e.g. untreated sewerage) impact on climate change should also be considered, along with investing in climate science and early warning systems which would contribute to building resilience and encouraging sustainable practices and circular economy models.

Objective Four: Ensuring Evidence-based Decision Making

This objective could consider:

- Regularly assessing water quantity, biodiversity, and water quality and having an accessible robust, reliable water information data system/repository.
- Strengthening water quantity and quality monitoring and enforcing stringent standards.
- Using advanced technology (e.g., remote sensing, IoT) for real-time data.
- Involving local communities in monitoring efforts. This would empower communities and individuals to make informed choices.

Objective Five: Transparent, Strategic Water Infrastructure Investment

Some further considerations:

- Effective investment requires comprehensive data on water quantity, quality, usage, disposal, and impacts published and publicly accessible.
- Effective communication of published water data will enable long-term strategic water infrastructure investments.
- Transparency and accountability are key.

Objective Six: Sustained Community Trust and Confidence

Engineers Australia notes that to build trust and demonstrate integrity:

- More stringent and accurate water monitoring and reporting is required to allow for better water accounting.
- Clear consequences for non-compliances need to be communicated and accepted.
- Stakeholders need to be engaged in policy development and decision-making processes.
- Water planning and management practices need to be accountable and uphold ethical standards.
- Conflicts of interest in cases of property owners, water users and water providers need to be addressed transparently.
- Water literacy needs to improve.
- Stakeholders need mechanism to address the adverse effects of water pollution, enabling affected communities to seek redress.

Objective Seven: The efficient Use of Water

This objective could consider:

- Streamlining regulatory frameworks.
- Adopting a fit-for-purpose approach. For example, use fit-for-purpose water for specific activities, like non-potable water for watering gardens and flushing toilets in residential homes.

- Investing in research, innovation, and sustainable alternatives to water treatments with high footprints. Adopt Circular economy, co-generation, resource recovery principles in wastewater management processes.

- Developing water efficiency labelling systems that builds synergies with energy and building ratings to enable a rating system for all assets and infrastructure with incentives for more efficient products. This would help to promote water-efficient practices and optimise water use across sectors.