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Productivity Commission

4 National Circuit
Barton ACT 2600, Australia

Arup Australia submission to the National Water Reform 2026 Inquiry

Dear Commissioners,

Arup Australia welcomes the opportunity to provide input to the Productivity Commission's *National Water Reform 2026* consultation. The ongoing renewal of Australia's national water policy framework is of utmost importance given the increasing challenges associated with climate change, population growth, and evolving community expectations. This submission provides targeted input on some key areas where national water reform settings can be strengthened to support consistent, transparent and resilient water management.

Arup is a global, independent firm of designers, engineers and advisors, with a long-standing presence in Australia spanning over five decades. We have worked extensively across the water sector, supporting governments, utilities and communities in planning, designing and delivering resilient water systems. Our work is grounded in a strong commitment to sustainable development and deep respect for Country, recognising the enduring connection of Aboriginal and Torres Strait Islander peoples to land and water, and the importance of water in supporting healthy communities, ecosystems and economies.

Our response relates the Information Request Parts A and B and is based on our overall experience in the Australia water industry, its trends, challenges and successes. Our submission focuses on the interaction between climate change, system resilience, and the practical delivery of water services. The recommendations provided reflect the need to ensure that planning assumptions, funding frameworks and decision-making processes remain fit-for-purpose under increasing variability and uncertainty, particularly for communities and systems most exposed to climate risk.

Improving Consistency and Transparency in Climate Change Assumptions

To better support nationally consistent and comparable water management outcomes, current reform settings would benefit from stronger, nationally coordinated provisions that improve both transparency and cross-jurisdiction comparability in how climate change is incorporated into water planning, regulation, and infrastructure decision-making. In this context, a nationally endorsed framework or set of guidelines would provide greater clarity and consistency in how climate scenarios are selected, applied, and communicated across jurisdictions. At a minimum, such an approach should establish a clear expectation that jurisdictions document and publicly disclose the climate scenarios used, the modelling approaches applied, and the associated risk parameters, including the treatment of uncertainty, so that decisions can be reproduced, scrutinised, and compared on a like-for-like basis.

To support this approach, and consistent with the need for a more coherent national water security framework, there is merit in establishing a small number of clear, nationally applicable expectations that would improve transparency, and comparability across jurisdictions. In particular, national reform settings could provide for:

> (i) the routine public disclosure of modelling assumptions, methodologies, input datasets, and key analytical parameters used in water planning and regulatory decision-making, including the treatment of uncertainty, subject to appropriate exceptions; and
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> (ii) the development and adoption of a nationally consistent framework or guidance for the description and application of climate scenarios and uncertainty, to support greater comparability of outcomes across jurisdictions.

Current policy directions appropriately acknowledge that adaptive, risk-based planning informed by best available science is necessary in a climate that may exceed historical variability. Principles relating to coordinated data systems and precautionary approaches are well aligned with contemporary practice. However, current arrangements do not yet fully address a core implementation issue: in the absence of clearer expectations for transparency, materially different design and planning outcomes can arise because jurisdictions apply different climate change design scenarios, modelling assumptions, time horizons, emissions pathways, or degrees of conservatism, even when underlying hazard exposure is comparable.

At present, significant variability exists across jurisdictions in the interpretation and application of climate scenarios for both water security and flood risk. National guidance, including Australian Rainfall and Runoff and outputs from the National Climate Risk Assessment, supports an evidence base and provides methodological foundations. Nonetheless, these inputs are ultimately operationalised through state, territory, and local processes, which can lead to divergence in analytical choices and outputs. The practical consequence is that infrastructure design standards, land use planning settings, and water allocation decisions may differ in ways that are not readily explainable to stakeholders, and are difficult to benchmark across jurisdictions. This inconsistency is particularly evident in the treatment of water security planning, where some jurisdictions have adopted relatively prescriptive scenario frameworks (e.g., South East Queensland), while others retain more flexible or discretionary approaches, making cross-jurisdictional comparison of risks, options, and investment decisions inherently challenging.

Given the outcomes-based and adaptive intent of national water reform, the most proportionate response may not be prescriptive standardisation of scenario selection, but a clear and enforceable transparency expectation. For example, the National Climate Risk Assessment Water Security Technical Report highlights the need for a more coherent, nationally applied water security framework for Australia, recognising the increasing variability and systemic nature of climate risk. National frameworks and guidance could specify that significant water planning, regulatory, or infrastructure decisions should be accompanied by publication of relevant modelling methodologies, input datasets, scenario specifications, key assumptions, and the approach used to characterise and manage uncertainty (subject to appropriate exceptions). This would strengthen comparability while preserving flexibility to tailor approaches to local system characteristics and evolving science.

In addition to improving technical comparability, increased transparency would materially support broader objectives of maintaining community trust and confidence. Clear articulation of how climate science has informed decisions, and how different assumptions influence outcomes, improves stakeholder understanding and enables more informed engagement in planning processes. It also facilitates benchmarking and knowledge-sharing between jurisdictions, supporting continuous improvement in practice.

This approach is consistent with existing National Water Initiative guidance “Considering Climate Change and Extreme Events in Water Planning and Management”, which emphasises that historical hydrological conditions are no longer a sufficient basis for planning and that risk-based, adaptive

approaches should scale in intensity as uncertainty, variability, and extreme events increase. The same guidance highlights the importance of clear triggers, review mechanisms, and adjustment pathways over time. Strengthening transparency and comparability requirements would therefore operationalise these principles in a practical and nationally consistent way.

Reframing Cost Recovery for Climate-Driven Water System Risks

National water reform settings should continue to treat full cost recovery as an important benchmark for transparency and efficiency. However, there is increasing evidence that current approaches do not yet provide sufficient clarity and consistency in how systemic, climate-driven cost pressures are identified, allocated, and funded, particularly where these costs are largely exogenous to local consumption behaviour or operational efficiency. In this context, there is merit in strengthening nationally consistent policy guidance to support more transparent cost allocation, targeted investment, and clearer pathways from risk identification through to funding and delivery, particularly for regional and remote utilities where affordability and service reliability risks are most acute.

To support this transition, national reform settings should more explicitly recognise the need for a structured and predictable approach to funding climate-driven adaptation, resilience, and planning uplift costs, reflecting demonstrated risk, public benefit, and community capacity to pay. In particular, policy settings could be clarified to provide that:

> (i) full cost recovery is not expected where climate-driven costs exceed the reasonable capacity of local communities to pay; and
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> (ii) a proportion of climate adaptation, resilience, and planning uplift costs should be supported through coordinated and predictable government funding mechanisms, based on demonstrated risk, public benefit, and affordability constraints.

Climate change is materially increasing the complexity, uncertainty, and cost of water planning and service provision across Australia. Current reform directions appropriately reflect that planning intensity and system requirements must increase in response to rising risk, including more frequent and severe droughts, floods, and water quality impacts. The practical implication is that many utilities must implement enhanced monitoring, more sophisticated scenario planning, higher design allowances, and more robust emergency preparedness.

In this context, the treatment of climate-driven costs within existing pricing and funding frameworks can create tensions between cost recovery, affordability, and service continuity objectives. For many regional and remote utilities, resilience requirements represent a material uplift in costs that cannot reasonably be absorbed through local tariffs without creating affordability pressures and increasing risks to service reliability and public confidence. These cost drivers arise from changes in climate hazard and exposure, rather than from local demand choices or avoidable inefficiencies, and therefore require a differentiated policy response.

Moreover, many adaptation investments, such as supply diversification, decreasing asset vulnerabilities, emergency preparedness, and water quality protection, are increasingly non-discretionary. They are essential to maintaining safe and reliable services and to achieving environmental outcomes under future climate conditions. In jurisdictions such as New South Wales, programs like the Safe and Secure Water Program and previous drought response funding have played an important role in supporting these investments; however, funding availability has not always aligned with the scale and persistence of water security and public health risks faced by local water utilities. Where funding pathways for these investments are uncertain, insufficient, or fragmented, there is a heightened risk of delayed investment, inefficient prioritisation, or sub-optimal service outcomes, particularly in smaller or more exposed communities.

Current government practice already recognises the need for shared funding approaches in climate-exposed systems, with targeted subsidies, capital co-funding programs, and resilience

initiatives playing an important role in addressing affordability constraints and enabling delivery. However, these mechanisms are often fragmented, time-limited, or reactive. In New South Wales, for example, local water utilities and councils often rely on a combination of state programs, such as the Safe and Secure Water Program, and Commonwealth initiatives, such as the National Water Grid Fund, with limited direct access and differing eligibility and timing requirements. This can create uncertainty in planning and sequencing long-term investments, and may constrain the ability of service providers to progress priority projects where funding is contingent, insufficient, or distributed across multiple programs and levels of government.

Given that climate risk to water systems is systemic, increasing, and shared across jurisdictions, there is a strong policy basis for progressing toward more coordinated, transparent, and predictable funding frameworks. Strengthening alignment between planning expectations and funding mechanisms would support more efficient investment, improve service outcomes, and ensure that costs are allocated in a manner that is equitable and consistent with broader national objectives.

Conclusion

The evolving challenges facing Australia's water sector require reform settings that better support consistency, transparency, and resilience in decision-making. This submission recommends strengthening nationally coordinated expectations for the disclosure and application of climate assumptions, alongside the development of clearer guidance to ensure comparability across jurisdictions. It also recommends refining cost recovery frameworks to explicitly recognise the limits of local affordability and to establish more structured, predictable funding mechanisms for climate-driven adaptation and resilience investments, particularly for vulnerable regional and remote communities.

Arup Australia appreciates the opportunity to contribute to this consultation and to support the continued evolution of the national water reform agenda and welcomes any further engagements.

This document is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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