National Water Reform 2026

THEME 3: REGIONAL, REMOTE AND EQUITY CONSIDERATIONS

1. FINANCIAL SUSTAINABILITY AND VIABILITY

- **What structural or other factors (such as scale, customer density, workforce constraints or source water variability) affect provider viability?**

Regional catchments across Australia are under increasing pressure from ageing water infrastructure, declining service reliability and tightening environmental and water quality standards. Much of the water and sewerage network is approaching end of life, while persistent underinvestment and fragmented service delivery limit councils' ability to respond effectively. This creates systemic risks to water security, river health and downstream ecosystems.

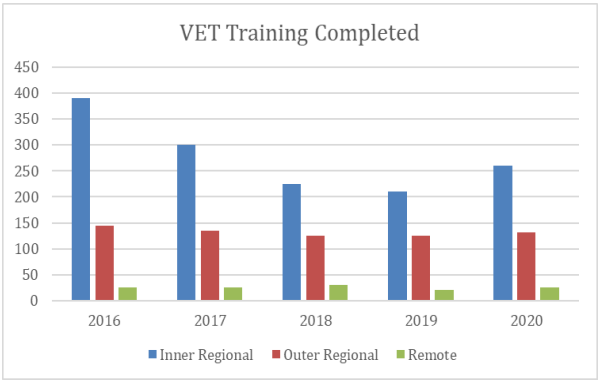
Current pricing, funding and governance settings also do not adequately support efficient and coordinated investment or alignment with environmental objectives. Localised funding models and institutional fragmentation constrain scale efficiencies, weaken long-term asset planning and limit the capacity to deliver consistent catchment outcomes. These challenges reflect the higher per-customer costs and structural constraints faced by regional and remote service providers.

- **How well do current funding and governance arrangements reflect higher per-customer costs in regional or remote settings?**

Workforce constraints are a critical factor affecting viability. Evidence from a study undertaken by Balmoral Group Australia on the NSW Regional Water Industry Workforce identified a severe shortage of training capacity, with only one active Registered Training Organisation at the time and a projected deficit of up to 1,476 qualifications over four years. This shortage directly affects the availability of qualified operators, increasing operational risk and limiting utilities' ability to maintain service standards. Without intervention, the proportion of qualified operators is projected to decline significantly, with associated risks to public health and environmental outcomes increasing substantially over time.

As shown in **Figure 1**, data from National Centre for Vocational Education Research (NCVER) shows that since 2016 training numbers have declined in the Vocational Education and Training (VET) space, particularly in the Inner Regional areas of NSW, further constraining workforce supply. In some cases, technology adoption has partly offset the need for qualified operators in every facility, but technology is expensive and regional operators are typically not early adopters.

Figure 1: VET Training completed



In addition, regulatory and system-level factors contribute to challenges with viability. The absence of a strong regulatory driver mandating operator qualifications reduces incentives for investment in workforce capability, while constrained operator capacity and increasing system complexity limit the ability to respond to shocks such as climate variability. These issues highlight the need for nationally coordinated approaches to workforce

development, regulatory alignment, and long-term capability investment to ensure sustainable and resilient water service delivery across jurisdictions.

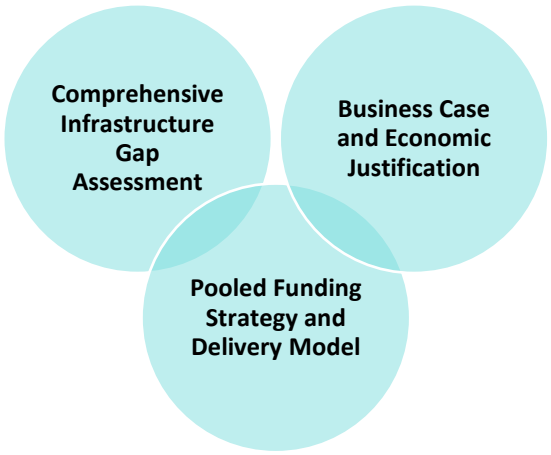
Our analysis indicated that where up to 25 percent of operators are not appropriately trained, the associated public health costs from waterborne illness could be up to approximately $819,231 per year in regional New South Wales, equivalent to a Net Present Value (NPV) of $16.38 million over 30 years using a 3 percent discount rate. These estimates are indicative and based on scenario assumptions rather than direct causal attribution. They are intended to illustrate the potential scale of risk, drawing on available evidence linking operator capability, system performance and public health outcomes.

Improving capacity building in the sector requires a more integrated approach that combines regulatory reform with practical delivery mechanisms. Our study found that the lack of a regulatory driver mandating operator qualifications is a key barrier, while at the same time operators are working at capacity with limited ability to attend training, creating a structural constraint on workforce development. One potential solution is to pilot a regional hub model supported by digital platforms, enabling flexible, online access to accredited training, leadership development and peer networking, which can help overcome scale and distance challenges.

2. Alternative Models for Service Provision

- **What, if any, alternative service provision models (such as aggregation, collaboration, separation of functions, regionalisation or system operator models) are likely to improve performance in your context, and why?**

The challenges outlined above point to a structural disconnect between infrastructure planning and catchment-scale outcomes. Fragmented, council-level delivery models limit the ability to achieve scale efficiencies, coordinate investment and manage system-wide risks.



A coordinated, cross-council approach combining infrastructure audits, spatial and risk-based analysis, stakeholder engagement and scenario modelling would provide a robust framework to identify funding gaps, concentrations of high-risk assets and fragmentation in planning and delivery arrangements.

Addressing these challenges will require more integrated, regional-scale planning and delivery models. Aligning infrastructure investment with catchment priorities, strengthening coordination across jurisdictions and enabling pooled investment approaches would improve service reliability, enhance investment efficiency and support long-term resilience.

Regional Aggregation and Pooled Investment Models

Evidence from international practice demonstrates the effectiveness of regional-scale coordination and pooled investment models in addressing infrastructure fragmentation and funding constraints. Balmoral

Group Australia supported the development of a national wastewater strategy in Fiji, providing a practical example of how these approaches can be applied in a constrained, multi-site service environment.

The strategy applied a consolidated infrastructure assessment across multiple treatment plants, identifying capital investment requirements in the range of USD $474 million to $570 million. This enabled a system-wide understanding of infrastructure gaps, risk exposure and investment priorities.

To address fragmentation and funding constraints, a pooled investment model was developed, bundling multiple assets under a single procurement and financing framework. This included the use of public-private partnership models such as Design-Build-Operate and Build-Own-Operate-Transfer, improving value for money through risk sharing and scale efficiencies.

The approach was supported by a comprehensive business case and cost-benefit analysis, demonstrating economic, health, social and environmental benefits, including reduced operating costs, improved compliance, lower public health risks and enhanced environmental outcomes.

Following the work by Balmoral Group Australia (commissioned by UNDP for a new wastewater strategy), the Water Authority of Fiji (WAF) has received significant funding and initiated several infrastructure improvements, particularly between 2024 and 2026. This includes a $300 million partnership with the Asian Development Bank (ADB) for wastewater upgrades

"UNDP is delighted to be supporting this important feasibility study seeking private sector-oriented solutions to development challenges. This work has been made possible through the Investing in Coral Reefs and Blue Economy project funded by the Global Fund for Coral Reefs and the Joint UN SDG Fund.

The findings of this study are expected to help seek solutions to the dichotomy between sustainable waste management and private-sector investments in the waste sector." **said UNDP Project Manager, Vineil Narayan.**

This example demonstrates how regional aggregation and pooled investment models can overcome scale constraints and improve financial sustainability in fragmented service environments. These approaches are directly relevant to regional Australia, where similar structural challenges limit investment efficiency, service reliability and long-term resilience.

3. Service Equity

- **How well designed are pricing and community service obligation arrangements to transparently balance cost-recovery and affordability?**
- **What have been the implications of lower service standards and reliability in regional and remote communities, such as on economic and social outcomes?**

As noted, the combined effects of infrastructure underinvestment, workforce constraints and fragmented service delivery contribute to uneven service outcomes between metropolitan and regional communities. Regional customers often face higher costs, lower service reliability and increased exposure to environmental and public health risks.

Lower levels of operator capability and constrained system capacity increase the likelihood of service disruptions, water quality incidents and regulatory non-compliance. As demonstrated by the estimated costs of water-borne illness, declining service capability can impose significant economic and social costs

on regional communities. Technology solutions can counter some of these effects, but also require resources – which regional communities are already struggling with.

These outcomes highlight the need to better balance cost recovery with service equity. Without targeted intervention, current arrangements risk entrenching disparities in service quality and resilience between regions. Improving equity outcomes will require coordinated investment, strengthened workforce capability and more integrated regional service delivery models to ensure that regional communities have access to safe, reliable and sustainable water services.