Productivity Commission Inquiry into the Reform of the Australian Water Resources Sector

TasWater Submission v1.0

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1. Executive summary

On 22 May 2020, the Terms of Reference were released for the Productivity Commission to undertake an inquiry into the progress of Australia's water resources sector reforms. TasWater welcomes the opportunity to contribute to the Productivity Commission's inquiry.

Tasmania has made significant progress in implementing the National Water Initiative (NWI) including the establishment of an effective water entitlements regime, best practice institutional arrangements and water industry reform through the formation of a central water authority, an economic regulator and the implementation of strong environmental and health regulation. However, there is still considerable work to do in implementing the current NWI.

The NWI has delivered significant benefits to Tasmania and is still highly relevant. There are several areas where the NWI has not been fully implemented and should therefore be revisited. In particular, greater visibility of extraction information would create opportunities to leverage the good work that has been done and would unlock many additional benefits.

There are a number of opportunities to strengthen the NWI. The most important of these include:

- Ensuring satisfactory water quality is included as a key element of the NWI.
- Inclusion of reforms aimed at supporting the mitigation and adaption to the effects of climate change on the availability and quality of water
- A revision of pricing principles to consider equitable and sustainable pricing for remote and regional communities
- An expansion of the scope to include a range of factors which predominantly affect urban water authorities.

Progress in the implementation of the NWI has slowed in recent years and according to the 2017 Productivity Commission report, some jurisdictions are in danger of backsliding. A possible cause of the slow-down may be the abolishment of the National Water Commission in 2014 and the subsequent reduction in scrutiny of each jurisdictions' implementation of the NWI. The current NWI is also focused largely on rural water use. Consideration should be given to improving the governance arrangements associated with the implementation of the NWI.

2. Introduction

On 22 May 2020 the Terms of Reference were released for the Productivity Commission to undertake an inquiry into progress with the reform of Australia's water resources sector. The scope of the inquiry includes an assessment of the following:

- Progress in jurisdictional adoption of the NWI principles, objectives and key outcomes, and where these have not been adopted, the impacts and opportunity costs of not doing so.
- The outcomes to date of the NWI and related water reform efforts, taking account of other drivers of reform.
- The extent to which the NWI reforms are adequate to support Government responses to emerging or changing water management challenges such as climate change.
- Provide any further practical advice on addressing the joint Governments' priorities for implementation of a renewed NWI.
- Provide specific practical advice on ways in which the NWI could be improved to support better social, economic and environmental outcomes.

The Commission should also consider:

- The interaction of water policy with other policy areas such as climate, energy, agriculture, forestry, land use planning and urban development.
- The policy ramification of emerging climate change impacts on water resources.
- The provision of reliable water services to regional, rural and remote communities.
- The principles to be satisfied for any Government investment in major water infrastructure projects.
- International experiences and examples.

This paper details TasWater's perspective on the topics within the scope of the Productivity Commission's Inquiry that are relevant to the provision of urban water supply services across Tasmania.

3. Water Access entitlements and planning framework

Tasmania has made significant progress towards implementing the NWI outcomes with respect to water access entitlement and planning. The *Water Management Act 1999* establishes access rights to surface waters, provides a framework for prioritising access to water for various end uses, enables the development of Water Management Plans, enables water trading and provides a framework for managing water rights including for the environment.

Information about water rights and trading is publicly available and water management plans are available for 13 catchments across the state. However, there are several limitations with respect to the current arrangements from the perspective of urban water supply. These include:

- The water entitlements and planning framework does not include all potential water sources including groundwater, recycled water and urban stormwater. Nor does it adequately recognise the potential economic and liveability value that recycled water could provide.
- In many cases the water allocation framework fails to ensure that water is allocated to the highest priority use, for example large industrial customers have the same access rights as irrigation customers despite significantly different operating requirements and economic value to the state.
- While trading in water rights is technically possible under the legislation there are many barriers to an active water trading market.

- While the water entitlement framework is effective in managing the quantity of water available for various end uses, it does not adequately consider water quality objectives.
- Groundwater and surface water (and ground water availability in general) is not accounted for as a single resource. Hence, the water entitlement framework does not adequately manage groundwater resources.

There appears to be a general lack of recognition of the role that urban water, sewerage and drainage plays in the management of the Tasmania's water resources, as evidenced by the Rural Water Use Strategy position paper (Department of Primary Industries, 2020) which excludes urban water use from consideration.

4. Water markets and trading

Under current legislation water trading on a temporary and permanent basis is possible, however only limited trading has occurred in Tasmania (Department of Primary Industries, 2020). TasWater believes that a significant barrier to the establishment of an active water trading market is the lack of visibility of allocations and actual water use.

The lack of visibility of water availability, use and an active water trading market, has the potential for significant impacts on the cost of water supply provision to urban communities. For example, TasWater is in the process of developing a Strategy to ensure that water quality standards and water surety requirements for the North West of Tasmania can be met. The preliminary costs of servicing options range from around $30 million to over $100 million, depending on where sufficient raw water resources are available. The lowest cost option is dependent on the ability to secure additional high reliability summer water allocation from the Leven River. Unfortunately, the Leven River is currently overallocated in the summer period and TasWater is unable to secure additional water rights on a secure ongoing basis.

A small number of licence holders on the Leven system hold a disproportionate share of the available summer water allocations, yet it is unknown whether these allocations are used for a productive purpose. Greater visibility of actual water use may enable a business case to be developed for the buyback of unused allocations, that would benefit the existing licence holder and allow TasWater to service the North West community at an overall lower cost. The second lowest cost servicing option is around $60 million, hence the additional net cost to the community is expected to be in the order of $30 million.

Since extractions are not metered, and usage information is not publicly available, it is unknown whether all of the existing allocations are being utilised. In addition, there are currently no mechanisms in place to prevent water hoarding. Greater visibility of usage and the lack of mechanisms to prevent water hoarding are significant barriers to the establishment of an active water trading system and the associated increase in economic output that could be derived if water was able to easily and efficiently transfer to high value uses.

5. Best practice water pricing and institutional arrangements

Tasmania's economic regulation framework has many of the elements from the NWI, including an independent pricing regulator. In 2016 Frontier Economics, on TasWater's behalf, assessed the governance arrangements for economic regulation and found that overall the framework contained many of the elements regarded as economic regulation good practice, albeit with opportunity to improve how it was implemented. Yet, Tasmania faces many challenges in achieving full cost recovery (upper bound pricing) and pricing transparency in line with the objectives of the NWI.

Financial sustainability is a critical issue for TasWater. Capital and operating expenditure per capita is higher than other jurisdictions due to the large dispersed asset base, small population and high proportion of remote and regional communities. In addition, TasWater has inherited many assets

which are not fit for purpose and capable of meeting current day environmental/health standards and/or customer service standards. As a result, there is a significant backlog of capital works needed to bring assets up to an appropriate standard.

Like many other urban water authorities, TasWater operates an ageing asset base which is expected to require significant investment over the coming decades to meet community expectations with respect to service reliability and availability.

Prices currently reflect the community's capacity and willingness to pay, rather than upper bound cost recovery pricing, that ensures the long term financial and economic efficiency of TasWater. For example, in our last regulatory review, Price and Service Plan 3 (FY2019 to FY2021), water and sewerage prices would need to have increased by 8 per cent per annum to achieve full cost recovery. However, annual price increases were capped at no more than 3.5 per cent and price increases have been frozen for the last two years. In recent times TasWater has accepted the need to take such pricing positions given affordability issues for customers and the recent impact of COVID-19 on the state's economy. Longer term however, a decision may be required as to whether the state can afford the full cost of building infrastructure consistent with international water and sewerage standards. This is a topic we are starting to grapple with as we develop our next price and service submission.

TasWater operates 60 water and 111 sewerage schemes, many of which are small scale, remote and regional systems. It is widely understood that the cost of servicing remote and regional communities is generally beyond the capacity of those communities to pay and some level of cross subsidisation is needed. The Tasmanian Economic Regulator has endorsed this principle through approval of postage stamp pricing, that ensures that all customers have access to safe and reliable drinking water at the same cost regardless of where they live.

In addition, the economy of many communities is highly dependent on tourism which has seen rapid growth over recent years (pre-COVID-19) e.g. Coles Bay, Derby, Bruny Island and the Tasman Peninsula. Despite the obvious economic benefits to all Tasmanians of a strong tourism sector, the cost of introducing services to these communities is well beyond the capacity of those communities to pay. For example, TasWater undertook a feasibility study on behalf of the Tasmanian Government to consider the introduction of sewerage services to Coles Bay. The study estimated that the cost of service introduction would be in the order of $40 million which is beyond the capacity of the permanent population of approximately 350 people to pay.

Hence, the NWI needs to give further consideration to equity of investment, for remote and regional communities, recycled water schemes and other initiatives that have significant social benefits. Appropriate funding models are required to allow investment activities with high social value without sacrificing the financial sustainability of the urban water authority.

6. Integrated management of environmental water

Tasmanian's water entitlement framework specifically includes a class of water for environmental flows. Environmental water is allocated at Surety 2 which is the second highest priority behind essential domestic use (Surety 1). The entitlement framework includes eight surety levels at different levels of reliability which cater for different end uses. Hence, the water allocation framework is generally in accordance with the NWI.

Many systems in Tasmania are approaching full allocation and there does not appear to be an effective process to recover water from over allocated systems for the environment and other public benefit outcomes.

TasWater has an active water conservation program to reduce urban water consumption and is investing in more efficient water management practices, particularly the reduction in Non-Revenue

Water. Work has recently been completed on a Demand Management Strategy, which is expected to drive significant improvements in urban water use efficiency.

TasWater actively pursues effluent reuse for irrigation and operates 32 reuse schemes across the state. In the FY2018/19 approximately 5,690 ML of effluent was reused for irrigation. Unfortunately, none of the 32 schemes generate sufficient revenue to cover their operating costs. In some instances, TasWater is paying irrigators or investing in on-farm infrastructure to achieve effluent reuse. Under the current regulatory regime, many of the schemes carry significant risks, as TasWater is reliant on the irrigator to comply with its environmental licence and has to provide additional uneconomic backup infrastructure for times when irrigators do not require the reuse water. Changes in land use or ownership could result in non-compliance with regulatory obligations and significant assets including pipelines and storages may become stranded.

Effluent reuse in an urban setting including direct potable reuse or irrigation of community facilities, may well generate better overall outcomes as it would offset demand for potable water and create more "liveable" communities. However, under the current regulatory environment, it is it difficult for TasWater to justify investing in reuse initiatives that have intangible community benefits. Pursuing alternative uses for recycled water is also difficult due to uncertainties associated with Tasmania's health and environmental regulations, the cost of such schemes and a general inability to recover the costs of such schemes.

In its current form, the NWI does not adequately drive opportunities for reuse in an urban setting or make sufficient provision for the consideration of all options.

7. Water resource accounting

Tasmania has a robust water entitlement registration system in place and information about entitlements is publicly available via the Water information System of Tasmania (https://wrt.tas.gov.au/wist/ui). There is a system in place for water resource reporting and licence holders are required to keep records of their extractions.

However, metering of significant extractions is limited, making it difficult to understand actual utilisation of the water resources. Accurate data about water extractions is a pre-requisite to many water resource management activities including:

- Establishment of an effective water trading regime.
- Managing over extraction.
- Managing sleeper allocations and water hoarding.
- Ensuring adequate environmental flows occur.
- Water pricing.

It is difficult to see how many of the objectives of the current NWI could be achieved, without more robust accounting for actual water consumption against allocations.

8. Urban water reform

The establishment of TasWater, with responsibility for urban water management for the entire state has delivered substantial benefits to Tasmania, including:

- The removal of permanent boil water alerts for 24 regional communities. The Tasmanian Economic Regulator's State of the Industry Report advised that at the end of the 2019 financial year, 99.8 per cent of TasWater's customers received water that meets the Australian Drinking Water Guidelines (Office of the Tasmanian Economic Regulator). Since that time, TasWater has completed water supply upgrades to the remaining small towns and 100 per cent of customers now receive compliant drinking water

- Improvements in environmental compliance through the construction of major sewerage treatment infrastructure at Blackman's Bay in Tasmania's south which consolidated four plants into one and provided for future regional growth, increased volumes of recycled water and process improvements at our largest 13 Sewage Treatment Plants. Compliance levels have increased from 82.5 per cent in FY2014/15 to 89.2 per cent at the end of FY2018/19. During this period, discharge limits at many sites were made more stringent as part of the EPA's progressive updating of Environmental Protection Notices to reflect contemporary standards (Office of the Tasmanian Economic Regulator)
- Significant gains in operational efficiency (more than $20 million in ongoing cost reductions since 2013 (TasWater, 2018)). In FY2018/19 TasWater realised $4.5 million in operational savings (TasWater, 2019)
- Increasing customer satisfaction levels reaching 94.8 per cent relative to a target of 80 per cent in FY2018/19 (TasWater, 2018).

The Tasmanian Auditor General's review in 2018, concluded that the outcomes of the reforms have either been fully or partially achieved (Tasmanian Audit Office). The audit identified improvements in several areas including drinking water quality, strategic asset planning, asset management and financial benefits to both TasWater's owners and its customers.

Hence, there is strong evidence supporting the proposition that the current institutional arrangements are working well, and the Tasmanian water reforms have met their intended objectives.

While strong gains have been made locally as a result of the formation of a single water and sewerage body, it is notable that that nationally progress against the NWI has slowed and in some jurisdictions, is at risk of backsliding (Productivity Commission, 2017). Abolishing the National Water Commission in 2014 may have been a contributing factor in reducing the rate of implementation of the NWI.

We also note that the NWI does not recognise a range of factors that are relevant in an urban context including the impacts of population growth, tourism, alternative water sources and technological changes.

The establishment of a federal body similar to the National Water Commission with an expanded scope, should be considered to reinvigorate the implementation of the NWI. The expanded scope should explicitly include the urban water industry to ensure that it is adequately represented in the NWI.

9. Conclusions and recommendations

The NWI has delivered significant benefits to the Australian water sector and is still highly relevant, however it requires reinvigoration. While significant progress has been made in implementing the NWI in Tasmania, there are several areas where the NWI has not been fully implemented in Tasmania including:

- Recognition of the connectivity between surface and groundwater resources and their management as a single resource.
- Expanding the water entitlement framework to include all available water resources including groundwater, recycled water and stormwater.
- Ensuring that all significant extractions are metered.
- Driving the development of an active water trading system.
- Developing regulatory regimes which reduce the barriers to water reuse and considers a wider range of potential end uses.

The NWI could be strengthened by:

- Ensuring satisfactory water quality is included as a key element of the NWI.
- Adopting the principles of the National Water Quality Management Strategy (NWQMS)
- Explicit recognition of the impact climate change is expected to have on water availability and quality.
- Adjusting water entitlement frameworks to take into account expected changes in the catchment yield and rainfall patterns
- Establishing principles for the pricing of urban water supply schemes that consider equity and capacity to pay criteria, while supporting the overall financial sustainability of the water authority.
- Including a mechanism to enable urban water providers to consider all servicing options including direct potable reuse
- Improved consideration of factors such as population growth, integrated water cycle management, water sensitive urban design, industrial water use, tourism, and technological change which predominately affect the urban water industry
- Coordinating State and Local Government to develop guidelines that ensure that all servicing options, including potable reuse, are able to be considered as sources for urban water supplies.