Submission to the Productivity Commission's Public Inquiry on Australia's Urban Water Sector
from the Department of Health, Victoria

The Victorian Department of Health (the department) notes the Productivity Commission's increased focus in the urban water sector and interest in identifying opportunities for efficiency gains in the structural, institutional, regulatory arrangements that govern the sector.

In considering future directions for urban water reform, the Productivity Commission should consider the following:

- better integration between climate adaptation/mitigation strategies, planning (specifically landuse planning and economic development) and water management
- preferential adoption of inherently low health risk alternative water supplies
- strong support for water supply options that are safe and sustainable
- prioritisation of effort and resources to address equity issues as they relate to access to safe drinking water and alternative water supplies for non-drinking applications
- emphasis on enhancing or improving institutional capacity and capability, including workforce development, across government, industry and research organisations to ensure that both public health and the environment is protected
- adoption of water sensitive city principles. Specifically, facilitating opportunities for the use of alternative water supplies as a resource for green spaces to enhance physical activity and liveability, and reduce heat island effects, particularly in vulnerable communities that are likely to be adversely impacted by heatwaves.

The department would like to provide the following specific comments.

Urban water reform – governance and institutional arrangements

The department supports the Productivity Commission's (PC) principles for an efficient governance framework. Furthermore, the department supports governance arrangements which focus on the protection of public health, and provide secure, sustainable and reliable water services.

The department supports a review of the institutional and governance arrangements to facilitate the safe and sustainable use of alternative water supplies. In the department's view, it is important that the focus of the review is on how to effectively regulate water to protect public health and the environment, maintain the integrity of integrated water strategies and investments, and enhance water security.

In recognition of the importance of alternative water supplies in providing water security, it is critical that the States and Territories have in place robust, and broadly consistent, regulatory frameworks that provide clarity and certainty for industry when they are making investments alternative water supply schemes, and that protect public health and the environment.

Consideration should also be given to:

- whether the current level of regulatory oversight and institutional arrangements adequately protect public health and the environment
- capacity and skills development within the water industry and regulators
- drivers within the water industry as they relate to commitment to risk management, quality assurance, and research and development
- supporting research and development to address scientific and technological knowledge gaps.

The broader implications (including cost) of not having robust regulatory frameworks in place should also be considered. In considering the regulatory cost burden to industry, there needs to be a clear distinction between costs imposed by regulation and the cost of producing a 'fit for purpose' product, as is the case in other regulated sectors (e.g. aviation, food production,

petrochemical, pharmaceutical). Inherently, the higher the risk posed by the source water to public health and the environment, and the higher the exposure scenario, the higher the production cost for a 'fit for purpose' product.

Investing in a robust regulatory framework will minimise the financial burden and risk to government and industry in the longer term. In other words, the cost of not having regulation is greater than the cost of having it.

It is critical that health jurisdictions play a key role in informing the urban water regulatory framework.

Competition and contestability in Australia's urban water sector

We note the PC has identified potential opportunities for developing contestability or competition within the urban water sector including the potential for the development of third party access regimes for water and sewerage infrastructure.

The department notes the National Water Commission statement in the 2009 Biennial Assessment, that 'in the Commission's view, institutional reform in the water sector has not kept pace with other sectors, such as telecommunications, electricity, gas and ports' and that COAG have agreed to 'promote the use of competition through an examination of barriers to third-party access and the costs and benefits of establishing a nationally-consistent regime.' It should be recognised that, that unlike these other sectors, water is essential to sustain our quality of life and health. The degree and pace of reform in the urban water sector must recognise this characteristic and the potential consequences.

If a nationally consistent third-party access regime were to be developed, it is important to consider the broader implications of this type of regime on public health, existing and future integrated water management strategies, existing State and Territory regulatory frameworks, and the capacity and skills within the water industry to effectively deliver such regimes.

If third-party access regimes are adopted by the States and Territories, the regimes will need to be effectively linked to existing or future public health and environmental regulatory frameworks for supplying drinking water, using recycled water, and managing sewerage and stormwater networks (assuming these frameworks are satisfactory in the first place). The access regime should be underpinned by a holistic approach to integrated water management and should be designed to maximise community benefit.

In addition, the following should be considered in the development and implementation of a national third-party access regime; specifically there is a need for:

- adequate resources to implement the regime, including regulatory functions
- a robust legislative and governance framework to support access regimes for new service providers
- competency standards for entities responsible for managing schemes approved under the access regime
- a provider of last resort.

Criteria need to be established to ensure that scheme proponents managing schemes facilitated by the access regime are capable of managing these schemes in a manner that protects public health and the environment. The regulatory framework should ensure that responsible management entities demonstrate:

- that they have sound management and financial structures that will enable them to run such schemes
- the capability to undertake risk assessments and to implement risk management systems for water recycling or drinking water schemes, extending from catchment, through treatment, storage, distribution, plumbing and end-use controls
- experience in water treatment (if required) and the management of public health and/or environmental risk
- the capability to validate and operate treatment systems for the removal of microbial and chemical hazards

- experience in implementing quality assurance and quality control frameworks
- commitment to training, evaluation of scheme performance and continuous
- equal access to all including vulnerable sectors of the community.

Where treatment is required to reduce microbial and chemical hazards in water, these systems must be appropriately designed and managed, and operated by suitably-experienced individuals. High level organisational commitment to manage such schemes in a manner that protects public health and the environment must be demonstrated.

It is imperative that investments in water recycling are protective of public health and the environment, and do not have an adverse impact on efforts to reduce energy consumption and subsequently contribute further to climate change. As such, it is suggested that the access regime facilitates the adoption of inherently low health risk alternative water supplies and supports access options that are sustainable.

The access regime should be underpinned by a unified water management and planning strategy. In the absence of this, the access regime may compromise existing and potential water recycling opportunities.

The potential impacts of the access regime on the integrity of sewerage and water infrastructure should be also considered, including but not limited to:

- deterioration of water quality on infrastructure and customers serviced by the system
- impacts on other existing competing schemes, and/or impacts on centralised treatment systems, through loss of inflow to the centralised treatment facility and other resource recovery initiatives that my be associated with the centralised treatment facility
- security of supply issues, and subsequent impacts on the viability of existing and potential schemes
- deterioration to existing infrastructure and amenity by the addition of an access scheme to a particular system (e.g. sewer spills and blockages, increased odour issues, burst water mains)
- interruptions to supply in the event of system failure and off-specification water being supplied. Provisions that allow for the circumstance that the third party scheme manager cannot deliver the required quality or quantity of drinking water, recycled water or other water-related services through its access scheme to its customers, either through system failure or financial failure of the scheme manager

Consideration should also be given to identifying access exclusion zones on sewerage network systems which have high risk catchment areas (e.g. hospital and industrial catchments, deteriorated infrastructure requiring remedial works).

Improvement to the management of wastewater services including sewerage infrastructure and trade waste is needed to optimise water recycling opportunities.

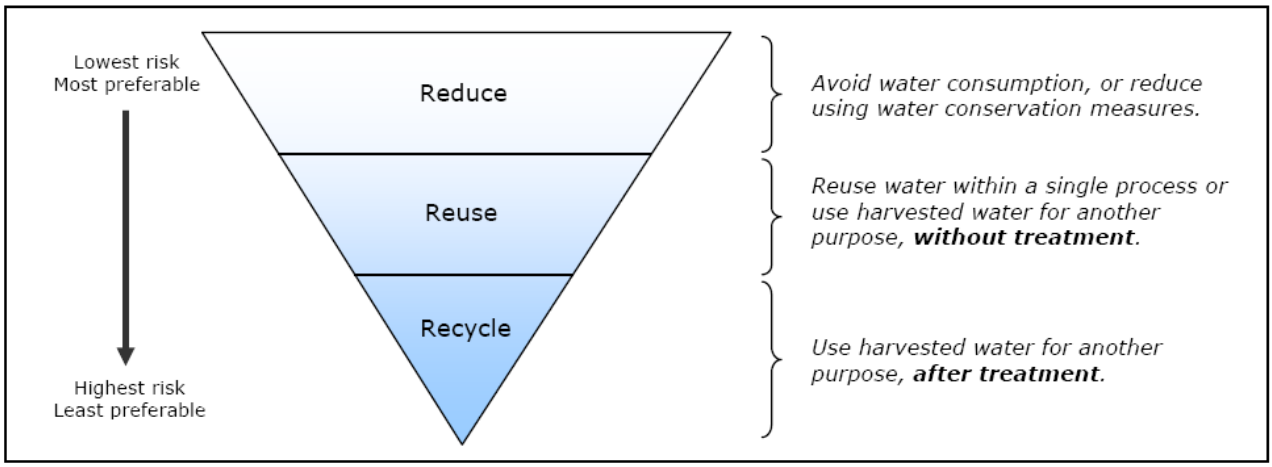
Integrated water management or "water sensitive cities"

It is the department's view that the protection and enhancement of public health and wellbeing should be a core principle underpinning integrated water management and the development of water sensitive cities in Australia. The involvement of State and Territory health authorities in future work is recommended to ensure that this is achieved. In Victoria, the Department of Health plays a key role in:

- protecting the public from hazards in water (including those in drinking water and alternative water sources) through guidance, policy and regulation
- promoting health and wellbeing outcomes through promoting the use of alternative water sources, such as stormwater to maintain green spaces, thereby enhancing physical activity and liveability
- assessing future health impacts from climate change, including the impact of heatwaves on vulnerable groups.

In developing a strategy to advance the development of water sensitive cities in Australia, which incorporates the use of alternative water supplies, the protection of public health from the use of these supplies needs to be a core consideration. The department recommends the adoption of the risk hierarchy for water conservation, reuse and recycling initiatives (Figure 1) and the risk hierarchy for sources of harvested water (Figure 2).

Figure 1 Risk hierarchy for water conservation, reuse and recycling initiatives

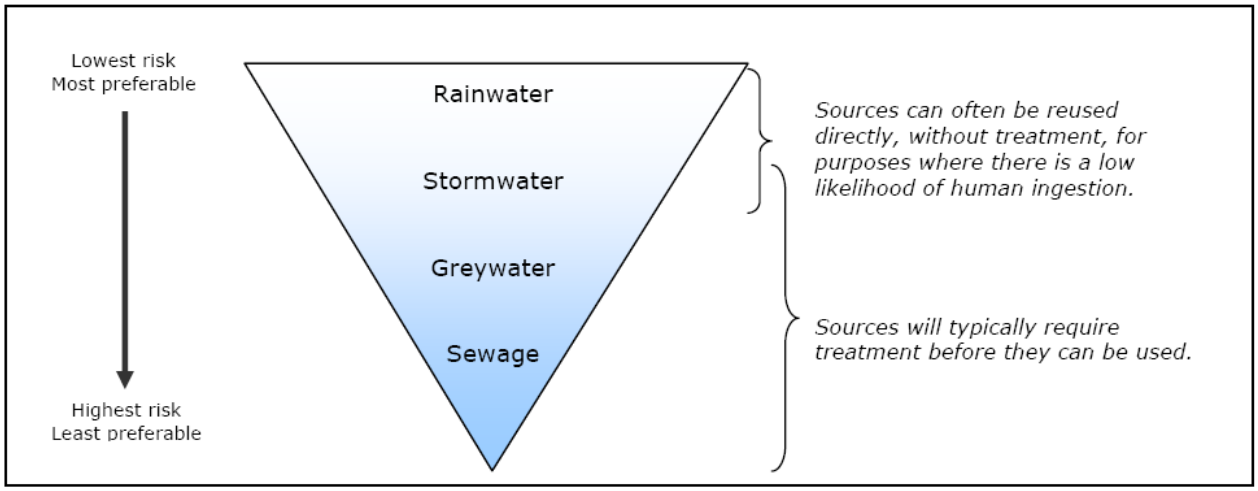


The hierarchy illustrates that water conservation measures will often represent low risk, especially with regard to public health, whereas water recycling projects, such as the recycling of sewage, are higher risk.

The risk hierarchy also often reflects the relative cost of urban water management projects, as higher risk projects typically have expensive treatment and monitoring requirements, compared with lower risk water conservation projects.

If water reuse and recycling initiatives are to be implemented as part of an integrated urban water management strategy, the department strongly supports the use of a risk hierarchy for sources of harvested water (Figure 2).

Figure 2 Risk hierarchy for sources of harvested water



It is important that investments in water reuse and recycling initiatives are sustainable; specifically, investments must not have an adverse impact on efforts to reduce energy consumption and subsequently contribute further to climate change.

Water sensitive cities in Australia have the potential to greatly improve the health and wellbeing outcomes of communities if alternative water sources, such as stormwater, are used to maintain parks, gardens and sports grounds. In Australia, physical inactivity is responsible for an estimated 8,000 premature deaths per year, and costs the health system at least $400 million in direct health care costs (Bauman, Bellew et al. 2002[1]). It is also ranked second only to tobacco control in being the most important factor in health promotion and disease prevention in Australia (VicHealth 2007[2]).

The links between health and urban environments are acknowledged in the recently released discussion paper of the National Preventative Health Taskforce, Australia: *The healthiest country by 2020* (Australian Government 2008[3]). One of seven major actions to reduce obesity identified in this document is to:

> *"Reshape urban environments toward healthy options through consistent town planning and building design that encourage greater levels of physical activity and through appropriate infrastructure investments."*

Strategies for developing water sensitive cities should ensure the integration of planning activities, public health strategies and water policies, particularly in relation to the enhancement of parks, open spaces and green corridors to entice active and passive physical activities. Strategies should ensure that these initiatives target vulnerable communities, and that equitable access to water supplies is assured.

Water sensitive cities strategies should also consider how water can be used to reduce the urban heat island effect (i.e. to reduce local temperatures and the effects of heat extremes), in order to assess issues associated with days of extreme heat.

[1] Bauman, A., Bellew, B., et al. (2002). Getting Australia active: towards better practice for the promotion of physical activity. Melbourne, National Public Health Partnership.

[2] VicHealth (2007). Fact Sheet: Physical Activity.

[3] Australian Government (2008). Australia: The healthiest country by 2020. P. H. Taskforce.