Australia's journey towards integrated urban water management:

Past achievements and future prospects for water reuse

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This presentation will explore two aspects of the role of water reuse in Australia's journey towards integrated urban water management. The first aspect will pertain to the question of how technical and institutional barriers to water reuse were identified and resolved from the early 1990's through to the end of the millennium drought in 2008. The second, more complex, aspect will relate to the challenges of deploying water recycling at scale in major urban metropolitan areas, in particular demographic, geographic and planning challenges, as well as governance, economic and social issues.

The release of the 2021 draft report on National Water Reforms by the Productivity commission makes it clear that reforms necessary for the development of climate resilient water sources for urban areas have not been fully implemented (1). Excellent progress has been made at the institutional level since the start of Australia's water reform journey in the early 1990's. State and Commonwealth Health Departments have developed and applied a set of standard national guidelines covering water quality and risk management for all forms of water recycling. Public water utilities and the private sector have invested in capacity building to deliver and operate a range of water recycling treatment and delivery infrastructure (3). Consequently, many of the technical and regulatory barriers that existed prior to the Millennium drought have been addressed at the institutional level. However, greater emphasis is needed to develop a shared vision for water planning at the inter-institutional level including planning for more dense urban growth while effectively engaging with the community on a range of issues, not limited to water (3 & 4).

The current situation in Australia must also be viewed through a lens of demographics, geography and climate. Australia is a highly urbanized society with approximately 90% of the population residing within 50 km of the coast in 6 large cities that occupy less than 0.2% of the total land area. The bulk of future population and economic growth will occur in the vicinity of these population centres. Cities on the east coast rely on in-land dams and other surface storages, while cities in the west can draw on an extensive aquifer for water supply. How water recycling has evolved has many similarities on both sides of the continent, including treatment requirements, technical aspects and regulatory considerations. However, there are important differences between the east and the west coasts, including long term planning, governance and community engagement. This presentation will chart progress in water recycling as part of Australia's urban water reform and identify current and future challenges.

References

1. Productivity Commission 2021, National Water Reform 2020, Draft Report, Canberra.
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