



Tours

OF AUSTRALIA'S
WATER RECYCLING PROGRAM



Australian Water Recycling
Centre of Excellence



An invitation

FROM THE CEOS OF THE AUSTRALIAN WATER ASSOCIATION (AWA)
AND THE AUSTRALIAN WATER RECYCLING CENTRE OF EXCELLENCE (AWRCOE)

Over the last 10 years the Australian urban water sector has experienced new climate extremes featuring record droughts, floods and temperatures. Through these experiences, Australia's water industry has emerged with greater resilience, flexibility and capabilities, strengthened by a culture of innovation and collaboration.

Water recycling, in all its forms, has played a critical role in the ongoing provision of safe, secure and sustainable water and waste water services in Australia. A nationally coordinated effort through the Australian Government's National Water Initiative has enabled the growth of recycling from under 1% of wastewater recycled in 2000 to nearly 30% of wastewater being recycled (National Performance Reports of Urban Water Utilities 2012/13). This has returned many benefits to the Australian urban water sector, the communities and environments which they serve, and the economy for which secure water supplies is a fundamental requirement.

The journey for recycling has not been easy. Major reforms have been required to the institutional, regulatory and policy frameworks within Australia's water sector. The effort of Australia's Research and Development (R&D) community in this journey has been critical. National and State Governments in Australia, together with the water R&D sector, have collectively invested over \$250 million during the past five years, much of which has been designed to enhance the sector's capacity to enable the growth of recycling and ensure investments deliver on multiple social, environmental and economic outcomes.

The resultant platform of expertise and innovation is extensive and highly applicable to the issues being faced around the globe. Australia continues to promote the expertise of its researchers and industry internationally. On behalf of the AWA, the AWRCOE, and the Australian urban water R&D sector, we are proud to extend the invitation to individuals and organisations to learn more about this innovation through short delegation tours of Australia's most noteworthy recycling and associated water management initiatives.

We look forward to seeing you in Australia!



Jonathan McKeown

CEO, Australian Water Association



Dr Mark O'Donohue

CEO, Australian Water Recycling Centre of Excellence

About the tours

The AWA and the AWRCOE are providing opportunities for organisations and individuals interested in recycling and other aspects of integrated water management to enhance their capacity to design and deliver water recycling programs and projects.

Tours are designed to showcase practical initiatives and expert advice on the latest developments in recycling, extending from the investments and experiences of utilities, government policy agencies, regulators and the R&D community in Australia. We are offering a range of tours which are summarised in the table below and packaged against six theme areas:

Technology and Treatment Novel technology and treatment processes
Guidelines and Validation Rigorous and efficient national validation processes
Economic Value and Assessment Recycling choices are informed and transparent
Resource Efficiency and Production Recycling processes provide optimal value
Water Recycling for Drinking Reclaimed water is seen as an acceptable option
Information and Knowledge Information and knowledge is discoverable and organised

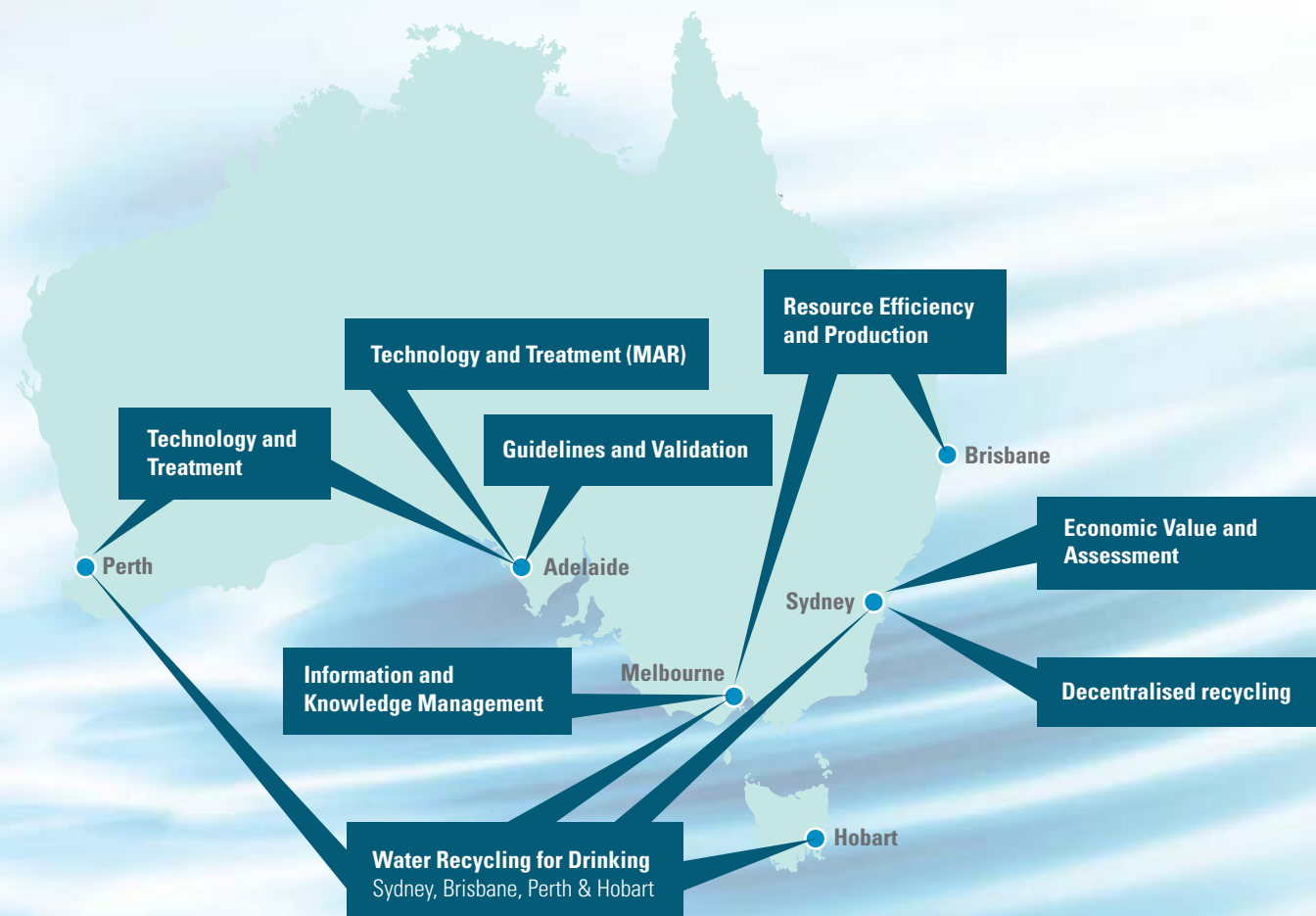
Each theme comprises several tours in different states of Australia. Each tour is not exclusive and interested participants are encouraged to select a mix of tours to develop a tailored package to suit their particular interests. If you are interested in areas of recycling that are not captured in this mix, AWA and the AWRCOE can provide you with alternative options for your tour.

To make the most of your visit to Australia, interested participants are encouraged to coordinate travel with AWA's OzWater Conference 12-14 May 2015 in Adelaide and the AWA Water Innovation Forum 11-12 February in Sydney.

For further information on arranging a tour

The AWA and the AWRCOE are available to assist you coordinate the best package for you. The cost per delegate will vary depending on the location of the tour, the number of tours you are interested in attending and the number of participants per tour. For a quote please contact the Australian Water Association Export and Market Access Program Manager, Paul Smith on +61 2 9467 8403 or by email at: PSmith@awa.asn.au

Note that the cost for travel, accommodation, food and incidentals shall be borne by the delegate unless otherwise specified.



Tour overview

Interest area	Overview of study tour options	Learnings
<p>Water Recycling for Drinking</p>	<p>Full-day tour in Sydney, NSW</p> <p>Meet with leading researchers at the University of New South Wales (UNSW) on the benefits and costs of potable reuse (direct and indirect). You will also learn about water quality performance from potable reuse schemes internationally and new research on resilience modelling of potable reuse schemes.</p> <p>Full-day tour in Brisbane, Queensland</p> <p>Hear from the AWRCOE on one of their major projects in potable recycling - the National Demonstration, Education and Engagement Program (NDEEP) and their collaboration internationally in implementing trials of community and stakeholder engagement tools and products.</p> <p>Also learn about the recent developments in recycling in Australia as a result of the more than \$20 million research program funded by Australian Government and industry partners.</p> <p>Full-day tour in Perth, Western Australia</p> <p>Hear from the experts at the WA Water Corp involved in the Groundwater replenishment scheme at the Beenyp Sewerage Treatment Plant. With a capacity to recharge 14 billion litres of water into groundwater supplies, the scheme will provide a new climate independent water source to boost much needed drinking water supplies. This tour will provide you with insight into the design of the scheme and the risk management process to ensure the safety with recycled water for drinking and best practice approaches for community engagement.</p>	<p>Learn how to assess the potential suitability of water recycling projects to their unique circumstances including for potable use in metropolitan urban areas as well as rural, and remote communities. Build capacity in understanding the use of technology assessment frameworks and community engagement processes.</p>
<p>Guidelines and Validation</p>	<p>Full-day tour in Adelaide, South Australia</p> <p>Hear from water quality regulators on the risk management framework for recycled water and approaches for efficient validation and verification of recycled water treatment processes.</p> <p>Hear from the AWRCOE on the national framework for the validation of recycled water schemes (NatVal) and learn about practical tools and monitoring technologies for validating the performance of membranes, reverse osmosis, biological systems, multiple barriers, pathogen testing and ozonation.</p>	<p>This tour is designed to build capacity in understanding current trends in validating the performance of water recycling schemes and recycling equipment. It would be of interest to regulators, manufactures and operators of many types of recycling systems.</p>
<p>Decentralised recycling</p>	<p>Full-day tour of Sydney</p> <p>Tour the Centennial Parkland water recycling scheme and hear from the operators of scheme regarding the challenges and opportunities for private partnerships in water recycling. Hear from the Sydney local councils about approaches to decentralised water planning and integrating drought-proofing, reducing stormwater pollutants and adapting to climate change.</p> <p>Visit one of Sydney's largest Sewerage Treatment Plants and see an operational membrane bioreactor (MBR) treating effluent for operation of the treatment facility. Hear from experts on ways to optimise a MBR within a wastewater treatment facility.</p>	<p>This tour will build your understanding of the assessment, construction and operation of decentralised water recycling systems.</p>
<p>Economic Value and Assessment</p>	<p>Full-day workshop in Sydney, NSW</p> <p>Meet with the Institute for Sustainable Futures at the University of Technology, Sydney (Meet with the Institute for Sustainable Futures at the University of Technology, Sydney (UTS) and Marsden Jacobs Associates to discuss and workshop the practical application of governance and evaluation processes that investigates the costs, benefits and risks of recycling schemes through case study examples.</p> <p>Also examine some of the latest tools for assessing risks and financial viability and for making decisions about recycled water investments. Learn practical ways to develop and assess a business case for a recycled water scheme.</p> <p>If sufficient interest, there may also be an option for expanding this tour into a two-day class on economic assessment.</p>	<p>This tour will build capacity in the application of methods that allow for the full range of costs, benefits and risks with recycling schemes to be assessed, together with their regulation and governance.</p>

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Technology and Treatment	<p>Full-day tour in Adelaide, South Australia</p> <p>Hear from researchers on latest developments in water recycling in food production and irrigation. You will hear from researchers and industry about how to apply newly developed tools and methodologies to evaluate waste water treatment options for recycling and irrigation and across the food, dairy and meat sectors.</p> <p>Tour of an almond plantation using recycled water for irrigation. Evening tour of Barossa Valley winery – sample the local produce and take a tour of the innovative recycling schemes in place at the vineyards.</p>	<p>This tour is of interest to those wanting to learn more about the potential for using recycled water to support agricultural and food production.</p>
Technology and Treatment (Managed Aquifer Recharge)	<p>Full-day tour in Adelaide, South Australia</p> <p>Hear from Australia’s leading experts in assessing managed aquifer recharge (MAR) options and validating the performance of MAR schemes across Australia. Build capacity in assessing the feasibility of a MAR scheme and regulatory requirements for implementing a MAR scheme.</p> <p>Tour operational MAR schemes in the Adelaide area and learn practical tips on key challenges with their efficient design, construction and operation.</p> <p>Full-day tour in Perth, West Australia</p> <p>Tour a MAR scheme in a heavy industry precinct in Perth and learn practical ways to design and operate a MAR scheme for industrial re-use. Hear from Western Australian Department of Water on planning for optimising stormwater, through MAR, within the urban water cycle of Perth.</p> <p>Tour of operational MAR schemes in Perth and hear about WA’s approaches to integrated urban water planning to enable MAR schemes in Perth.</p>	<p>This tour is of interest to anyone looking to understand the technical, regulatory and economics of MAR and develop capacity in the use of tools to support successful MAR implementation.</p>
Resource Efficiency and Production	<p>Full-day tour in Melbourne, Victoria</p> <p>Visit the Victorian Institute for Sustainability and Innovation at Victoria University to discuss the trials of an operational demonstration plant set up to evaluate latest developments in operating and validating ceramic membranes hybridised with ozonation. Also discuss the trials and demonstration project established to test the pasteurisation and energy co-location in low cost recycling systems.</p> <p>Visit the Melbourne Cricket Ground to see Victoria’s largest underground water recycling facility as you hear from water quality regulators on Victoria’s best practice regulation frameworks for recycling.</p> <p>Full-day tour in Brisbane, Queensland</p> <p>Hear about an innovative, low cost treatment train for advanced water treatment. Visit a demonstration plant that is recovering phosphorus from waste water. Hear from researchers on the latest nano technologies for phosphorus recovery. Tour of the University of Queensland’s Advanced Water Management Centre and learn how to optimise waste water treatment systems to achieve high quality recycled water at lower cost.</p>	<p>This tour will provide an insight into cutting edge developments in treatment efficiency and resource recovery.</p>
Information and Knowledge Management	<p>Full-day tour in Melbourne, Victoria</p> <p>Visit the offices of Australia’s peak water utility association - Water Services Association of Australia (WSAA) and the Australian Government’s Bureau of Meteorology and other national water data and information managers on:</p> <ul style="list-style-type: none"> • WSAA’s activities in policy, advocacy, research and utility excellence. • National urban water knowledge portal – a showcase of best practice information and knowledge sharing in the urban water sector (managed by WSAA); • National information repository on climate resilient water sources (desalination and recycling) (managed by Australia’s Bureau of Meteorology); and • Australian urban water data collection – a national metadata search and data discovery mechanism (managed by the Australian National Data Service, ANDS). <p>This tour will build your understanding of the Australian water sector and its current successes, issues and challenges. It will also build your capacity in storing, accessing and communicating urban water data sets and enable you to plan for data sharing across agencies.</p>	<p>This tour is designed for water R&D agencies and program managers looking to develop and implement national guidelines, frameworks or networks for more efficient data, information and knowledge management.</p>

The **Australian Water Association** (AWA) is Australia's leading membership association for water professionals and organisations.

AWA is independent and not for profit. It plays an essential role in supporting the Australian water sector in the delivery of effective and sustainable water management practices. The mission of the Association is to foster knowledge, understanding and advancement in sustainable water management – its science, practice and policy – through advocacy, collaboration and professional development.

The Association operates across all Australian States and Territories through an active branch network as well as maintaining extensive international links, including with the International Water Association. AWA's activities are centred around a comprehensive program of conferences, workshops, publications, innovation and trade export programs, training courses and networking opportunities. AWA's Annual Conference and Exhibition, OzWater, is Australia's largest water industry event.

Find out more about AWA at www.awa.asn.au



The **Australian Water Recycling Centre of Excellence** (AWRCOE) is enhancing the management and use of water recycling nationally and internationally through industry, research and government partnerships.

Our mission is to enhance management and use of water recycling through industry and research partnerships, build capacity and capability within the recycled water industry, and promote water recycling as a socially, environmentally and economically sustainable option for future water security.

By investing in a portfolio of industry-relevant research projects across the full water recycling spectrum, the Centre develops practical solutions to secure Australia's future water supply and, at the same time, builds awareness and understanding in the community about this precious resource.

Find out more about the AWRCoE at: www.australianwaterrecycling.com.au

