

COMMUNITY ENGAGEMENT ON WATER FUTURES

Using creative processes, appreciative inquiry and art to bring communities' views to life

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ABSTRACT

New approaches to engaging the community are needed to navigate the increasing complexity of planning urban water systems in the face of uncertain climatic, social, economic and political futures. This paper shares an innovative approach developed in collaboration between the Institute for Sustainable Futures, University of Technology Sydney, and the NSW Government's Metropolitan Water Directorate. Our approach integrated futures visioning, appreciative inquiry and creative processes to engage the community on their vision for the future. Participants' visions were also informed by technical information about the urban water system. The approach produced three "futures scenarios", comprising annotated artworks and accompanying narrative statements.

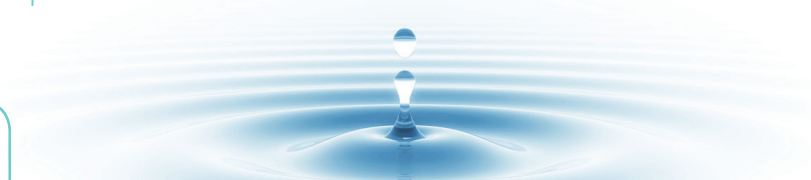
INTRODUCTION

Engaging the community in urban water planning and decision-making is essential to achieving sustainable water management goals. Effective engagement can ensure decisions reflect community needs and values, and can empower communities to become motivated to take action on specific issues or change their own practices. Involving the community is also critical to fostering public acceptance of decisions made. However, achieving these outcomes depends on the approach to engagement and public participation - including how information is shared, the design and facilitation of engagement processes, opportunities to make meaningful and informed contributions to

decision-making processes, as well as the extent to which community feel their contributions influence final outcomes.

This paper describes an innovative process developed in collaboration between the Institute for Sustainable Futures, University of Technology Sydney, and the New South Wales Government's Metropolitan Water Directorate (MWD). The MWD leads a whole-of-government approach to water planning for greater Sydney and the lower Hunter. It also provides advice on NSW urban water policy and reforms and implements a comprehensive social research and engagement program. The community engagement process described in this paper was conducted for the greater Sydney region, whose population is expected to reach nearly 6 million by 2036 (NSW Office of Water 2010).

The paper first outlines by way of background the evolution of how the future, and uncertainty, is considered in urban water planning - paving the way for community engagement in futures visioning. We then describe the approach applied, which combined appreciative inquiry, creative futures methods (including futures triangles and visioning) and art, to understand the community's views on what water use and management should look like in 50 years' time.



NAVIGATING UNCERTAINTY: BEYOND CONVENTIONAL SCENARIOS, TOWARDS VISIONING AND APPRECIATION

Addressing increasing uncertainty in urban water systems

Across the world, city and town water system and urban planners have been grappling with the pressures of highly variable climate, droughts, climate change and uncertainty and increasing urban development and population growth. Australian metropolitan regions such as Sydney have particular experience in dealing with drought. A particular example were the innovations in response to the Millennium Drought (around 2000-2010), which in many places was the longest and most severe on record (Chong et al 2017; Turner et al 2016). These pressures also present new opportunities for transforming the way the community, as consumers and citizens of cities, are involved in the urban water planning process.

Whilst climate change presents a particular need in the Australian context for drought-response planning and management, it is also paramount that these approaches are integrated with long-term planning (Chong and White 2017). Globally and in Australia, there has recently been a significant evolution in how urban water planning approaches have addressed the future – including how, and to what extent, the community's voices and views have informed long-term planning.

Urban water plans have been predominantly built upon stochastic modelling of rainfall and runoff. This means using historical data to generate simulated patterns of future expected rainfall and weather, to plan for urban water systems that will produce enough water to meet projected demand (based on estimates of population growth). Uncertainty – of either supply or demand – is conventionally addressed through statistical quantification, Monte Carlo Analysis and sensitivity testing (Erlanger and Neal 2005).

Underpinning all these approaches is the need to quantify the parameters of future variability, using forecasting techniques. However such quantification is increasingly difficult as the climate continues not only to change, but become more uncertain. This uncertainty is also coupled with other economic, political, social and environmental pressures. As argued in the UNESCO "Global Water Futures" 2050 report (Gallopín 2012):

"It would seem logical to use forecasting techniques to estimate future water use and water resources. But although they may be reliable over the short term, predictive forecasts become untrustworthy as the time horizon expands from months and years to decades and generations due to error accumulation, our limited understanding of human and ecological processes, and the intrinsic indeterminism of complex dynamic systems."

Scenario analysis and planning

In response to this increasing complexity, scenario analysis and planning, has been increasingly used to address the complexity of future uncertainty. The approach usually involves multiple scenarios being developed that are informed by climate projections, but can also consider population growth, attitudes towards water consumption, policies and regulations, and economic conditions. These scenarios are then used to design strategies.

Scenarios have been widely used in the corporate sector, and been built globally in water and other sectors (see e.g. Gallopín 2012, Hajkowicz et al 2012), as well as in Australian urban water planning, such as to inform demand estimates (see e.g. Beatty et al 2014, Thomas and Sadler 2008). However whilst there could be in theory good opportunities for engaging the community in scenario planning, the practical experience is scenarios are developed by experts without building direct community engagement into the process (Zapata and Kaza 2015).

Futures approaches for community engagement

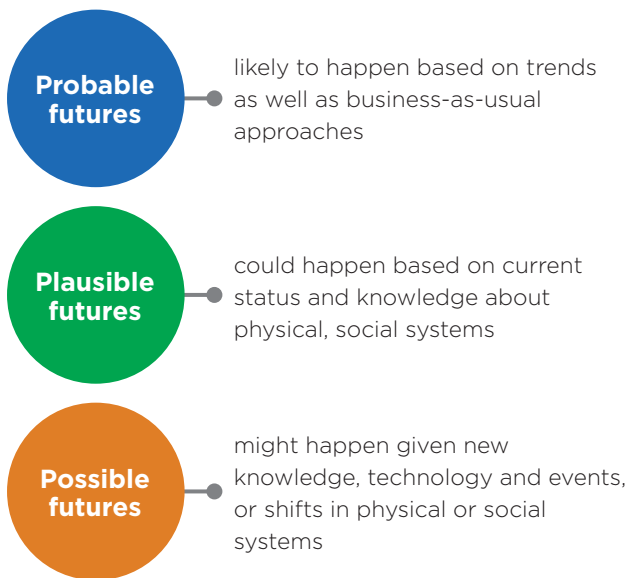
"Futures methods" are increasingly emerging as an important way for urban and regional planners as well as industry sectors to navigate inherent complexity and uncertainty about the future. Futures approaches, with their associated sets of tools, also offer a targeted way to engage deeply with a range of stakeholders on these complex issues.

Futures approaches range in application but are built on a fundamental principle that our "image of the future" – combining foresights as well as aspirations – is core to anticipating, driving and deciding how to achieve change (Voros 2001). With respect to community engagement in metropolitan water planning, futures approaches thus offer an opportunity for the public's voice to inform both the detailed goals of the plan – as well as the pathways to get there.



Futures methods also enable planners to incorporate and utilise forecast information about trends – such as climate or population – and at the same time invite participants not to be constrained by the status quo of system management, community expectations, or any other aspect of the present.

The following terminology is used to articulate types of “futures”:



Setting the range of probable, plausible and possible futures allows stakeholders and participants to define “preferred futures”, or images of the future that are desired and generally based on value judgements.

Appreciative inquiry

It is particularly important when conducting community engagement to be mindful of the potential psycho-social impacts of encouraging participants to talk about climate change. This is particularly the case in contexts where vulnerable participants have experienced the adverse and traumatic impacts of climate change and disasters – but even in the Sydney context, where it is unlikely that the participants have experienced such extreme events, it is important to be sensitive to potential risks to individuals. Furthermore, over-emphasis on negative aspects of the future in a community engagement setting may have further adverse impacts on what can be achieved through a process of community engagement (Cooperrider & Srivastva 1987).

Appreciative inquiry is a method that navigates these issues, enabling the realities of adverse trends such as climate change on water systems to be discussed within a positive, strengths-based setting.

This form of inquiry focuses on discovering the positive within any social situation as a way to create change. Appreciative inquiry approaches recognise that meaning and knowledge is created through language and that the ‘questions we ask largely determine what we find’ (Cooperrider & Srivastva 1987). In seeking to create change appreciative inquiry is characterised by inquiry which discovers the positive; through this knowledge it seeks to be a catalyst for transformational change (Winterford 2013).

Appreciative inquiry is a powerful way to excite ‘generative capacity’ within social groups. This is understood to be the “capacity to challenge the guiding assumptions of the culture, to raise fundamental questions regarding contemporary life, to foster reconsideration of that which is taken for granted and thereby furnish new alternatives for social actions” (Gergen 1978).

Central to appreciative inquiry is an intent to create change which is informed by the notion that a positive image of the future leads to positive action towards achieving that future (Cooperrider 1990). Within the context of urban water planning, best practices of the past to navigate uncertainty are used to reveal preferred futures.

WORKSHOP METHOD

“What is your vision for how water is used and managed in Sydney in 50 years time?”

Our approach to community workshop facilitation was based on our broad experience as practitioners and researchers. Members of the public from across greater Sydney were invited to contribute their views and codevelop their “preferred, plausible” water scenarios for the future. Participants were drawn from a larger socio-demographically representative cohort of people who had previously been invited to participate in Metropolitan Water Directorate community engagement activities. The recruitment process ensured participants in this workshop were from a range of geographic areas, ages and genders.



Facilitated by the Institute for Sustainable Futures, UTS, the visioning workshop set out to:

- › Inspire new views through creative processes
- › Discover the high points in past and current water use and management
- › Recognise the influence of historical drivers, present trends and future uncertainties (including water demand, climate change and technology) on what futures are possible

Appreciative inquiry interviews

Participants conducted pair-interviews, using appreciative inquiry-framed questions, to explore the highlights of water use and management in the recent past; to identify what of the past they wanted to carry forward into the future; and to individually share

preferred 'dream' of water use and management in the future.

Futures triangle

The futures triangle exercise encouraged participants to recognise that multiple alternative futures are possible. The futures exercise is based on mapping the past, present and future drivers of change (Inayatullah 2009). In this workshop, baseline scenario elements such as climate change and population growth were introduced and groups of participants mapped past, present and future drivers.

The technique was used to inform the development of "preferred, plausible" futures that both reflect participants' visions and dreams for the future, but are also grounded within reality.

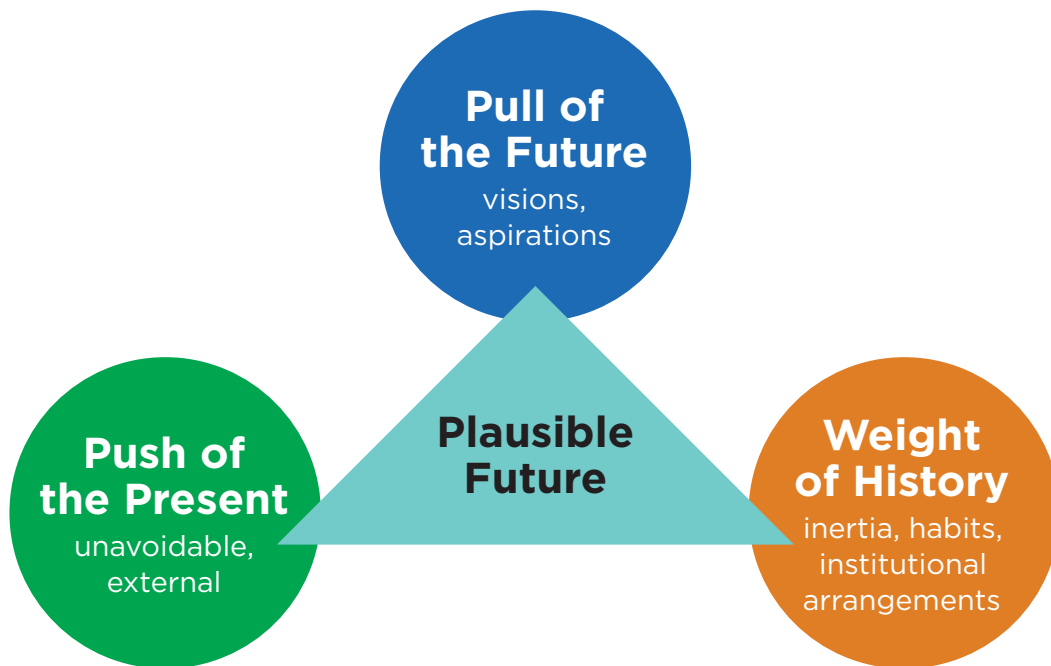


Figure 1: Futures triangle

Creative visioning

Drawing on the knowledge created through the appreciative inquiry paired interviews and then small group work to prepare the futures triangles, small groups were invited to develop detailed scenarios of preferred water use and management. A range of creative visioning tools were used including picture cards, stickers and coloured pens and paper.

Art

Artist Aleta Lederwasch sketched alongside the participants and during the work of small groups to capture the various elements of the preferred scenarios. Following presentation of the preferred future scenarios by the small groups, Aleta presented draft concept sketches of each scenario to the group and invited feedback and facilitated discussion to ensure accurate



interpretation. These sketches were then refined, based on the participant feedback provided during the presentation, and used together with the participant narratives to develop three visual representations of the future scenarios. The artworks, which use symbolism and metaphor to convey meaning, were then annotated and are now being used to share the community visions with industry and other stakeholders. Participants' feedback on the process was captured through video interviews.

RESULTS AND OUTCOMES

"I do think I've been heard. It's actually good to be part of a dialogue with government bodies. It's good to actually feel engaged as a member of the community and feel that as an individual I can have some impact and have some input." – Workshop participant

This innovative process produced three scenarios that took the form of artistic visualisations with accompanying narratives. The scenarios were: Healthy, green, balanced (see Figure 2); Innovation, technology, data (see Figure 3); and Educated, informed, aware (see Figure 4).

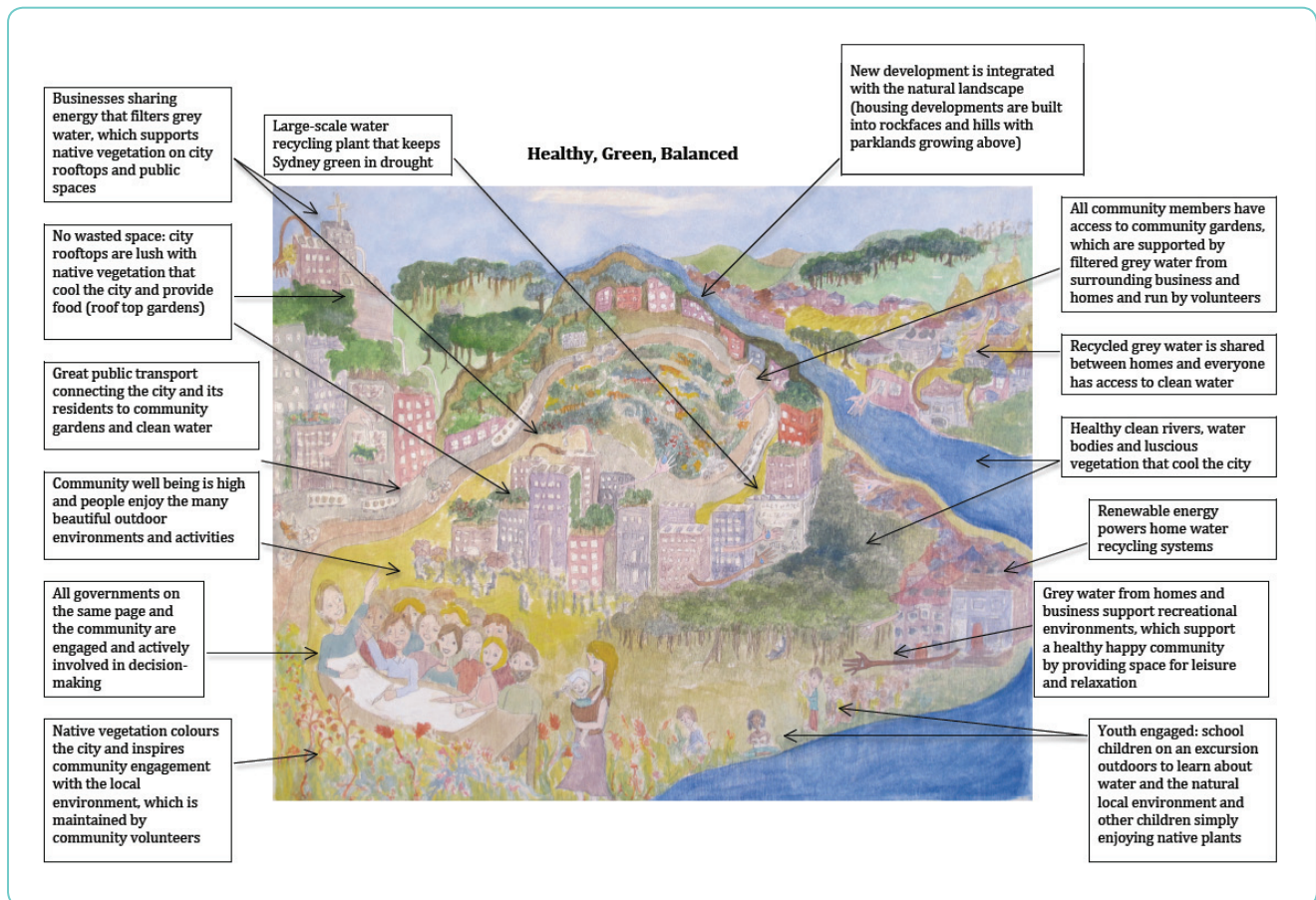


Figure 2: Futures Scenario 'Healthy, Green Balanced'



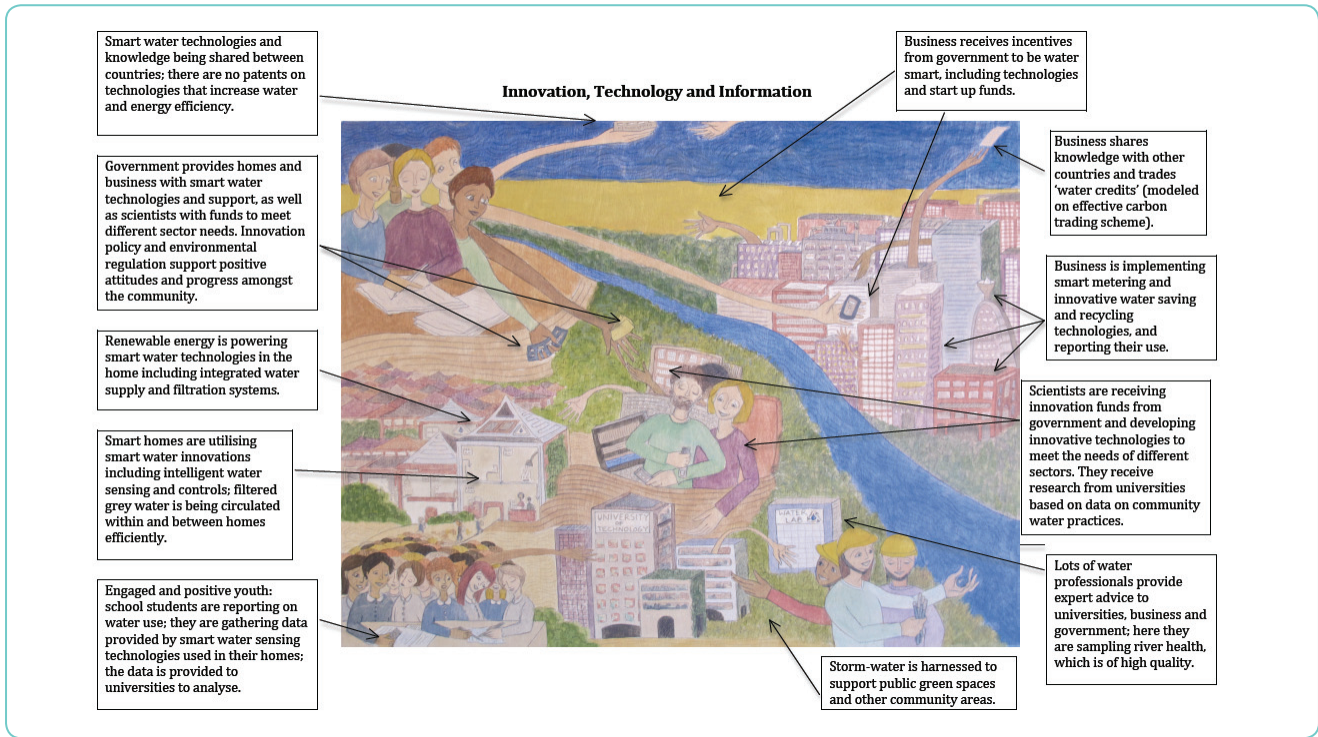


Figure 3: Futures Scenario 'Innovation, Technology and Information'

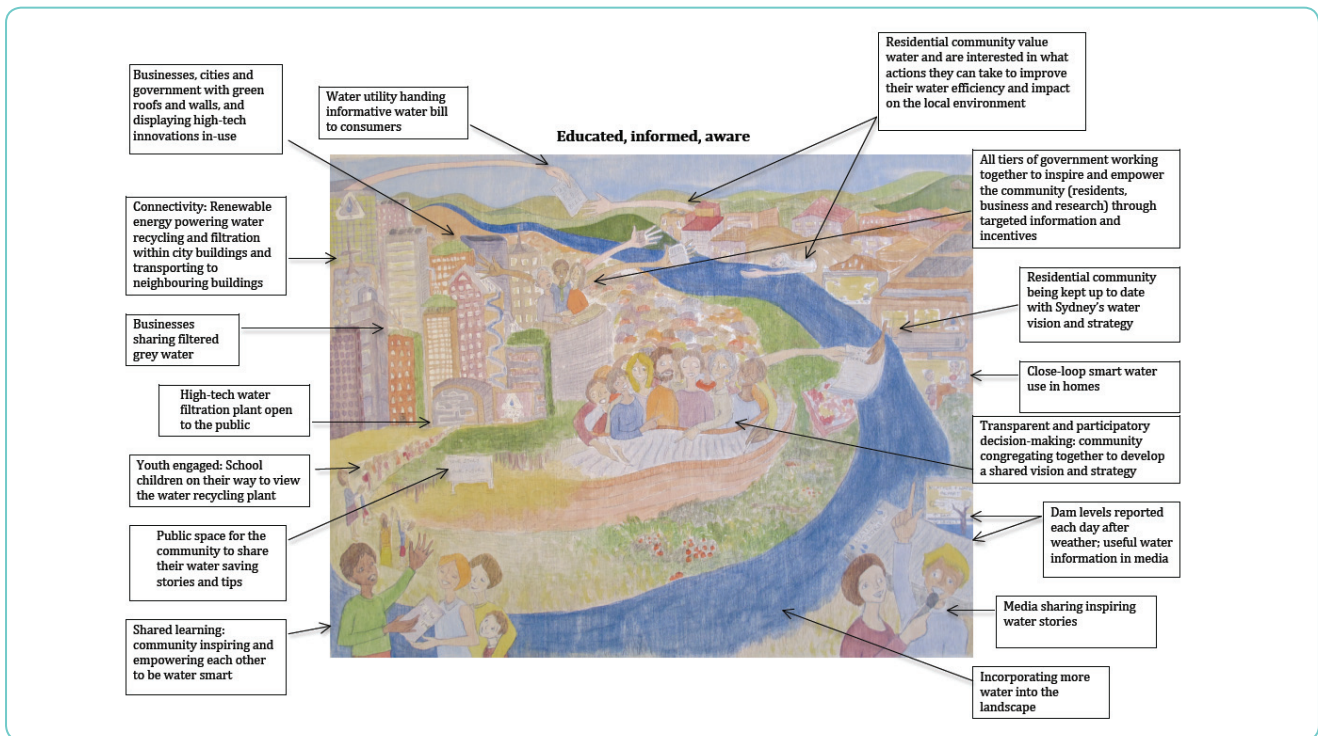
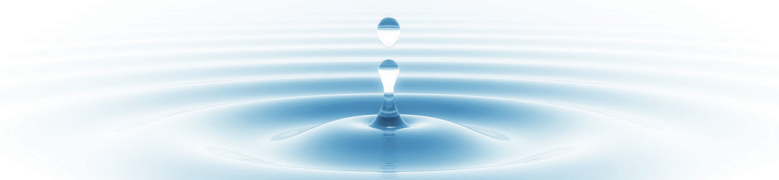


Figure 4: Futures Scenario 'Educated, Informed, Aware'



These three scenarios were used as a basis of discussion in a subsequent stakeholder workshop, in which participants were asked to consider the annotated artistic visualisations and reflect on their organisations' roles in achieving these futures. Targeting selected themes, stakeholders were also asked to consider what key changes were needed for their organisation to realise the opportunities or overcome any challenges such as removing barriers, developing tools or changes to policy in order for the scenarios to be realised.

Combined outcomes of community and stakeholder workshops, and the individual future scenarios have been key inputs in the review of the NSW Government's Metropolitan Water Plan. This plan establishes the mix of supply and demand options to ensure safe, reliable and affordable water services for the region.

CONCLUSION

This project demonstrated the value of using creative processes (futures and art) and appreciative inquiry in community engagement processes. The creative processes used were effective in inspiring new world views and opened up possibilities for sharing technical water system information with the community in a way which informs and builds on community visions through art. This innovative, effective and tested process has potential for use in other water community engagement processes.

ACKNOWLEDGEMENTS

We gratefully acknowledge each of the members of the public who, through participating in the workshop, shared their valuable time, views and visions for the future for Sydney's water use and management.

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Aleta Lederwasch produced all art reproduced in this document.

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THE AUTHORS



Associate Professor Joanne Chong

At the Institute for Sustainable Futures, Jo leads transdisciplinary research projects, in Australian and internationally, across the areas of: urban water planning, drought response planning, climate change adaptation, international development (WASH and water resources management), and catchment management.

Jo has extensive experience working with utilities and governments to strategically plan and manage urban water systems, including drought planning, pricing, water recycling and water efficiency initiatives. Jo has also conducted cross-jurisdictional programme evaluations and designed monitoring and evaluation plans in Australia and internationally, including for wetlands management, climate change adaptation, and WASH sectors.



Dr Keren Winterford

Over the last 20 years Dr Keren Winterford has worked in international development within the NGO, consultancy and research sectors. She has worked in more than 20 countries in Africa, Asia, the Pacific Islands, South America, former Soviet countries and Indigenous Australia. Her areas of expertise include community development, training and facilitation, local level advocacy and citizen participation, design, monitoring and evaluation. In 2013 Keren completed her PhD titled: A strengths perspective on social accountability: informing citizen and state action for improved services and development. Her current areas of interest include development effectiveness and exploring the notion of 'an evidence base of practice' to inform accountability and learning and improvements to planning, design and management of development programs.



Aleta Lederwasch

Aleta is an artist and a sustainability research consultant and has been working with ISF since 2010. Her work has focussed largely on qualitative research including workshop design and facilitation, community and stakeholder engagement in the areas of minerals resources, water futures and climate change adaptation, the development of creative process to facilitate multi-stakeholder participatory decision-making processes, and strategy development.

Aleta is currently exploring and experiencing the value of art and other forms of creative stimulus to support multi-stakeholder collaboration, particularly in developing shared visions and strategies. Aleta has particular interest in deliberative democracy, public participation, and the value of art to support decision making for sustainable futures. Aleta has worked extensively with the CSIRO Futures team who have provided great support for Aleta's use of art in facilitating Futures work (predominately visioning and strategy development).

