WATEREUSE 2026 SYMPOSIUM

In Partnership with The Water Research Foundation

THE AUSTRALIAN CONTEXT: IMPLEMENTING POTABLE REUSE AND TACKLING BRINE MANAGEMENT FOR WATER RESILIENT FUTURE COMMUNITIES

LOS ANGELES
MARCH 8-11

BRENDAN DAGG & EMMA GIBBS

BECA HUNTERH2O

TUESDAY 10TH MARCH 2026
11:00 – 11:25AM - SILVER LAKE, 5TH FLOOR

Sensitivity: General

Purified Recycled Water

Australian Slang

mate — friend

barbie — barbeque

Barbie — Margot Robbie

PRW — potable reuse



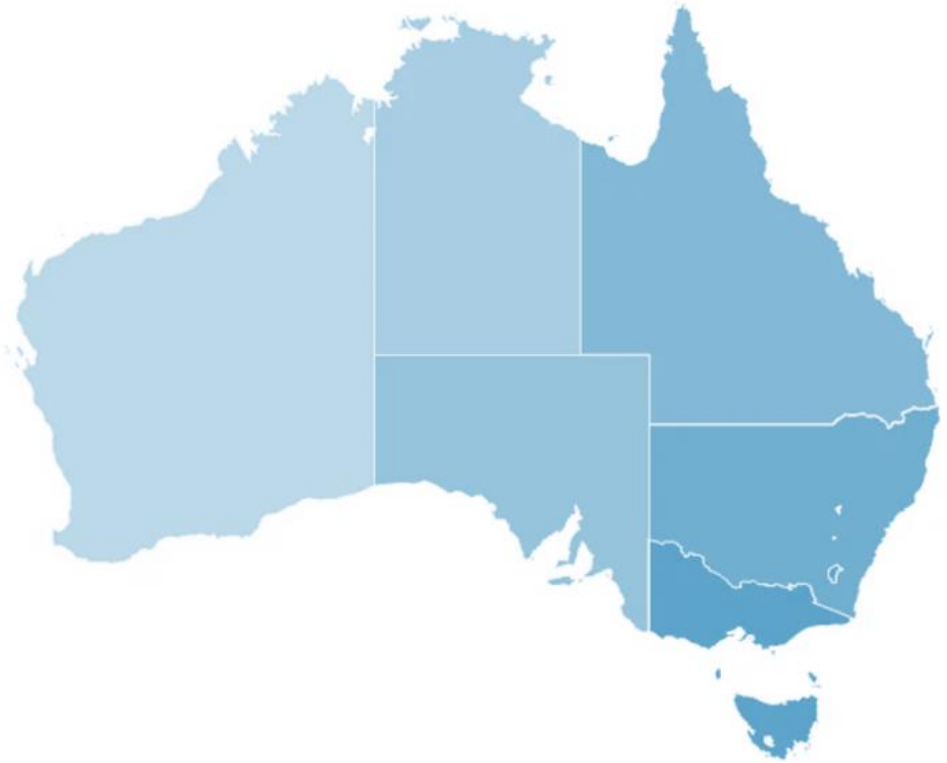




Sensitivity: General

Australia's Story

- Current position of PRW in Australia
  - Need for alternative water sources
  - Guidelines and Regulations
  - Residuals management strategies
- Australian case studies
- Solutions to brine management
- Key concerns and challenges
  - Regulatory aspects
  - Public perception



Sensitivity: General

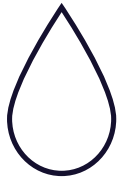
Why are we doing PRW?



Arid Country



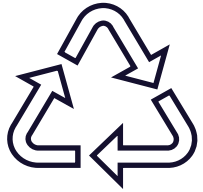
Drought



Increasing Water Demand



Water Resilience



Resource Recovery



Future Energy Transition

Sensitivity: General

Timeline – Evolution of PRW in Australia



2000-2010

Millennium Drought

2006

Toowoomba – Referendum

AGWR (Phase 1)

2008

Western Corridor

AGWR (Phase 2)

2016

Perth PRW Scheme

2023

Sydney Water PRW Discovery Centre

2030's

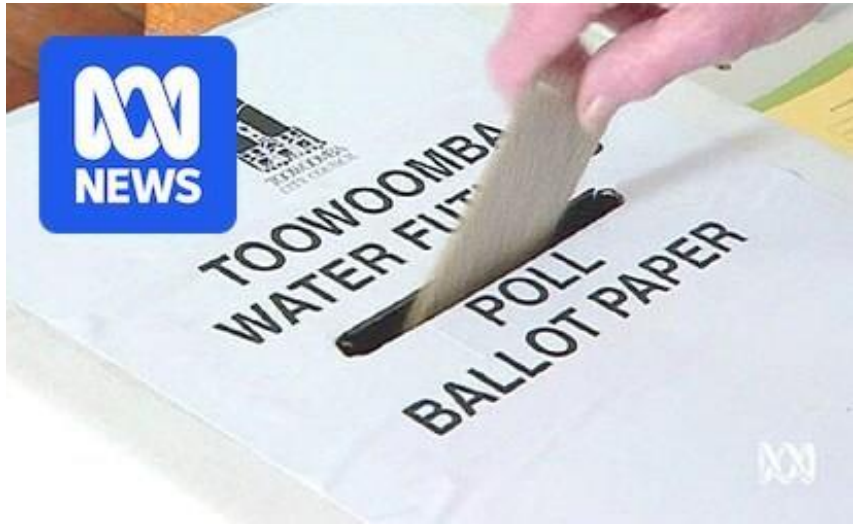
Sydney Water Quakers Hill PRW Facility Operational

Toowoomba, Queensland

Referendum 62% voted "NO" to PRW

- Insufficient community engagement
- Highly politicised with powerful scare campaign





This was published 19 years ago

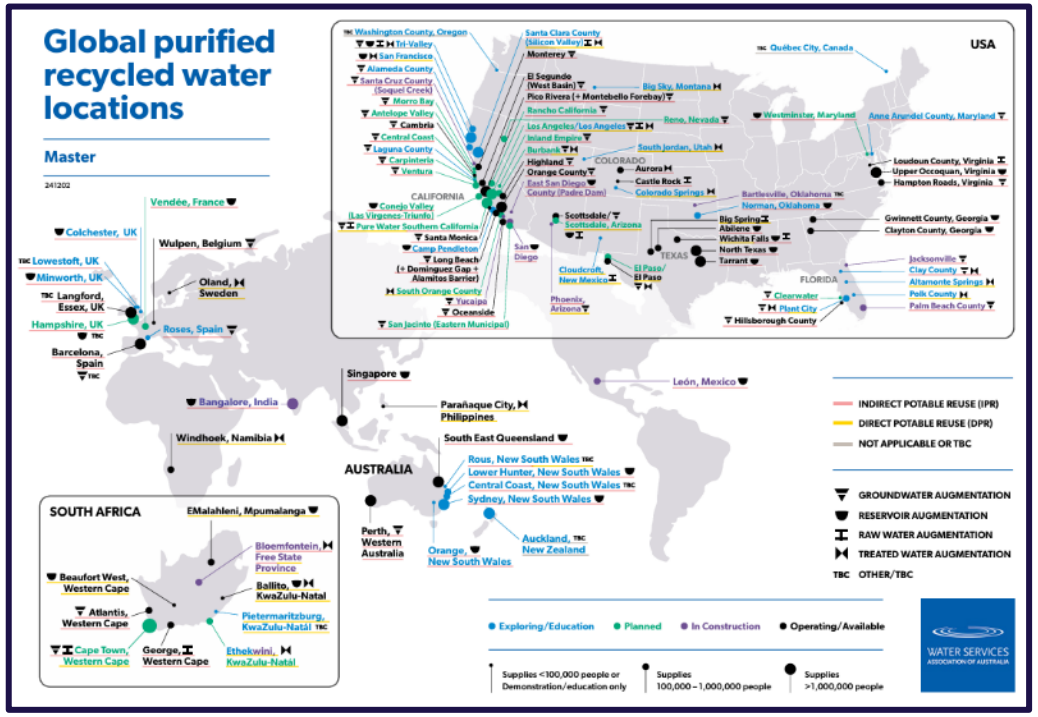
Toowoomba says no to recycled water

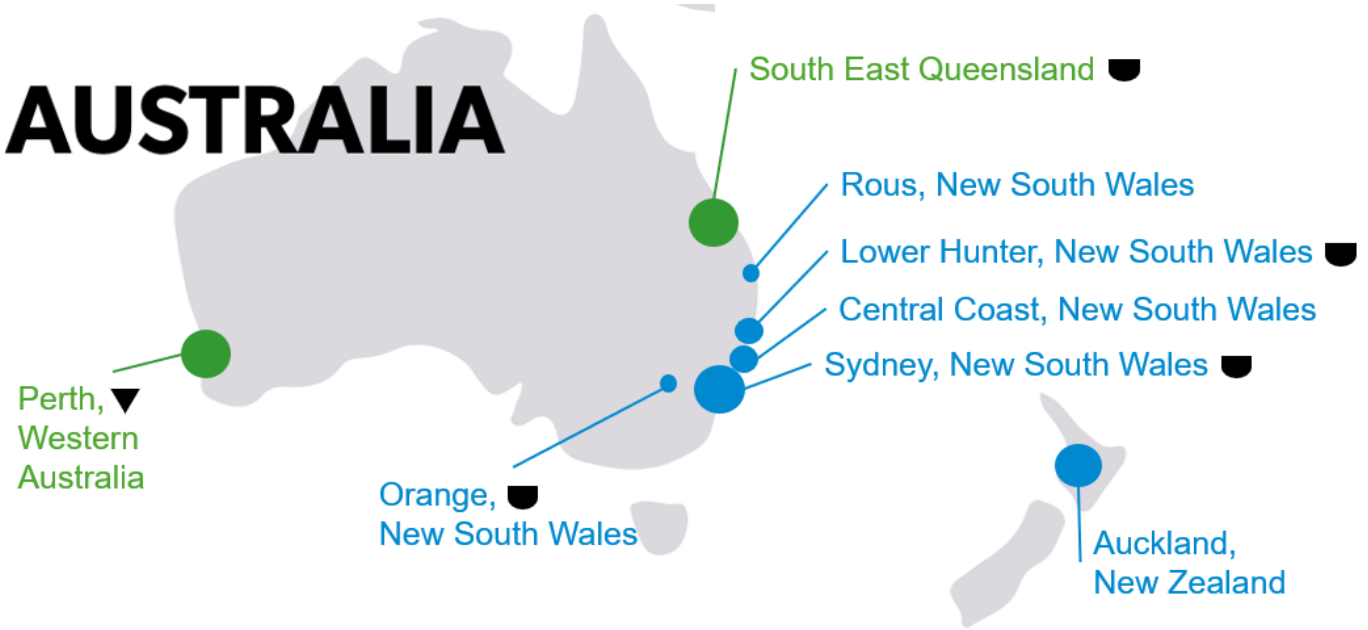
July 31, 2006 — 7.00am



Sources: Sydney Morning Herald, 2006; ABC News, 2024

Existing and Future PRW Schemes

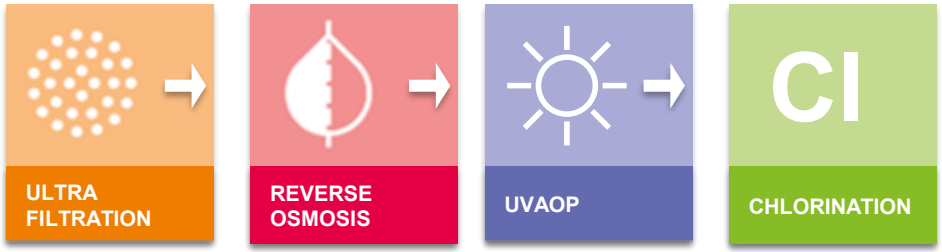




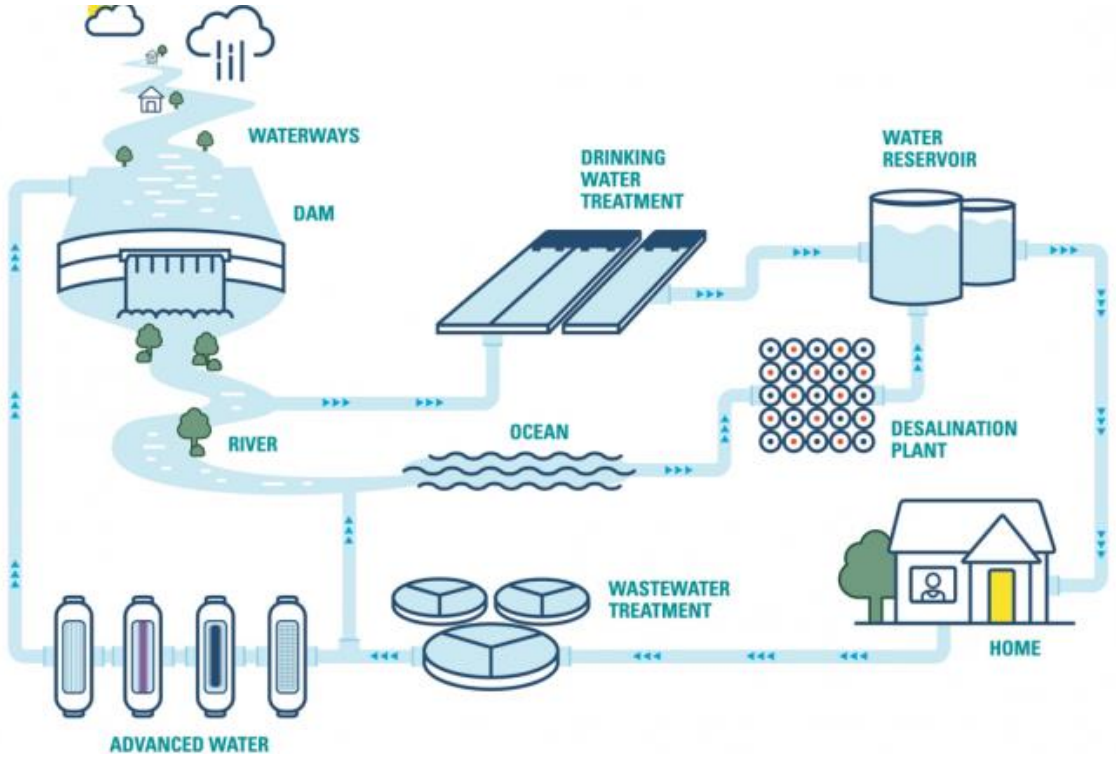
Source: Extract from WSAA, 2025 (map available here Map - Water360)

Western Corridor Scheme (IPR), Queensland





2007 – Drought Management Supply Option



Source: WSAA, 2020 (All Options on the Table); *Seqwater, 2025* (Recycled Water)

Sensitivity: General

Perth Groundwater Replenishment (IPR), WA







Stage 1 (2017) – 10 MGD

Stage 2 (2022) – 20 MGD

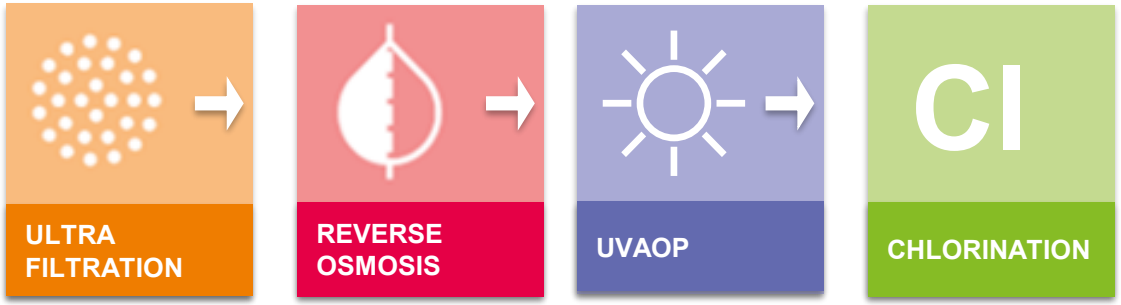
Source: Water Corporation, 2025 (Groundwater replenishment)

Sensitivity: General

Sydney Water Discovery Centre (IPR), NSW







2023 – PRW Discovery Centre

2030's – PRW Scheme (9.5 MGD)

Source: Sydney Water, 2025 (Purified recycled water)

Sensitivity: General

Seawater Desalination

1. Perth Seawater Desalination Plant, 38 MGD (2006)
2. Gold Coast Desalination Plant, 33 MGD (2009)
3. Kurnell (Sydney) Desalination Plant, 66 MGD (2010)
4. Southern Seawater Desalination Plant, 72 MGD (2011)
5. Victorian Desalination Plant, 108 MGD (2012)
6. Adelaide Desalination Plant, 79 MGD (2012)
7. Belmont Desalination Plant, 8 MGD (2027 In *Construction*)

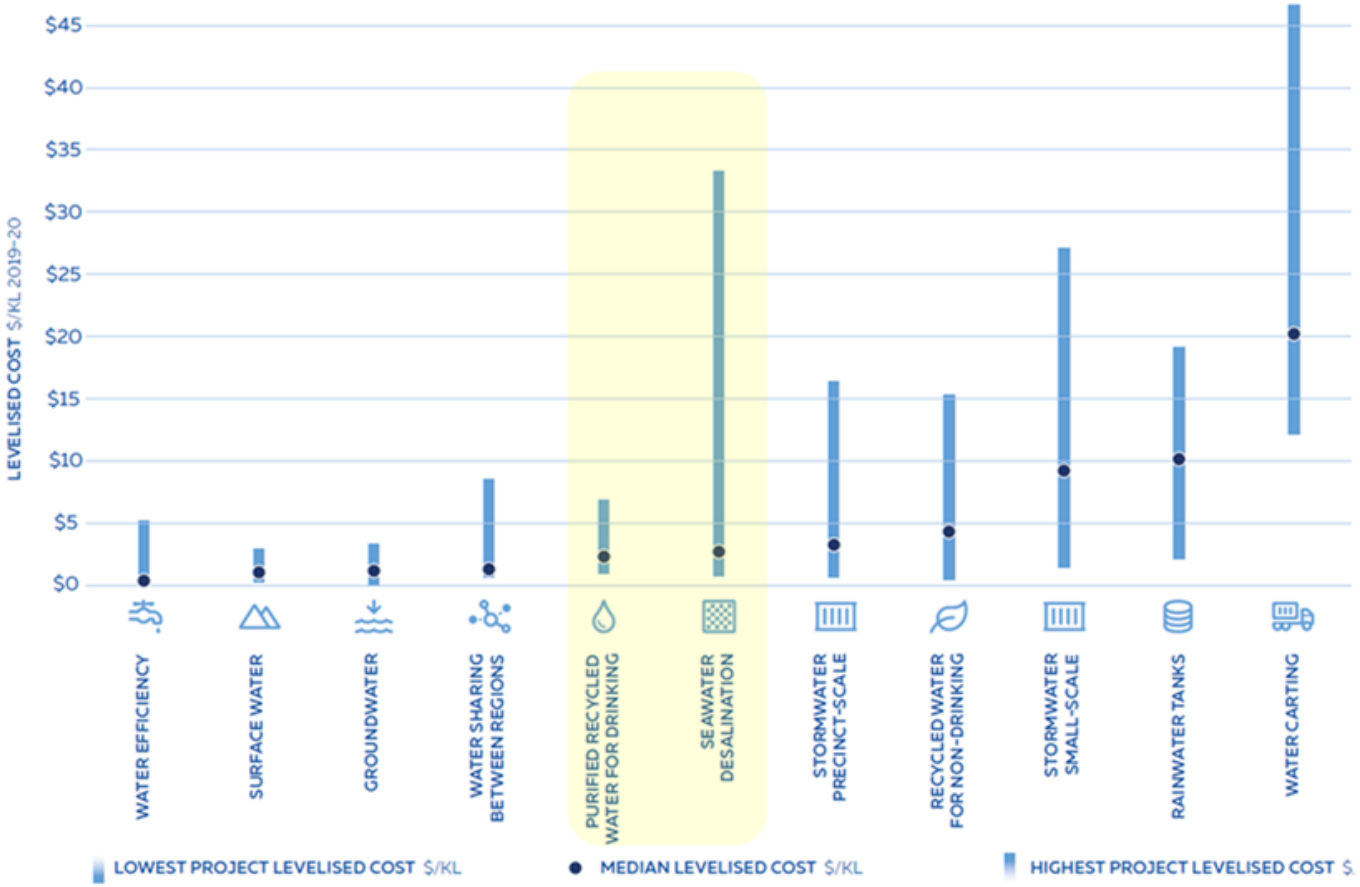




1 MGD ~ 3.785 MLD

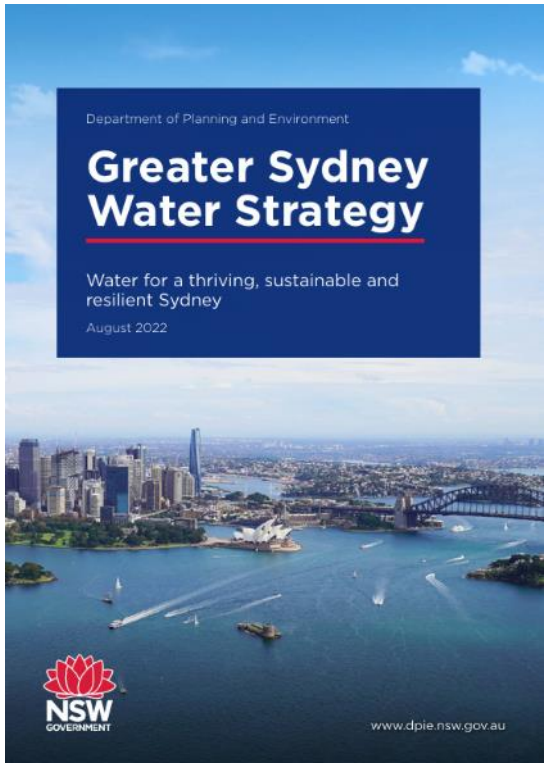
Equitable Water for All

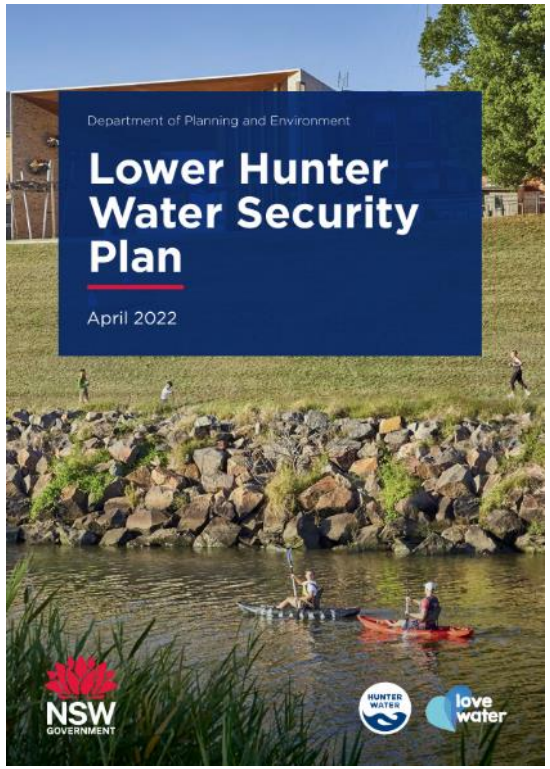


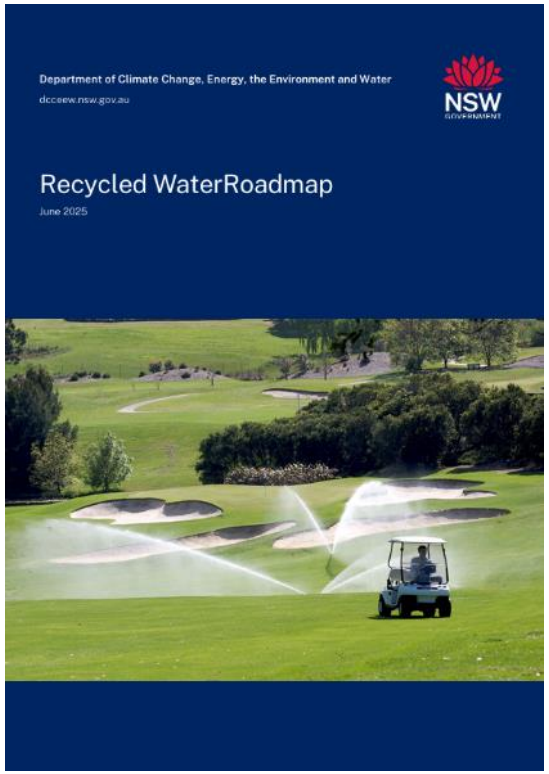


Sensitivity: General

Future Direction of PRW in Australia







Strategy	Actions
Greater Sydney Water Strategy	• **Implementation Plan Action 2.5b** - Construct and commence operation of a purified recycled water demonstration plant. • **Implementation Plan Action 25c** - Engage with the community to understand preferences for additional water supplies—including purified recycled water—and demand management measures to secure water supplies and help make Sydney a more liveable city.
Lower Hunter Water Security Plan	• **Priority 2** - Increase recycled water use for non-drinking purposes. • **Priority 2** - Engage with the community on purified recycled water and build a purified recycled water demonstration plant in the region.
Macquarie Castlereagh Regional Water Strategy	• **Implementation Plan Action 1.5** - Invest in innovative water management options including water treatment and reuse initiatives.
Far North Coast Regional Water Strategy	• **Implementation Plan Action 4.8** - Develop a recycled water plan for the Far North Coast.
Namoi Regional Water Strategy	• **Implementation Plan Action 1.4** - Progress water treatment facilities for industries reliant on town water supplies.
North Coast Regional Water Strategy	• **Implementation Plan Action 3.5** - Increase use of recycled water and investigate increased use of tertiary-treated and on-farm recycled water for intensive horticulture.

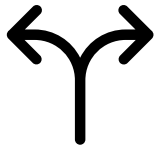
*Recycled water uses including stormwater reuse and **purified recycled water for drinking** are overwhelmingly supported in the feedback received.*

***Purified recycled water for drinking** is a reliable and cost-effective supply option and early community feedback supports exploring this as a future supply option.*

Sensitivity: General

Implementation Program and Challenges

10 years globally, estimated 12-14 years in Australia



Options Assessment



Community Engagement



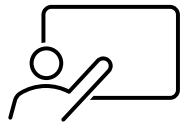
Demonstration Plants



Regulatory Bodies / Approvals



Source Water Characterisation



Staff Training and Capability



Supply Chain



Just In Time



Construction and Process Proving

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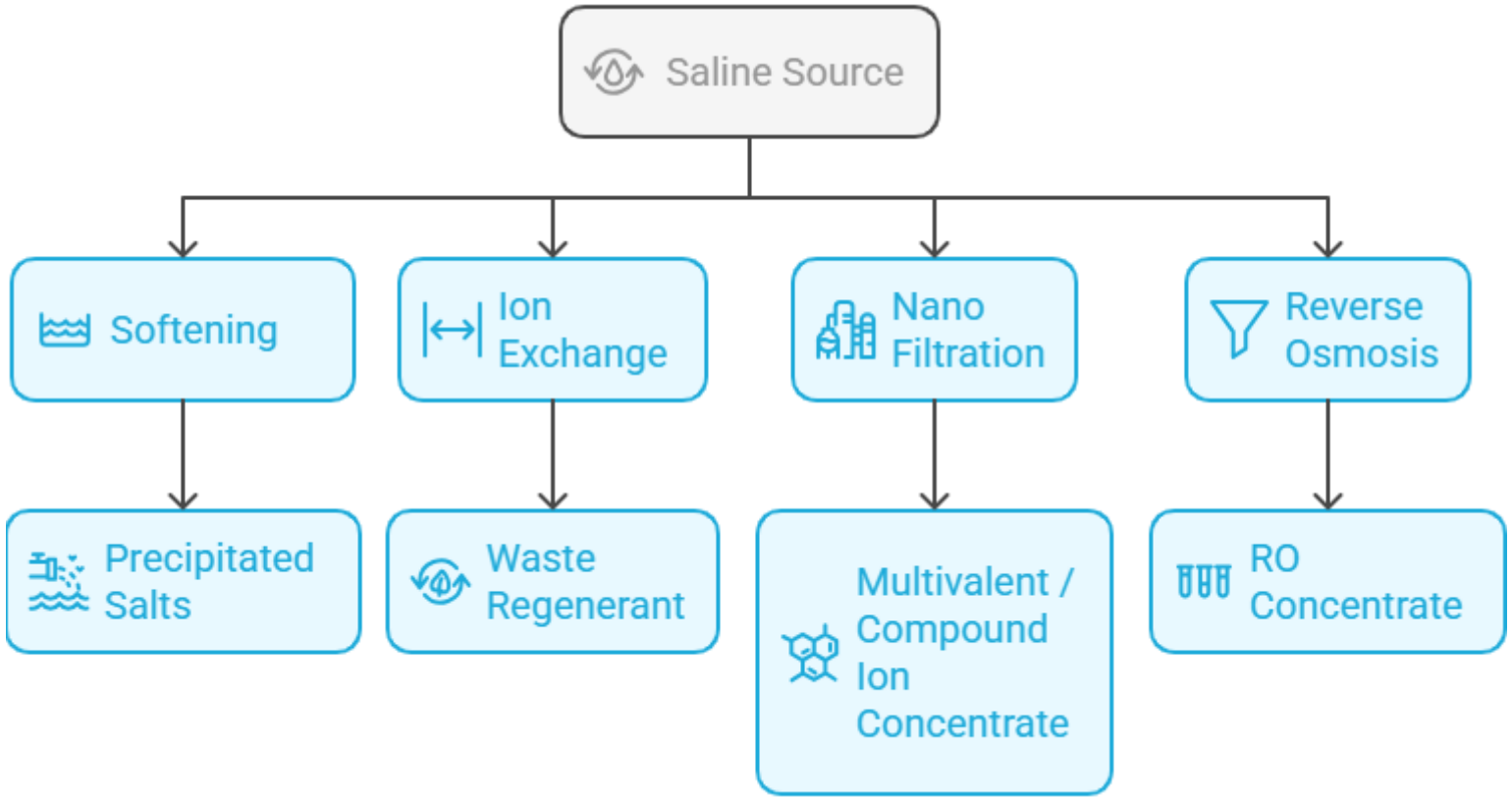
Residuals Management



1. Sustainable management and use of natural resources
2. Responsible management of chemicals and waste
3. Considering how to recover valuable materials to implement circularity

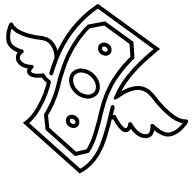
Sensitivity: General

Brine Management

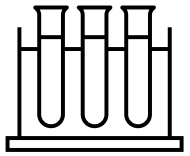


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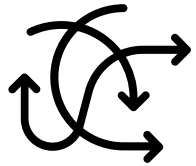
Why is Brine Important?



Expensive if not integrated into planning



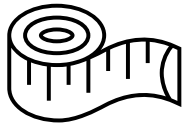
Difficult chemistry to balance



Integral to future high-end water uses



Management prevents legacy enviro issues



No one size fits all approach



United Nations SDGs 6, 7, 11, 12

Approaches to Brine Management

It is important to adopt an understanding that brine management is likely to include **several different approaches** all working in parallel, with the overall approach optimised for location-specific constraints and opportunities.



Sensitivity: General

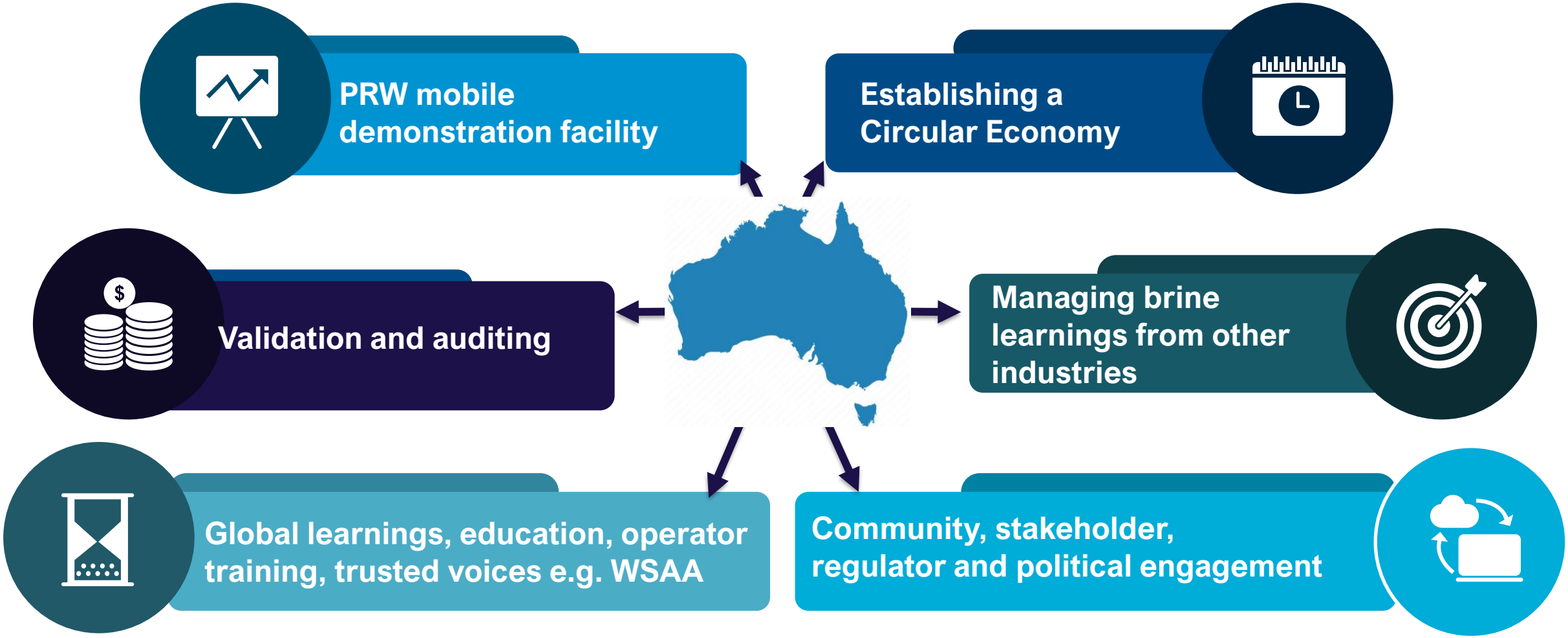
5 Key Steps

1. Establish water composition, potential recoverable components, and projected brine quality
2. Identifying disposal and beneficial use routes
3. Investigate brine treatment / minimisation technologies
4. Determine treatment methods and sizing / capacity
5. Evaluate holistically to determine preferred approach



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Conclusions and Next Steps



Sensitivity: General

Questions?







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