

POLICY FUTURES

A Reform Agenda



Water Banking for Drought Resilience

Water security is a critical challenge for Australia, driving policy reform and the development of innovative tools such as water banking. Despite the heavy rains in many parts of Australia recently, another drought is just around the corner.

Water banking is a tool that could improve Australia's drought preparedness and resilience for the future. But first, there are some policy barriers to overcome, which could be easily achieved using pioneering demonstration schemes prior to wide scale adoption.

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2017 Churchill Fellow (SA)

Key Policy Recommendations

It is recommended that state and territory governments undertake a three-stage process towards a unified national water banking system:

1

Carryover and transfers between surface water flows and groundwater storage

Develop policy to allow the carryover of unused surface water allocations via water banking with secure title to recover unused water under clearly specified rules and conditions. Develop a transparent accounting system that expands on current practice to include verified water banking operations.

2

Establish demonstration water banks

Allocate funding to validate several water banking sites and undertake preliminary field investigations. For promising demonstration sites, form alliances with local water entitlement holders, state government, and the community. Build the recharge infrastructure to establish pioneering water banking demonstration sites and operate over a period that allows sufficient time for recharge and recovery to occur, to document the costs, assess risks and develop processes to manage them, and prove that no adverse third-party or environmental impacts occur.

3

Scale up

Using demonstration water banking sites, report on the hydrologic and economic effectiveness, risks, and any impacts. Use these learnings to develop improved models to invest in water banking infrastructure and scale up across other jurisdictions.

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Why water banking?

In 2020, the total value of national welfare lost to drought exceeded

\$63 billion

- ▶ Several towns completely ran out of water and another 50 were only months away.
- ▶ The cost of emergency water supply via rail and truck for these towns can be up to \$1 million each day per town.
- ▶ Droughts in Australia are set to become worse with climate change - new ways of managing water are needed.
- ▶ Prices of water rise during drought: \$587/ML during drought compared to \$154/ML after.
- ▶ Water banking - >4000 gigalitres of new storage is available in the Murray-Darling Basin (16% of total surface water storage).



Opportunities for Australia

Water banking (also known as aquifer recharge) is excess rainwater or recycled wastewater stored underground in natural reservoirs when available, for future use during drought. Water banking is suitable in a range of geographical settings. For example, CSIRO has identified 4km³ of potential storage opportunities in the Murray-Darling Basin.¹



How much does it cost?

A recent study by CSIRO shows water banking can be cost effective, with variation depending on the system applied.²

Indicative costs for different systems

\$0.05/kL
Cheapest

\$0.48/kL
Most expensive

