

**ATSE**

23 November 2023

Joanne Chong
Commissioner
Productivity Commission
Level 8, Two Melbourne Quarter
697 Collins Street
Docklands Vic 3008
basin.plan.2023@pc.gov.au

Dear Ms Chong,

Submission to the consultation on the Murray-Darling Basin Plan: Implementation Review interim report

The Australian Academy of Technological Sciences and Engineering (ATSE) is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together 900 of Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

ATSE welcomes the interim report's focus on many of the issues raised in ATSE's prior submission, including undertaking water buybacks, taking climate change into account, coordinating across the various authorities, and consolidating community engagement. ATSE supports the interim report's recommendation to consider all methods for water recovery, and suggests that the updated water recovery strategy should consider alternative strategies (including leasing and taking out options on entitlements). ATSE also welcomes the commitment to strengthening the role of Aboriginal engagement in the Basin Plan and that their contributions to the development of Water Resource Plans is transparent and recognised. Currently, about 70,000 First Nations people reside in the Basin, yet there has been limited recognition of the need to engage them in decision making. It is imperative for cultural flows to be considered in future Basin decisions.

In response to the interim report's request for additional information on the application of climate science to the Basin Plan, ATSE urges a science-informed, technology-based approach. ATSE agrees that the *Water Act 2007*, which enables the Basin Plan, should be amended to explicitly include climate science in the scientific knowledge upon which the Plan is based. Climate change will exacerbate the Basin's environmental challenges. Grounding the Plan in the best available scientific evidence is crucial for restoring the health of the Basin and preserving it for the use of future generations. As previously advised, ATSE has been developing an evidence base on what is required for a sustainable basin in 50 years-time especially in light of a changing climate. This work is expected for release in early 2024.

One of the anticipated recommendations from this work relates to the merits and design of establishing a new Commonwealth entity to address the anticipated water recovery shortfall. This work recommends that a national body be reinstated to provide objective unbiased advice on national water management, including Basin issues, independent of Commonwealth and state government departments.

ATSE also proposes that the Productivity Commission to revisit the role of water management technologies in their report. ATSE's 2022 publication [Technologies for Water Management](#) outlines the technology challenges created by how water data is collected, managed and used. While vast amounts of Basin data are collected, its utility is limited by technical challenges. Current methods for data collection often omit metadata, which is crucial for interpretation by end users. Data sharing is challenging across Basin states and the ACT, which use different technologies, systems and formats. Methods for data analysis are limited by the quality and consistency of data. However, technologies exist to resolve these issues and undertake a whole-of-Basin approach for improved understanding, modelling, and planning. The Productivity Commission can, in its findings, identify the challenges and highlight the existence of technology solutions.

Rolling out the very best leading-edge measurement, modelling and management technologies in all Basin States and the ACT uniformly across all the tributaries of the Basin would facilitate water utilisation decisions season-by-season and tributary-by-tributary. This would optimise the environmental, economic, cultural and social outcomes for the Basin as a whole.

ATSE thanks the Productivity Commission for the opportunity to provide further comment on the interim report. For further information, please contact academypolicyteam@atse.org.au.

Yours Sincerely,

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Technological Sciences & Engineering

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