



Australian Government  
Productivity Commission

4 National Circuit  
Barton ACT 2600  
GPO Box 1428  
Canberra City ACT 2601

Dr Kane Aldridge  
Acting Director  
Goyder Institute for Water Research

Level 4, 33 King William St  
Adelaide SA 5000  
GPO Box 860  
Adelaide SA 5001

27 October 2017

To whom it may concern,

**RE: Goyder Institute for Water Research submission on the Productivity Commission's National Water Reform Draft Report**

The Goyder Institute for Water Research welcomes the Productivity Commission's efforts in undertaking the inquiry into progress towards achieving the objectives of the National Water Initiative (NWI). We also welcome the opportunity to provide input into this process.

The Goyder Institute for Water Research is a partnership between the South Australian Government (through the Department of Environment, Water and Natural Resources), CSIRO, Flinders University, The University of Adelaide, The University of South Australia and The International Centre of Excellence in Water Resources Management. The importance of water to the environment, economy and society; the national water reform agenda; and evidence-based decision-making was recognised by the South Australian Government in establishing the Goyder in July 2010. The initial term of the Goyder Institute included a financial investment by the South Australian Government of \$25 million, with matching in-kind contributions provided by the research partners. Following a successful five years, the Goyder Institute's term was extended for a further four years with a financial investment by the South Australian Government of \$8 million and matching in-kind contributions by the research partners. In this time, the Goyder Institute has provided high-quality research to inform priority areas of state and national water policy. In doing so, the Goyder Institute has been an integral component of national water reform.

## Overview

The Productivity Commission's inquiry into progress towards achieving the objectives of the NWI forms a critical component of the broad adaptive management of national water reform and the water sector in Australia. The Goyder Institute acknowledges the comprehensive work of the Productivity Commission in undertaking this inquiry and developing the *National Water Reform Draft Report*. It is a comprehensive and balanced assessment of the progress towards achieving the objectives of the NWI. We support the overall conclusions of the *National Water Reform Draft Report* that good progress has been made, but that further work is required. The *National Water Reform Draft Report* correctly acknowledges the importance of water to the Australian environment, economy and society. It also correctly acknowledges the future challenges to water management in Australia, including population growth and climate change. These future challenges are substantial and will require ongoing water reform. Discussions with our partners suggest that these challenges will require further and ongoing improvements in the effectiveness and efficiency of all water users to support the sustainable use of water resources. This will require the development and application of new knowledge and technologies in all aspects of the water sector. Given the importance of water to Australia and the significant future challenges, it is critical that water reform continue. Regular inquiry into progress towards achieving the objectives of the NWI is an essential component of continuing water reform. As such, we support the recommendations outlined in the *National Water Reform Draft Report* that the NWI be maintained, revised and enhanced.

## Knowledge and capability building

The Goyder Institute welcomes the general sentiment of the *National Water Reform Draft Report* regarding the importance of knowledge and capability building to water reform, including enabling evidence-based policy development and innovation. The review correctly highlights the importance of 'smart' water use, which is based on the continued development of new knowledge, innovation and the application of new knowledge. Consistent with this, we support the recommendations within the *National Water Reform Draft Report* that state:

### *DRAFT RECOMMENDATION 8.1*

*Australian, State and Territory Governments should:*

*a. identify the key knowledge and capacity building priorities needed to support the ongoing implementation of the National Water Initiative (including the revisions and enhancements recommended in this report)*

*b. develop mechanisms through which the jurisdictions can work cooperatively and share knowledge to build overall capability and capacity.*

*Australian, State and Territory Governments should update relevant provisions in the National Water Initiative to align with recommendations 8.1 (a) and 8.1 (b).*

Below we provide specific recommendations for the *National Water Reform Draft Report* to further recognise that greater investment into knowledge and capability building is required to support ongoing water reform. This investment is considered appropriate given the importance of water to the Australian environment, economy and society; the significant future challenges for water management in Australia; and the importance of knowledge and capability building for addressing these challenges. In providing these recommendations we acknowledge that investment into water research is a shared responsibility of governments, private industry and research organisations. In considering future investment into knowledge and capability building in the water sector, the vital social, economic and environmental outcomes that investment can bring should be accounted for.

**Recommendation:** Draft Recommendation 8 should acknowledge that greater investment into water research is required to support ongoing water management and water reform.

**Discussion:** The *National Water Reform Draft Report* appropriately acknowledges the importance of research for water reform and the significant reduction in investment into water research and research effort in recent years (from approximately 2010). There is a risk that the advances in water reform based on investment into water research prior to 2010 may be lost without renewed investment into water research. Given the importance of knowledge generation to water reform, it is appropriate to include a recommendation for increased investment into water research.

Whilst acknowledging that key knowledge gaps should be identified through a structured process as outlined by Draft Recommendation 8.1.a, discussions with partners of the Goyder Institute have identified the following broad priority areas for future water research: climate change adaptation; alternative water (and energy) supplies to support environmentally sustainable agricultural development; and the water-energy-food nexus.

**Recommendation:** Draft Recommendation 8 should acknowledge that greater investment into water research focused on supporting the development of water policy and/or industry is required to support ongoing water management and water reform.

Discussion: There are many different models that have focused research effort on informing water policy and/or industry development. The establishment of the Goyder Institute for Water Research is one such example. The Goyder Institute model has required partner researchers to focus research effort on critical areas of water policy within South Australia and Australia. This has meant that the research undertaken has remained independent of government but that the research outputs have been made readily available to inform priority areas of government policy and decision-making. Important components of the success of this model include establishing priority knowledge needs of end-users; establishing multi-disciplinary and multi-organisational research teams that have the skills to address the priority knowledge needs; and the ongoing involvement of end-users within the research projects. Similar models could be established with a focus on private industry end-users.

Recommendation: Draft Recommendation 8 should acknowledge that greater investment into the transfer and application of water research into policy/management and innovation is required to support ongoing water management and water reform.

Discussion: The Office of Innovation and Science Australia recently released a review of the Australian innovation sector (*Innovation and Science Australia (2016). Performance Review of the Australian Innovation, Science and Research System. Commonwealth of Australia, Canberra*). It concluded that Australia does well in knowledge creation, but performs poorly in knowledge transfer and knowledge application. Ultimately, this means that the impact of research on government and private industry in Australia is far less than its potential.

Whilst we are not aware of any such assessments that have been made for the water sector, the Goyder Institute and other similar organisations have made significant advances in knowledge transfer and application. However, there is still further work to do. There are many other examples around the world of countries and regions investing into knowledge transfer and application. For example, the United Kingdom Government Office for Science “aims to ensure that government policies and decisions are informed by the best scientific evidence and strategic long-term thinking”. Similarly, the European Union’s Joint Research Centre is the European Union’s Science and Knowledge Service. Their “mission is to support European Union policies with independent evidence throughout the whole policy cycle”. It is understood that both groups do this work through horizon scanning, undertaking meta-analyses and the production of synthesis papers for specific (and priority) policy questions.

One area in Australia where further application of research outputs may provide substantial benefits is in the broad area of climate adaptation. Current water management practices tend to deal with climate change through regular, but relatively short-term reviews of water allocations but with little consideration for longer-term climate outlooks. There exists opportunity to further improve this process by the incorporating knowledge of future climate. This could include the development and application of down-scaled climate projections, consideration of

the risks associated with various climate projections and the identification of mitigation strategies to address unacceptable risks.

Recommendation: Discussions related to draft recommendation 8.1.b should include a description of the mechanisms that have been successfully implemented.

Discussion: There are likely to have been many different mechanisms that have been implemented to work cooperatively and share knowledge to build overall capability and capacity. It would be valuable for the report to describe the various mechanisms. By way of example, the Goyder Institute has fostered the sharing of information between researchers and policy-makers and researchers and other researchers that would have not otherwise occurred. Another South Australian example is the establishment of joint-positions between state government departments and research organisations. These positions have been viewed as extremely successful in facilitating the scoping of research projects and the uptake of research outputs to meet government needs. Similar joint positions between research organisations and industry or government and industry would likely provide similar benefits.

Additional recommendations on the content of the *National Water Reform Draft Report* and *Supporting Overview Draft Report* include:

- The summary of progress table should acknowledge the recent fall in investment into knowledge and capability building to be consistent with the content of the *National Water Reform Draft Report*.
- Further detail on future challenges should be provided in the summary section of the *National Water Reform Draft Report* to be consistent with the body of the report.
- Further detail on future challenges should be provided in the *Supporting Overview Report* to be consistent with the body of the *National Water Reform Draft Report*.
- Further background detail on knowledge and capability building should be provided within the *Supporting Overview Report* to be consistent with the *National Water Reform Draft Report*.



In summary, based on the importance of water to Australia's environment, economy and society and the future challenges for water management in Australia, the Goyder Institute supports the recommendations of the *National Water Reform Draft Report* that the NWI be maintained, revised and enhanced. This inquiry and future inquiries are essential components of continuing water reform. We support the recognition within the *National Water Reform Draft Report* regarding the importance of knowledge and capability building to water reform, but recommend that the final report highlight that greater investment into knowledge and capability building is required to support ongoing water reform.

Yours sincerely,

**Dr Kane Aldridge**

Acting Director, Goyder Institute for Water Research