

Submission to

COAG REVIEW OF THE NATIONAL WATER COMMISSION

A submission by

The Australian Academy of Technological Sciences and Engineering

to

The Secretariat

COAG Review of the National Water Commission

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The Australian Academy of Technological Sciences and Engineering¹ (ATSE) is pleased to respond to the Secretariat's invitation to the Chair of the Academy's Water Forum to respond to the COAG Review of the National Water Commission.

Summary

This submission from the Australian Academy of Technological Sciences and Engineering recommends that the remit of the NWC be extended for at least a further six years. This submission emphasises the need for a continuing role of an objective and independent authority that reports on the progress of water reform and can adapt rapidly to further needs for water reform, particularly in issues of urban water management and in consideration of policy outcomes that may arise from the imminent Murray Darling Basin Plan.

The National Water Commission (NWC) was created as a statutory authority to assist in promoting and advancing implementation of the reforms underpinning the National Water Initiative (NWI). The NWC also has a statutory role to conduct audits of the implementation of the Murray Darling Basin plan by 3 March 2013, though given that the Basin Plan has not yet been released no audit could be undertaken in the current life of the NWC.

The NWC assisted the States with developing their NWI Implementation Plans. However, it is evident from the Second triennial review by the NWC that though the States have made significant progress in implementing various parts of their NWI commitments, there is considerable variation among the states in how and where they have done so. Progress has been patchy and slow. The NWC also facilitated the ability of the States/Territories to implement the NWI when it was responsible for Water Smart Australia funds.

The NWC has shown considerable initiative in investing in and developing new technologies and raising the level of debate and understanding of the NWI commitment, both through its Raising National Water Standards program and through the subsequent publication of more than fifty *Waterlines* publications, encompassing a wide range of water issues and technologies. The NWC Commissioners have also identified numerous priority areas for investment, including the serious deficiencies in our understanding of groundwater and its relationship to surface waters, and obtained government commitment for what became an \$82 million investment in the National Groundwater Action Plan. These initiatives reflect the ability of the independent NWC as a statutory authority and of its Commissioners to dispassionately identify priorities and investments to promote the objectives of the NWI and facilitate their achievement.

The NWC has reported independently and formally on opportunities to advance water reforms through its annual reports and its regular Biennial Assessments of progress in the implementation of the NWI. In preparing these assessments, the NWC sought advice from key stakeholders and discussed and tested its anticipated conclusions with a Stakeholders' Reference Group. The Biennial Assessments effectively encompassed the generality of progress of reforms. It is the

¹ The Australian Academy of Technological Sciences and Engineering is an independent body of 800 eminent Australian engineers and scientists driving technological solutions for a better Australia. Eighty of its members participate in the Academy's Water Forum.

Academy's view that the NWC Second Biennial Assessment (2009) was an excellent and objective review of the extent of progress by the States/Territories in implementing their NWI Commitments. The NWC has reported biennially on the performance of the water industry against national benchmarks since 2006 in association with the Water Services Association of Australia. However, the Commission has tended to change the format of the report from year to year, making trends a little difficult to follow.

The NWC has also reported on a comprehensive range of water topics through its *Waterlines* series as well as presentations to numerous national and regional industry forums, conferences and meetings. By the use of referees of its work and taking a disciplined approach in its activities, the NWC has been able to maintain a highly credible, responsible and apolitical stance on controversial issues in the press without becoming involved in local political disputes. The NWC has provided independent advice as requested to numerous key government stakeholders.

An effective annual NWC workshop has been held with a stakeholders' group of approximately 60 people drawn from government, industry, educational institutions and consumer groups. There is increasing interest among international policy bodies and "think tanks" about Australia's evolving and often world-leading water policies and management. The NWC has strengthened stakeholders through initiating a Water Industry Skills Audit to address future successional issues and has financed career-development Fellowships for young water professionals.

Under the final review of National Competition Policy, the relatively newly created NWC was responsible for the NCC Water Review. This process demonstrated clearly that an assessing body with access to incentives and sanctions can effectively influence water policies adopted by the States. Subsequently, however, the NWC has not had access to any direct incentives or sanctions that could be applied to encourage NWI implementation, an issue that has made achieving implementation more difficult The loss of management of the Smart Water Australia Program, the loss of powers of sanctions following completion of the NCC Water Review and a change in organisational structure have led to a change in the roles, functions and modes of delivery by the NWC.

We note that the Productivity Commission's draft *Report on Australia's Urban Water Sector* (April 2011) suggests that progress against COAG agreed water reforms should be subject to monitoring and that the NWC would be the most logical body to undertake such monitoring.

There is a major investment in Water Research and Development being undertaken in Australia, much of it Commonwealth-funded. However it is relatively uncoordinated and disjointed and the NWC would be well suited to undertake a coordinating/integrating role in overseeing Australia's water R&D.

Australia will continue to benefit from ensuring it has an independent, objective, credible science and evidence-based agency, the National Water Commission, to advance water policy reform.

The Academy

The Australian Academy of Technological Sciences and Engineering (ATSE) is an independent, non-government organisation consisting of some 800 Fellows, promoting the development and adoption of existing and new technologies to improve and sustain Australian our society and economy. One of four learned Academies, ATSE was founded in 1976 to recognise and promote the achievements of Australian scientists, engineers and technologists. ATSE provides a national forum for discussion and debate of issues critical to Australia's future, especially the impact of technology, science and engineering on our quality of life. Through its Topic Forums, ATSE maintains a strong interest in major policy areas including Energy, Water, Climate Change Impact and Education.

ATSE has a significant record of undertaking policy studies with regard to water. Pertinent recent reviews include:

- Water in the Australian Economy (1999) http://www.atse.org.au/index.php?sectionid=211
- Population Futures (2000) http://www.atse.org.au/index.php?sectionid=200
- Perth's Water Balance The Way Forward (2002) http://www.atse.org.au/index.php?sectionid=129
- Water Recycling in Australia (2004) http://www.atse.org.au/index.php?sectionid=597
- Review of Water Supply Planning for Australia's non-metropolitan Urban Water Utilities
 (2007) http://www.atse.org.au/uploads/ATSE water lores.pdf
- 30/50 An Australian Population of 30m by 2050 (2007) http://www.atse.org.au/uploads/Scanbro.pdf
- Assessment of Impacts of Climate Change on Australia's Physical Infrastructure (2008) http://www.atse.org.au/index.php?sectionid=1287
- The Hidden Costs of Electricity: Externalities of Power Generation in Australia (2009) http://www.atse.org.au/index.php?sectionid=1288
- Electricity Generation: Accelerating the Technology (2009) http://www.atse.org.au/index.php?sectionid=1313

ATSE's initiatives in the water arena are led by its **Water Forum**, which promotes and facilitates the contribution of experience and skills of its Fellows to influencing public policy, public education and industry in the development and adoption of optimum technological solutions to Australia's water challenges.

The Academy would like to respond to the "Topics for discussion" which have been circulated by the Review Secretariat.

The NWC Legislative Framework - Commonwealth and State reform

The National Water Commission (NWC) was created as a statutory authority, using the "Commission" model through the *National Water Commission Act (2004)* following the Intergovernmental Agreement to the National Water Initiative (NWI) – a shared commitment by the Commonwealth, States and Territories to water reform and the management of the nation's water resources. The roles and functions of the NWC were intended to assist in promoting and advancing implementation of the reforms underpinning the NWI. The principal components of the NWI encompassed policies on

- · Water access entitlements & planning framework,
- Water markets and trading,
- Best practice water pricing and institutional arrangements,
- · Integrated Management of Environmental Water,
- Water Resource Accounting,
- Urban Water Reform,
- Community Partnerships and Adjustment, and
- Knowledge and Capacity Building.

The National Water Commission also has a statutory role in the *Water Act 2007* (clauses 87-89) to conduct audits of the implementation of the Murray Darling Basin plan within five years of the commencement of the *Act*. This Act commenced on 3 March 2008 and any such report must be presented by 3 March 2013. As the Basin Plan has not yet been released, let alone accepted, it is likely that any review could only be conducted beyond the current life of the NWC since the Commission currently would cease to exist upon the expiry of the *NWC Act* on 30 June 2012.

Implementation of the NWI

It is evident from the Second triennial review of the Implementation of the National Water initiative that the states have made significant progress in implementing various parts of their NWI commitments, but there is considerable variation among the states in how and where they have done so (see later discussion).

However, this variation also includes the extent to which they have retained and met commitments previously made under the 1994 Water Reform Agenda. A pillar of the 1994 Water Reform Agenda was the separation of the functions of water resource management from water supply services. The Academy draws attention to the fact that this principle is now being breached in several states. A merger between Melbourne Water (a water supply wholesaler), the Port Phillip and Westernport Catchment Management Authority and the Central Coastal Board, was due to be completed in June 2011 (Melbourne Water 2010). The Queensland Bulk Water Supply Authority (QBWSA), trading as SEQwater, is a statutory authority and was created under the *South East Queensland Water (Restructuring) Act* 2007. From July 1 2011, it subsumed the activities of Queensland's "manufactured water" entity, trading as WaterSecure. SEQwater acts as a water wholesaler and has 25 dams, 47 weirs and 46 water treatment plants, but appears responsible for water resource management on 1.2 million hectares of catchment (SEQwater 2009). Although the National Water Commission's remit revolves around the 2004 NWI, it would be the appropriate body to review the current water resource management / water supply services separation arrangements under the 1994 Water Reform Agenda.

Turning to the implementation of the NWI, it is evident that the NWC has highlighted successes and failures among the States/territories in achieving their intergovernmental commitments under the NWI. A classic failure example follows the commitment by the States/Territories (NWI

clause 26 ii) to encompass amendments to their legislative regimes by 2006. In 2011, Western Australia is still operating under its *Rights in Water and Irrigation Act 1914*. On the other hand, water pricing is being progressively moved to encompass full cost recovery through upper-bound prices, albeit with considerable concern being expressed by water users having the face to full cost of receiving water services.

Principal Roles of the National Water Commission

The following comments are offered on the principal roles of the NWC

assist with the implementation of the National Water Initiative (NWI);

The NWC assisted the states with developing their NWI Implementation Plans and then ultimately had to recommend their approval. This process involved detailed interactions with States/Territories officers including interpreting what might be achievable. It was not proscriptive. Though this could have been done by a Commonwealth department (currently SEWPaC) the use of a Commission with its specialised staff probably avoided what would initially have been a potentially confrontational environment. In addition, through its original funding opportunities through the Australian water fund, it was able to assist the states in meeting their obligations, albeit not without a critical review of its proposals. For example, South Australia was provided with Water Smart Australia funds to take on additional staff expertise, and to proceed with the development of a water resource management plan for the Eastern Mount Lofty Ranges, a mixed farming – peri-urban area with high potential for competing and excessive demands on its water resources.

Water planning is a key aspect of the 2004 Intergovernmental Agreement on a National Water Initiative (NWI). Fulfilling water resource planning obligations has been one of the more difficult activities for the States/Territories. The NWC facilitated that through its more specialised knowledge of water issues by commissioning a review *Water allocation planning in Australia - current practices and lessons learned* (Waterlines report No 6 - April 2008) by Hamstead Consulting - authors Mark Hamstead, Claudia Baldwin and Vanessa O'Keefe. This report is an analysis of current practices and lessons learned in water planning, drawn from 11 case studies of water plans across Australia.

promote and advocate the objectives and outcomes of the NWI;

The NWC has shown considerable initiative in investing in and developing new technologies and raising the level of debate and understanding of the NWI commitment, both through its Raising National Water Standards program and through the subsequent publication of (currently) 53 *Waterlines* publications encompassing a wide range of water issues and technologies encompassed in the NWI.

The Waterlines papers represent the views of their authors, though many also include an overview with the Commission's view of the issue. These documents have been "thought-provokers" for a wide range of stakeholders. We are not aware of a similar approach to developing policy and technology debate and understanding elsewhere and are very supportive of the approach. Perhaps the studies by the Australian Bureau of Agriculture and Resource Economics and Sciences could be considered comparable. It is understood that the NWC has participated and to some extent funded specialised activities advancing the NWI through the then Natural Resources Management Ministerial Council such as projects by the Joint Steering Committee for Water Sensitive Cities. The NWC initiated funding through the Environment Protection and Heritage Ministerial Council to develop standards under Australia's National Water Quality Management Strategy Guidelines for Australian Guidelines for Water Recycling - Phase 1 – Managing Health and Environmental Risks, Phase 2 – Recycled Water for Drinking; Stormwater and Managed Aquifer

Recharge (http://www.ephc.gov.au/ephc/water_recycling.html). These Guidelines have attracted world-wide attention.

The NWC was provided with access to \$250 million for projects that are improving Australia's national capacity to measure, monitor and manage our water resources. Its Commissioners identified priority areas for investment which were water accounting; emerging water markets; water planning and management; knowledge and capacity building; irrigation and other rural water issues; water-dependent ecosystems; integrated urban water management; groundwater; Northern rivers; national assessment of water resources; and Northern Australia water futures assessment. After Ministerial approval, invited applications for projects from a wide range of research, development and water industry bodies and selected on merit and supported 177 projects in the identified priority areas.

Subsequently the Commission identified serious deficiencies in our understanding of groundwater and its relationship to surface waters, and obtained government commitment for what became a \$82 million investment in the National Groundwater Action Plan. It included the innovative development of a \$30 million co-investment between the Commission and the Australian Research Council to establish the National Centre for Groundwater Research and Training. This body's projects are greatly adding to our knowledge of the science of groundwater hydrology, while also training about fifty higher degree candidates in participating universities to fill the current shortage of groundwater professionals and provide for succession for the aging groundwater professionals in Australia.

These initiatives reflect the ability of the independent NWC as a statutory authority and the combined skills of the Commissioners to dispassionately identify priorities and investments to promote the objectives of the NWI and facilitate their achievement.

assess the water reform progress of NWI parties and advise COAG;

The NWC has issued two biennial assessments of progress in the implementation of the National water initiative, and it is understood that the third is due for release in mid-September 2011. In preparing the assessments, the NWC sought advice from State/Territories water agencies, the water industry and consumers. The advice has been well written in plain English and given objectively without "spin". In drafting its conclusions on each of the Assessments, the NWC discussed and tested its anticipated conclusions with a Stakeholders' Reference Group including for the yet-to-be released Third Assessment. The Australian Academy of Technological Sciences and Engineering was pleased to be included in and be able to contribute to each of those meetings.

The **First Biennial Assessment (2007)** highlighted the importance of the National Water initiative to the nation's water resource management, especially as Australia had by then entered a period of prolonged drought. The Commission advised that adapting to future water management challenges required more work to improve and accelerate the implementation of NWI reforms as progress was falling behind (and still is) the timetable in the original Agreement. The following areas were identified as needing special attention:

- reduce the over-allocation of water resources
- determine groundwater and surface water connectivity
- account for the interception of water from land use change
- provide for the integrated management of environmental water
- improve water accounting, measurement and compliance.

The Assessment also highlighted serious deficiencies in urban water management in Australia.

Among the positive consequences of the First Assessment were the establishment of the National Groundwater Action Plan (see above) and a \$450 investment with the Bureau of Meteorology to develop a national water accounting system, the *Australian Water Resources Information System* (AWRIS). The NWC contributed seed funding to this project pending formal confirmation of the final funding package. Other identified areas received support from the Raising National Water Standards Program.

It is the Academy's view that the NWC **Second Biennial Assessment (2009)** was an excellent and objective review of the extent of progress by the States/Territories in implementing their NWI Commitments. The Second Assessment was much more specific, as by then five years had elapsed since the original signatories had agreed to the National Water Initiative. (Tasmania and Western Australia had agreed slightly later.) In summary, the Second Assessment advised "Despite the steady deterioration in water circumstances in much of Australia as a result of drought and climate change, water management in Australia has not improved fast enough and governments need to redouble their efforts." A constructive detailed account was given of the positive developments in each of the States/Territories, but also identifying where progress had been slow. The positive developments varied between the jurisdictions, with no one State/territory having achieved progress in all areas.

As yet, the **Third Biennial Assessment** has yet to be released and the Academy is not able to comment, though from discussions at the Stakeholders' Meeting held in March 2011, a national overview is likely to be provided on the changes to water policy and management that have occurred since 2004, whilst also identifying issues not effectively covered in the current NWI. New issues might include over-abundant water (floods), impacts where the NWI and water reform are lagging, management of future droughts and the water issues associated with the rapidly developing mining industry including those of coal seam gas. It appeared evident at the Stakeholders' Meeting held in March 2011 that stakeholders are very supportive of the independence of the National Water Commission and the quality of the tasks it has undertaken.

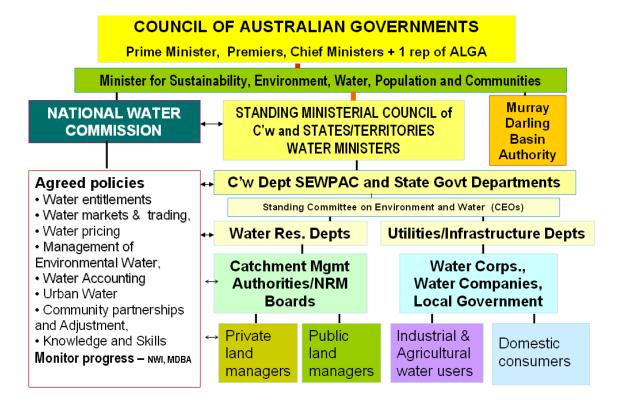
• report regularly and independently on opportunities to advance water reform;

The Commission has reported independently and formally through its annual reports and its regular Biennial Assessments, but it has also reported on many water topics through its *Waterlines* series and presentations to numerous national and regional industry forums, conferences and meetings. Presentations and Press Statements are made by the Chairman, who until 2010 was also the Chief Executive, and by individual Commissioners. An electronic newsletter, *Distilled*, effectively alerts a wide readership to new developments. Its comments are widely reported in the press. It may be noted that the Commission, by the use of referees of its work and taking a disciplined approach in its activities, has been able to maintain a highly credible, responsible and apolitical stance on controversial issues in the press without becoming involved in local political disputes. Government Departments, having less independence of action because of their direct relationship with their Minister, would have difficulty achieving the level of credibility that has been achieved by the Commission.

- provide independent advice to COAG, the Commonwealth or the Minister on matters relating to water;
- advise the Minister in relation to any Commonwealth water-related program;

As far as is known, the NWC has provided advice as requested to COAG, Commonwealth Ministers and the relevant Ministerial Councils

The National Water Commission's position in relationship to the Minister for Water, the Standing Ministerial Council for Environment and Water and COAG is show below.



- audit the effectiveness of the Murray-Darling Basin Plan and water resource plans; As the Plan has not been released, no audit could have been undertaken. However the NWC would be the most appropriate body to undertake the assessment.
 - as delegated to the Commission by the COAG Reform Council, assess the performance of Murray-Darling Basin states in meeting their reform commitments in the Commonwealth-State water management partnerships;

Again, as the Plan has not been released, further work under the Water Act 2007 cannot be initiated. From 2009, the COAG Reform Council has been responsible for reporting on the progress of the Commonwealth and Basin States against Water Management Partnerships.

However, the NWC had earlier reviewed opportunities for interstate water trading in the Southern Murray Basin. Under the final review of National Competition Policy, the relatively newly created NWC was responsible for the NCC Water Review. It recommended withholding NCC payments until the Basin States could demonstrate that they had mechanisms in place that allowed interstate trade in water. In due course, the states devised interim methods for water trading over state borders, and the remaining NCC payments were released. This process demonstrated clearly that an assessing body with access to incentives and sanctions can effectively influence water policies adopted by the States. Subsequently, the NWC has not had access to any direct incentives or sanctions that could be applied to encourage NWI implementation, an issue that has made achieving implementation more difficult. To some extent, facilitation incentives could be given through Smart Water Australia grants which required matching States/Territories funding, but that program was transferred to the then Department of Water, Environment and Heritage in 2008.

monitor and report on the impact of interstate water trade in the southern Murray-Darling Basin;

Production of the Australian Water Markets report has been achieved annually since 2007 and is well regarded. The Murray Darling Water Market is now well established, with several major brokers operating.

report biennially on the performance of the water industry against national benchmarks;

This function has been performed annually since 2006 in association with the Water Services Association of Australia, which represents the approximately 30 largest water utilities. There have been separate reports covering urban and rural water providers. It might be said that the data presented are somewhat uneven as some providers are unable to supply a complete range of data sought, though the quality of data is improving. An unfortunate aspect, however, is that the Commission has tended to change the format of the report from year to year, making trends a little difficult to follow. Conceivably the function could ultimately be performed by the Bureau of Meteorology as a sub-set of its Australian Water Resources Information System, though it should be noted that the Bureau does not collect biological data whereas the current NWC Performance Report do so as this is an important aspect of water quality and health.

advise on the conformity of reforms and projects with the objectives of the NWI when requested.

Although the Academy is not aware of specific requests, the generality of progress of reforms has been effectively encompassed in the Biennial Assessments. There will have been advantages in these assessments having been undertaken by a separate entity of government. It would be possible to have the Auditor-General undertake this type of work, but it is unlikely that there would be currently expertise in water policy issues in that office, and the Auditor-General would not be well placed to address some of the other activities required to encourage implementation of the NWI.

We note that the Productivity Commission's draft *Report on Australia's Urban Water Sector* (April 2011) suggests that progress against COAG agreed water reforms should be subject to monitoring and that the National Water Commission would be the most logical body to undertake such monitoring. It does also observe that alternatively, the COAG Reform Council or the National Competition Council could perform the task. Neither would currently have major water expertise and might need to contract the task. We note that the COAG Reform Council did delegate responsibility for its report *Water management Partnerships: Report on Performance* – (September 2010).

Roles, Functions and modes of delivery

The roles, functions and modes of delivery has changed due to

- Loss of powers of sanctions following completion of the NCC Water Review (see earlier discussion)
- Loss of management of the Smart Water Australia Program with its transfer to DEWHA. It is unclear whether there have been any added benefits from this transfer, though it appears to have been administered satisfactorily, perhaps due to the transfer of the officer who previously oversaw its operation in the NWC. We note that that officer was temporarily transferred to another DEWHA program to resolve evident difficulties that had arisen. It may also be observed that the loss of the skills of the seven Commissioners in evaluating project proposals could have been of some disadvantage to the decision-making process. It may also be noted that there were many "electoral commitments" that

- were encompassed in the Smart Water Australia program and such projects anticipated approval in principle if not in the detail of their implementation.
- Change in structure from having a combined Chair/CEO (a common US position, but unusual in Australia) to having two separate appointments. The original appointment appears to have been very successful, but there are also points in favour of the recently adopted alternative structure.
- The modes of delivery have undergone little change and have maintained a strong
 consulting emphasis, both at jurisdictional and industry level. The Commission appears to
 have been able to exercise more independent commentary through Commissioners and
 the Chief Executive on water issues under the present government than previously.
 Allowing the expression of that objectivity is considered a desirable attribute delegated to
 the Commission. It has made objective observations of technical, environmental,
 economic and social issues without engendering untoward political opportunism and its
 credibility appears to be high.

Key Decision-makers

The Key decision-makers on water policy issues are the COAG members and the portfolio Ministers of the Commonwealth and States/Territories, together with the Board Chairs and CEOs of water utilities and local government where it is involved with water services (notably NSW and Queensland). The NWC has maintained effective communication with the Chief Executives of the relevant government departments and with major water utilities and rural water supply organisations including through peak bodies such as the Water Services Association of Australia and the Australian Water Association.

Principal Stakeholders

An effective annual workshop has been held with a stakeholders' group of approximately 60 people drawn from government, industry, educational institutions and consumer groups. The Commission has also established specialised groups such as the Groundwater Technical Advisory Committee, the Urban Water Advisory Group to assist with priority setting for the Groundwater Action Plan and Raising National Water Standards programs, and has participated in the water-related subordinate structures of the former Standing Committee on Natural Resources Management and Standing Committee on Environment and Heritage.

The NWC established a Water Industry Skills Task Force with the Australian Water Association and the Water Services Association of Australia to provide for succession planning to meet the future needs of the Australian water industry. In consequence, the NWC is a co-sponsor of the water industry's marketing initiative, the *H2Oz Careers in Water Campaign*, which is encouraging people to both seek and embark on careers in the water sector.

An industry fellowships program has provided opportunities for staff from principal stakeholders to work "off-line" to prepare reviews of major technical areas. These have served as both a career development opportunity for young industry personnel and as new sources of technichal expertise published in the *Waterlines* series.

Other significant players

Other organisations involved in water issues include:

• the Australian Bureau of Statistics, some of whose functions appear to have been overlapping with those assigned to the Bureau of Meteorology

- Commonwealth Department of Sustainability, Environment, Water Population and Communities; and relevant States/Territories water departments which draft policy advice under direct Ministerial responsibility but do not have the level of intellectual independence available to the NWC. The NWC appears to operate effectively with subordinate staff as well as the Chief Executives
- Peak industry organisations (WSAA, AWA etc) who interface with the NWC on development issues such as a program to provide for expanded training programs for water operatives through succession planning,
- Research and Development organisations such as universities and CSIRO. Though the NWC is not primarily a research funder, some research has been supported as part of broader objectives of funded projects. A major proportion of Australian R&D is supported by statutory authorities and companies such as those developed under the Primary Industries and Energy Research and Development (PIERD) Act and the Australian Research Council. The NWC's level of independence is appropriate for also contributing to aspects of R&D.
- Producer organisations such as the National Farmers Federation and irrigators' organisations
- Regional bodies such as Natural Resource Management Boards and Catchment
 Management Authorities. Their precise responsibilities and functions vary between the
 States/Territories depending on the legislation under which they have been established.
- Indigenous communities and the need to recognise cultural water issues and entitlements.
 The NWC has established its First Peoples Water Engagement Council to provide advice to the Commission.
- International policy bodies and "think tanks". (NWC Commissioners and staff have been invited to contribute to international policy discussions, recent examples being the International symposium on Wastewater Reuse Technology (Seoul, Korea 2008), Australia-USA Water Forum (Los Angeles 2011), World Bank (Washington DC, 2010) British Columbia Water Science Symposium (2010) and the New Zealand Freshwater Management Forum, Wellington, NZ (2010)

Regional issues in Water Reform

Regional issues in water reform are primarily dealt with under whatever legislative frameworks the States/Territory governments have established. However, the NWC has interacted appropriately with regional bodies and appears to appreciate their perspectives, whether they be environmental groups, rural irrigators, farmers and small rural communities under the influence of rural adjustment pressures due to changing world market opportunities or the needs of indigenous communities. Water policy must recognise that reforming water market and changes in the marketing of food products nationally (including the rising role of an Australian supermarket oligopsony) mean that rural communities must adapt to these market changes including taking into account the true cost and sustainable availability of water as is implicit in the Intergovernmental Agreement on the National Water initiative.

Water Reform in the future

Further opportunities for water reform beyond those encompassed in the National Water Initiative are likely to arise in the future. Such reforms will need to be based on good science. Whilst Australia has a significant amount of water technology and policy research being undertaken, much of it Commonwealth funded, there are opportunities for this research to be better coordinated and integrated — a task that the NWC would be fitted to undertake.

There is a continuing role for an objective and independent authority which reports on the progress of water reform and adapts to further needs for water reform, particularly in issues or urban water management and in consideration of policy outcomes that may arise from the shortly-to-be released Murray Darling Basin Plan. The NWC addressed many such issues in its first Biennial Assessment, though there has been little recognition or implementation of these issues by governments. There is some evidence of recidivism in the last two years by at least two governments in their commitment to the Agreement. Further issues may well be discussed in its third Biennial Assessment. Governments have not kept pace with the reform agenda envisaged when they agreed to the Intergovernmental Agreement on the National Water Initiative.

It is the view of The Academy of Technological Sciences and Engineering that the National Water Commission is the appropriate body to continue to drive water reform in Australia as expressed in the National Water Initiative.

Recommendation

It is the recommendation of The Academy of Technological Sciences and Engineering that the remit of the National Water Commission currently under the National Water Commission Act (2004) be extended by legislative amendment for at least a further six years (allowing for two rounds of three-year appointments of Commissioners).