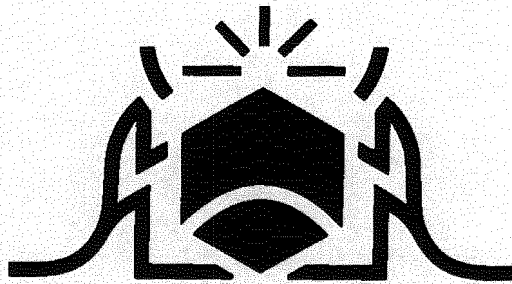


**Submission to the  
Inquiry into future water supplies for  
Australia's rural industries and  
communities  
House of Representatives  
Standing Committee on  
Agriculture, Fisheries and Forestry**



**The  
Institution of Engineers,  
Australia**

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HOUSE OF REPRESENTATIVES  
STANDING COMMITTEE ON  
AGRICULTURE, FISHERIES  
AND FORESTRY

## **Summary**

Engineering makes an important contribution to the water industry in Australia. The Institution of Engineers, Australia (IEAust) has 70,000 members. Members work in the rural water industry in areas including infrastructure development, water catchment management, environment protection and research and development.

Water is a valuable resource in Australia. Continuing problems with drought and fluctuating climate conditions, emphasise the need for policies that sustainably manage Australia's water supplies.

The rural sector accounts for 79% of the Australia's water usage. There are continuing problems with effective management of water supplies and protection of water resources such as rivers and lakes. The Federal Government is working with State and Territory governments and local communities to better manage rural water resources, through the Council of Australian Governments (COAG) and other government programs.

This submission identifies the Federal Government's contribution to managing rural water resources and discusses the effectiveness of its programs. This submission will also discuss irrigation farming which represents a significant proportion of agricultural industry in Australia.

The Federal Government has an important role to play in the management of water resources in rural Australia. Through the National Agenda for Water Reform, government programs and R&D, the Federal government is providing important assistance to rural communities and State and local governments, and build on Australia's research and development base to further support water resources management.

The IEAust believes that in order for this support to continue to be effective, the Federal Government must work with State and Territory governments to complete the COAG water reform agreement. It also further needs to continue to work with local communities and provide solutions to water quality and sustainability problems.

## **Federal Government Policies and Programs**

The Commonwealth Government plays an important role in ensuring sustainable water supply in Australia. Under the Council of Australian Governments (COAG) agreement, the Commonwealth coordinates policy.

COAG has established the National Agenda for Water Reform that incorporates competition policy with ecologically sustainable development principles. Key features of the agenda include:

- The water industry will be based on commercial principles, which means privatisation and corporatisation of utilities.

- Creation of wholesale water supply organisations separate from retailers who are concerned with managing local distribution networks and interfacing with consumers.
- Performance monitoring of wholesale and retail levels.
- Separation of supply from responsibilities of regulatory functions concerned with protecting the public interest in the way the resource is managed, allocated and priced.
- Water prices to be based on consumption and set to cover all costs of supplying the water.
- Water rights to be defined in a way that establishes them as a separate property right from the land.
- Markets to be set up to allow water rights to be traded freely and separately from land.
- Reduction or elimination of cross-subsidies in water provision.
- Allocation of water for the environment.
- Integrated catchment management as the vehicle for resource management.
- Public involvement and consultation.

Each year, the States and Territories report to COAG on progress with implementation of the agenda. Satisfactory progress on the agenda is linked to payments by the Federal Government. These payments are made in stages and are intended to compensate for the loss of income as a result of the implementation of competition reform.

The National Agenda for Water Reform represents a fundamental shift in water management in Australia. At its core, is recognition of competition and environmental management as key areas of importance.

The Federal government has established programs and policies that reflect aspects the National Agenda for Water Reform. These include the Murray Darling Basin Commission (MDBC), National Action Plan for Salinity and Water Quality (NAPSWQ) and the Natural Heritage Trust (NHT). Through these programs the Federal Government works with the States and Territories to coordinate sustainable management of water supplies.

The Murray Darling Basin Commission coordinates water policies with the States for the Murray and Darling river systems. Apart from the Federal Government, New South Wales, Victoria, South Australia, Queensland and the ACT are part of the MDBC. It is an autonomous organisation that is equally responsible to the governments it represents. The Murray and Darling river systems have significant problems with salinity. As part of its operating framework, the MDBC has established the Basin Salinity Management Strategy. It focuses on maintaining the water quality, controlling the rise in salinity and protecting important ecosystems.

The work of the Murray Darling Basin Commission is linked with that of Natural Heritage Trust (NHT) in terms of local community involvement in combating salinity and improving water quality. As part of its new funding package the NHT has undergone a restructure. It now has four key programs, the Landcare Program, the

Bushcare Program, the Rivercare Program and the Coastcare Program. The aim of these programs is repair native vegetation and waterways.

These programs will continue the work of previous programs such as the National River Health Care Program and National River Program, which were established to consider an Australia-wide Assessment of River Health. This assessment was used as a basis to build partnerships between government, industry and local communities to repair of aquatic ecosystems.

The NHT also provides information to resource managers through the National Land and Water Resources Audit. The Audit provides information and data on land, vegetation, biodiversity, agriculture and water resources. The Federal Government recently committed extra funding to the NHT for another five years.

The Federal government established the National Action Plan for Salinity and Water Quality (NAPSWQ) to complement the work of the Natural Heritage Trust. As with the Natural Heritage Trust, there is a strong emphasis on community involvement in policy planning and development.

NAPSWQ works with State and Local governments and local communities to develop management plans to combat salinity and improve water quality. NAPSWQ builds on the work of the NHT, the MDBC and the COAG National Water Agenda.

The key areas that the action plan focuses on are targets and standards for natural resource management, integrated catchment management, capacity building for communities, improved governance framework, clearly articulated roles for different levels of government and local communities and a public consultation program. The Federal Government is providing \$1.4 billion over seven years for the program.

The Federal, State and Territory governments have also developed a national framework for Environmental Management Systems (EMS). EMS is designed to assist agricultural enterprises to identify and manage their impact on the environment, and provide opportunities for improved business performance. The aim of the framework is to encourage partnerships for sustainable agriculture and voluntary adoption of EMS. EMS may have an important role to play in contributing to better water management by agricultural industries. Environmental and civil engineers are currently working in conjunction with governments and industry bodies to implement EMS standards for agricultural industries.

Apart from this, the Federal Government conducts research on water management in rural agricultural industries through its government agencies and the Cooperative Research Centres, CSIRO and the Rural Industry Research Development Corporation (RIRDC).

The RIRDC is working to improve the rice and fodder crop industries through development of new technologies and methods of harvesting and managing. The Rice program is set to receive over \$3.8 million for 2002-2003. The fodder crop program is set to receive around \$500,000 for 2002-2003.

The RIRDC also has a Resilient Agricultural Systems program that focuses on water quality, salinity and climate change issues. This program is set to receive \$950,000 in 2002-2003.

CSIRO conducts research through its Land and Water Division. It has a number of projects including water reclamation, treating wastewater and minimising contamination risks. Through these programs, it is forming research partnerships with other related organisations such as the Australian Water Association the Australian Water Quality Centre and various State water corporations.

Four Cooperative Research Centres conduct research into water resource management. These include the CRC for Freshwater Ecology, the CRC for Sustainable Rice Production, CRC for Water Quality and Treatment and the CRC for Catchment Hydrology.

Engineering plays a vital role in R&D in the water industry in Australia. Engineers contribute to government R&D in the water industry across a number of fields including civil, environmental and chemical.

### **Effectiveness of Federal Government's policies and programs to management of rural water supplies.**

#### *Water Allocation and Trading*

Although the Federal Government has provided policies and programs to assist with sustainable management of water supplies in Australia, the COAG National Water Reform Agenda has yet to be fully implemented. There are still problems with key aspects of the agenda such as allocation of water for the environment and water trading rights.

Water allocation remains a major problem. The interstate agreement to cap total water diversions from all sources in the Murray Darling Basin at 1994 levels has not yet been fully implemented. Many of the States have signed integrated catchment management agreements with the Federal Government, which stipulate water management allocation within them. However, State governments will need to establish comprehensive statutory water allocation plans for this section of reform agenda to be fully implemented.

In terms of water trading more research will have to be conducted into the effectiveness of existing programs. Water trading and the allocation of water rights is already occurring in many States. However, in rural agricultural industries it is only occurring in a limited capacity. Water trading may be important to ensuring sustainable allocation of water resources for irrigation and other agricultural industries. Currently, water trading in Australia mostly involves temporary transfer of water. The IEAust believes that for permanent transfer to occur, infrastructure and monitoring systems will need upgrading.

#### *Community Involvement*

Other aspects of the National Water Reform Agenda are being implemented by the States and Territories. Public involvement and consultation is being reflected in the NAPSWQ and NHT programs, although there is still room for improvement in this area. The establishing of wholesale water supply organisations is occurring in some States. This is also the case with elimination of subsidies for water provision, although they are still used in some sectors such as irrigation.

The IEAust believes that National Water Reform Agenda must be fully implemented if water supplies are to be maintained for the long term. Full implementation of the National Water Reform Agenda needs to be combined with increased investment in infrastructure and improved water distribution.

In terms of the NHT and NAPSWQ, the IEAust believes that community participation needs to be encouraged through maintaining long term funding and establishing clear roles for local communities in water resource management. This also reflects the public involvement and consultation aspect of the National Water Reform Agenda.

The IEAust National Salinity Prize highlighted the benefits of involvement by local communities, assists in managing salinity and water quality. The winner of the prize, The Lake Toolibin Recovery Scheme, combined the local community's work with government and industry support, to effectively manage salinity and restore water quality in the region.

The IEAust believes that maintaining funding for the NHT and NAPSWQ will provide local communities with support and guidance in managing their water supplies. NAPSWQ and NHT coordinate rejuvenation of water catchments and natural resource management by establishing guidelines that clearly delineate the role of each level of government and local communities.

By giving local communities assistance through NHT and NAPSWQ, the Federal Government can raise the level of understanding of the importance of water management and contribute to a wider awareness of environment issues.

#### *Research and Development*

The other area in which the Federal Government can support water resource management, is through research and development. R&D is an important aspect of the National Water Reform Agenda and can contribute through the adoption of innovative solutions for water efficiency. The Federal Government needs to build on the R&D base it already has, by providing funding for more research into the impact of rural water usage on biodiversity and for alternative farming methods that use water efficiently.

The continuing cycle of drought in rural Australia emphasises the need for the long term solutions. The IEAust views agricultural R&D as one of the government's key innovation priorities. R&D in water resources management is an important part of that priority.

### *Infrastructure*

Irrigation represents 25% of all farm production in Australia. The IEAust 2001 Infrastructure Report Card found that most of the existing irrigation infrastructure had been developed between 1920 and 1960, and is now approaching the end of its service life. If existing irrigation infrastructure is to be managed effectively, funding will have to be provided to assist in its rehabilitation.

This is primarily the domain of State and Territory Governments. However, the Federal Government can assist with the provision of appropriate guidelines for the rehabilitation of existing irrigation infrastructure through the COAG framework.

Part of the problem lies in the subsidising of irrigators by governments. This leads to wasteful water management practices and does not encourage irrigators to adopt new more efficient methods for running their farms.

The use of efficient technologies is being encouraged for new irrigation developments through the National Water Reform Agenda. This is being implemented in combination with the removal of subsidies, full cost pricing of water usage and water trading.

The IEAust believes that the policy of using new water efficient irrigation technologies will need to be extended to all irrigators, not just new irrigation developments. This includes improved on farm water efficiency, improved distribution system efficiency through the hydraulic upgrade of existing channels and improved river management.

The implementation of integrated catchment management strategies and water trading agreements, through the National Water Agenda and other programs is assisting in the management of agricultural irrigation systems. However, this needs to be combined with a comprehensive upgrade of irrigation infrastructure.

As part of the sustainable management of water resources in Australia, the IEAust recommends that:

- The National Water Reform Agenda must be fully implemented.
- Increasing R&D activities for new approaches to water resource management.
- Continue to emphasise the role of the community in programs such as the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality.