Assessment of Governments' Progress in Implementing the National Competition Policy and Related Reforms

AUSTRALIAN CAPITAL TERRITORY WATER REFORM

June 2001

NATIONAL COMPETITION COUNCIL

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The National Competition Council

The National Competition Council was established on 6 November 1995 by the *Competition Policy Reform Act 1995* following agreement by the Commonwealth, State and Territory governments.

It is a federal statutory authority which functions as an independent advisory body for all governments on the implementation of the National Competition Policy reforms. The Council's aim is to 'help raise the living standards of the Australian community by ensuring that conditions for competition prevail throughout the economy which promote growth, innovation and productivity'.

Information on the National Competition Council, its publications and its current work program can be found on the internet at www.ncc.gov.au or by contacting NCC Communications on (03) 9285 7474.

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Abbreviations

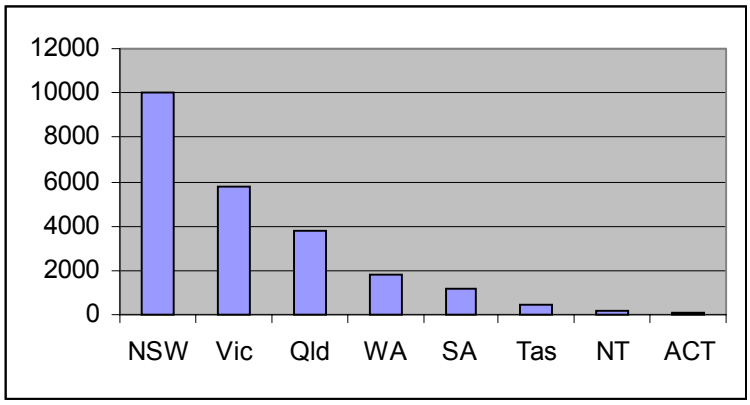
ACT	Australian Capital Territory
ACTEW	ACT Electricity and Water Corporation
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AUSRIVAS	Australian River Assessment System
CoAG	Council of Australian Governments
CPI	Consumer Price Index
CSO	Community Service Obligation
ICRC	Independent Competition and Regulatory Commission
IPARC	Independent Pricing and Regulatory Commission
MDBC	Murray-Darling Basin Commission
NCC	National Competition Council
NCP	National Competition Policy
NLWRA	National Land and Water Resources Audit
NWQMS	National Water Quality Management Strategy
WSAA	Water Services Association of Australia

Introduction

For the last seven years governments across Australia have been implementing the strategic framework for the reform of the Australian water industry. As the reform program is progressing, there has been a growth in both the understanding of the complexity of these reforms and the level of national recognition of the importance of change.

Australia's water use is growing. Water use grew by 59 per cent between 1983-84 and 1996-97, mostly due to increases in irrigated agriculture. Chart 1 illustrates the level of water use for each State and Territory in 1996-97.

Chart 1: Mean annual water use 1996-97 (GL)



Source: National Land and Water Resources Audit (2001)

There has been significant progress since governments first agreed to the reform framework.

- Metropolitan water businesses have shifted from being part of a larger government bureaucracy to customer focussed commercial operations. This has generated benefits such as a real reduction in customer bills of nearly five per cent over the last four years, with improvements in drinking water quality and effluent treatment.

- Most urban Australians face water prices that reflect the amount of water they use and to create an incentive to conserve water.

- The need for water to be allocated to the environment is legally recognised across Australia.

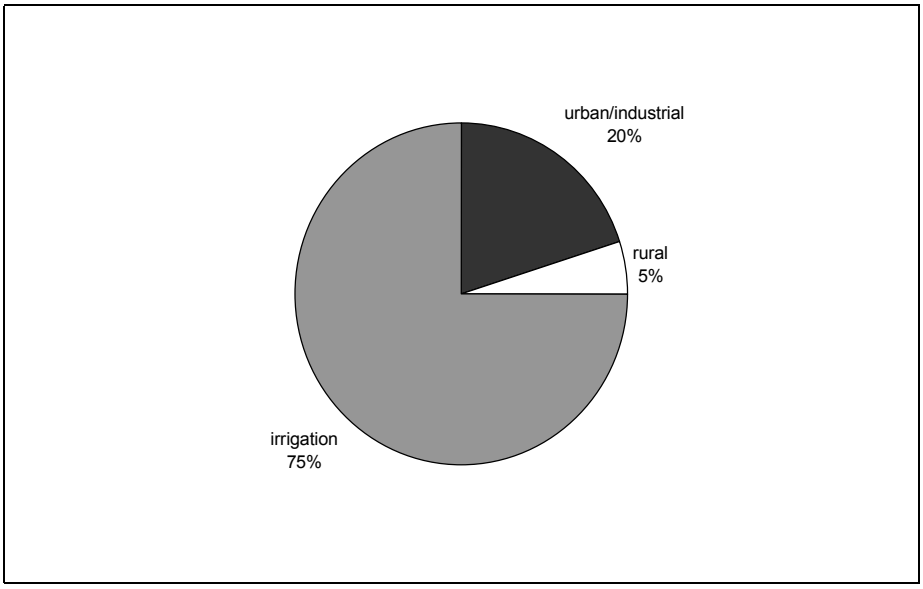
- Regional planning processes on natural resource management issues have started in all States and Territories and communities are heavily involved in consultation on these processes.

- All governments recognise the difficulties that are arising from incomplete scientific information on the ecology and hydrology of water systems, particularly groundwater systems. Governments are addressing this by adopting a precautionary approach to any further allocations of water and increasing the level of monitoring and research.

This is the National Competition Council's second major assessment of the implementation of water reform. The first (the second tranche assessment in June 1999) focussed on the passage of legislation and urban water reform. The June 1999 assessment identified a number of issues that needed to be progressed further before the Council could conclude that all of the States and Territories had met their water reform commitments. Consequently, following the June 1999 assessment there were four follow-up or supplementary assessments that addressed outstanding issues from the 1999 assessment.

The 1999 assessment process saw the passage of legislation that provides the overarching framework for many of the water reforms. The current assessment starts the process of reviewing how these frameworks are being implemented and whether, in practice, they are delivering appropriate reform outcomes. Previous assessments also focussed on the implementation of reforms in the urban sector because the timeframes in the CoAG water reform agreements envisaged urban reforms occurring first. However, as illustrated in chart 2, rural and irrigation water makes up the majority of water use in Australia.

Chart 2: Mean annual water use by category 1996-97 (gigalitres)



Source: National Land and Water Resources Audit (2001)

The Council's 2001 NCP assessment has a much broader focus. While it discusses outstanding urban pricing issues its primary emphasis is on the rural sector covering, pricing, property rights, water trading and environmental issues. This is the first assessment in which the agreements call for the Council to examine the detail of rural reform.

The 2001 NCP assessment has also recognised the importance of establishing clear property rights and allocating water to the environment through a transparent process of community based planning. The key elements of these processes are:

- governments setting timetables and supporting the development plans;
- community consultation and involvement in the planning process;
- the development of scientific information on which to base the plans; and
- finalised plans that provide:
  - sufficient information for stakeholders to understand the plan and its implications for irrigators, the environment and the community generally;
  - water for the environment in a way that reflects the current understanding of environmental needs; and
  - well defined water allocations that provide irrigators with predictability in their property rights.

Assessment

In its assessment the Council has identified that an important issue for New South Wales is the development of well defined property rights, including an appropriate registry system, while for Victoria the assessment raises issues about the process for allocating water for the environment. Both States have provided substantial responses to the Council detailing how they intend to deal with these issues both over the next twelve months and into the future. These will be important issues in the Council's 2002 NCP water assessment. New South Wales is consulting with stakeholders and will review its policy on the water rights registry system before November 2001. The Council will reassess New South Wales's approach to the water rights registry in December 2001.

Overall the Council's 2001 NCP assessment has concluded that all States and Territories have made sufficient progress to receive their 2001-02 NCP payments. However, while the Council found that the Queensland Government has taken a positive and active approach to encouraging reform among local governments, one local government, Townsville City Council has failed to explain why introducing reform of water pricing within its jurisdiction is not in the public interest. In this assessment, the Council recommended a permanent reduction of $270 000 in Queensland's NCP payments from 2001-02 (reflecting the remaining money available to Townsville Council for water reform through the Queensland Competition Authority's Financial Incentive Scheme). This reduction relates to the failure

by Townsville City Council to take a rigorous approach to considering consumption-based price reforms. The Council will reconsider Townsville's approach to two-part tariffs in the 2002 NCP assessment. It will look at both the progress made by Townsville and the State Government's efforts to resolve the issue. At that time, the Council will reconsider whether a continued reduction in competition payments is warranted and the appropriate size of any such reduction.

Finally, Queensland has acknowledged that the Condamine-Balonne is now a stressed river system. Consequently, the establishment of water allocations for the environment and consumptive use is now overdue. The Council will address this issue in its 2002 assessment. The Council is not satisfied that any of the options for setting environmental allocations specified in the draft water resources plan would be adequate to meet the environmental needs of the lower Balonne basin and the internationally listed Narran Lakes wetlands. More generally, the Council is not satisfied with the transparency of current reporting arrangements of the Government's final decisions for setting allocations. Queensland has agreed to address this concern over the next 12 months.

Local and national approaches to reform

The reform framework is a comprehensive approach that addresses the environmental, economic and social issues associated with water reform. It covers both surface and groundwater and recognises that while water reform is primarily a state responsibility some issues need to be addressed by coordination and cooperation between state initiatives. The approach to the Murray-Darling Basin is an obvious example.

State and Territory governments recognise the need for a more coordinated approach and are increasingly looking at water reform issues jointly. While some of these processes are in their early stages, it is the Council's view that they need greater emphasis if water reform generally is going to deliver the outcomes all stakeholders recognise as necessary. The following are examples where national approaches have been initiated to address important reform issues.

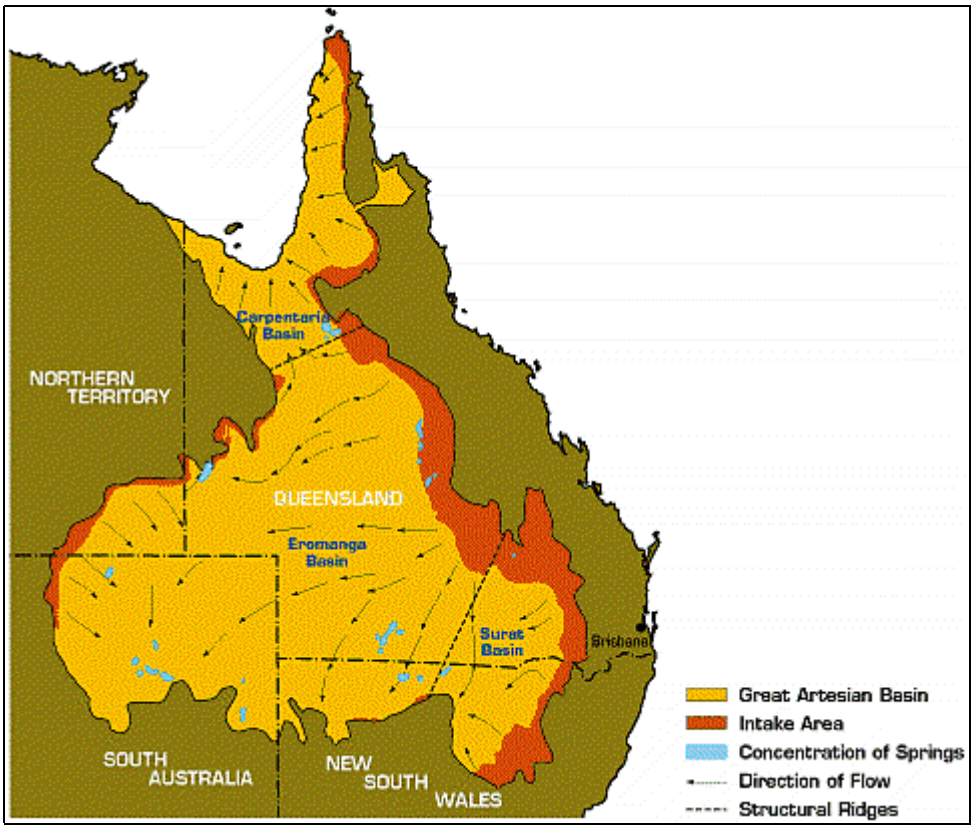
Managing groundwater basins cooperatively

The Great Artesian Basin is the largest artesian groundwater basin in the world. It underlies approximately one-fifth of Australia and extends beneath the arid and semi-arid parts of Queensland, New South Wales, South Australia and the Northern Territory, stretching from the Great Dividing Range to the Lake Eyre depression. The Basin covers a total area of over

1 711 000 square km and it has an estimated total water storage of 8 700 million megalitres (a megalitre is one million litres and is equivalent to about half the water in an Olympic swimming pool).

Many bores initially flowed at rates of over 10 megalitres per day. However, the majority of flows are now flowing between 10 000 litres and six megalitres per day. Total flow from the Basin reached a peak of over 2 000 megalitres per day around 1915, from approximately 1 500 bores. Since then, artesian pressure and water discharge rates have declined, while the number of bores has increased. The total flow from the basin during 1995 was in the order of 1 200 megalitres per day.

Figure 1: Great Artesian Basin



Source: www.gab.org.au (accessed July 2001)

The Great Artesian Basin Strategic Management Plan is a good example of a cooperative approach to managing groundwater resources. This plan was released in September 2000 after agreement by the Commonwealth, New South Wales, South Australia and Northern Territory Governments.

The plan proposes the following strategies to address basin management issues:

- a commitment to resource management partnerships to accelerate change;
- programs to encourage and achieve agreed understanding of the worth of the water resource;

- expanded infrastructure renewal programs, underpinned by public investments to:
  - stimulate private investments to minimise water losses and wastage; and
  - provide a platform for further investments in meeting environmental, social and economic objectives;
- changes to institutional arrangements and water entitlement systems to provide security of access to water (including water supply to priority groundwater-dependent ecosystems). Opportunities for new higher-value uses and clear responsibility for maintaining bore and reticulation systems maintenance;
- promotion of the socio-economic, environmental and heritage values of the basin;
- an emphasis on the need to sustain commitments to infrastructure renewal, maintenance and improved management;
- programs to improve knowledge and the technology underpinning improved management; and
- monitoring and evaluation to assess progress towards specific natural resource management outcomes sought through the plan.

These strategies provide guidance for governments, water users and other stakeholders on policies, programs and actions necessary to attain optimum economic, environmental and social benefits from the existence and use of basin groundwater resources.

This Great Artesian Basin Strategic Management Plan is expected to be implemented over the next 15 years at a cost of $286 million.

Interstate Trading

The CoAG water agreements explicitly recognise interstate trading as an important component of water reform. This view is reinforced by the observations made by the CSIRO that while '..intrastate trading is driving the market for water, interstate trading arrangements are keeping the various markets in place.' (CSIRO 2000, p.2)

The Murray-Darling Basin Commission's Pilot Interstate Water Trading Project was established to promote interstate water trading within the basin. The objective of the pilot is to facilitate and promote interstate trade of high-security water in the Mallee region of South Australia, Victoria and New South Wales as shown in figure 2.

Figure 2: The pilot interstate water trading project area

Source: CSIRO (2000)

The pilot, in operation since 1998, has resulted in:

- the increased value of water use in the basin by allowing water to move to higher value uses;
- the expansion of the number of traders able to participate in the water trading marketplace by allowing permanent trade to occur across State boundaries; and
- the movement of water out of degraded or areas of high environmental risk. (CSIRO 2000)

The Murray-Darling Basin Commission keeps a register of all transfers and calculates exchange rates for each trade. It must also assess each trade on the basis of any environmental damage it may cause and the physical capability of the system to deliver the water. The exchange rates are designed to account for transmission system losses in the river channel and for changes in the level of water supply security. The security can fall in response to the decreased ability to retain water within storages as the water moves upstream.

According to the review, the pilot enabled 51 trades — accounting for more than 9.3 gigalitres — between 1998 and September 2000. The total value of these trades was more than $9.9 million, with three trades individually worth more than $1 million. More than 90 per cent of the water traded (more than 8.8 gigalites) was transferred to South Australia.

The pilot was assessed in a two-year review of interstate trading (reported by the MDBC 2000). The review examined the net effect of the pilot and noted areas where progress or improvement could be made. The review findings included:

- that arrangements for interstate trade are improving;
- that administrative arrangements are an impediment to efficient trade and need to be streamlined;
- that interstate trading is increasing the value of water use in the Murray-Darling Basin;
- that interstate trade has had no measurable adverse social impact during the pilot;
- that environmental impacts are mixed. The environmental flow impact has probably been positive, while the salinity impact is expected to be negative;
- that exchange rates are poorly understood; and
- that mechanisms for enforcement need to be improved.

While going a long way to promote interstate trade, the Murray-Darling Basin Commission trial is restricted in both the area covered and the type of water rights that can be traded. Consequently, there are three issues governments will need to focus on in the future.

First, different types of water property rights exist within the basin. In some instances, inconsistent property rights could impeded interstate trade. A consistent approach to the key components of property rights, for example, security of tenure and security of water — is needed. Also needed is an exploration of opportunities to better define and specify the water property rights across the basin and to improve the exchange rate arrangements to reflect fully the extent of overallocation, security of tenure and the salinity impact. The Council notes the effort of the Murray-Darling Basin Commission in attempting to resolve some of these issues. In the 2002 NCP assessment, the Council will review the progress made in addressing concerns about property rights and, where relevant, check whether all jurisdictions have cooperated to resolve difficulties.

Second, the broader environmental impacts of trading will depend on the degree to which individual States set and enforce irrigation and drainage plans. The Murray-Darling Basin Commission and the member States need to consider further the best means by which to address environmental impacts of interstate trade.

Third, as the previous two issues are addressed, consideration needs to be given to expanding the pilot both in the area covered, and the types of licences that can be traded. For example, consideration is currently being given to the

creation of a second pilot zone between New South Wales and Queensland in the Border Rivers catchment.

Restoration of the Snowy River

The Snowy River is an Australian icon which has been degraded over the last 50 years as a result of the Snowy Mountains Hydro-electric Scheme. Its cultural, social and environmental values to the Australian community are immense and thus Governments have agreed that it is the top priority for restoration. The Victorian, New South Wales and Commonwealth Governments have agreed to restore this river with a combination of flow improvements generated by water saving projects and habitat improvements. The three governments have agreed to provide $375 million over 10 years to achieve this.

National Benchmarking

States and Territories have established a national process to extend inter-agency comparisons and benchmarking. Benchmarking systems are in place for the non-metropolitan urban and rural sectors, *WSAA Facts* is to be used to benchmark major urban service providers.

All States and Territories are participating in benchmarking projects.

The Water Services Association of Australia has been benchmarking major urban water service providers for 6 years. The most recent report covers 1999-2000 data. *WSAA Facts* (2000) covers 21 water businesses and provides information on:

- customer profiles and water volumes;
- service performance including, health, environment, service delivery and pricing;
- infrastructure; and
- economic and financial performance.

For the non-metropolitan urban sector, a report is compiled by the Australian Water Association under the direction of the Non Major Urban Water Utilities Working Group. The second national benchmarking report for the non-metropolitan urban service providers covered 1998-99 data and was released early in 2000. The report provides information covering 67 utilities from all States and the Northern Territory. It includes information on:

- customer and utility profiles;
- prices and revenues;

- energy consumption for water supply and environment (for waste water);
- levels of service;
- operating costs; and
- whole of business performance summary.

In total the non-metropolitan urban and *WSAA Facts* benchmarking reports cover water services to 83 per cent of the Australian population.

For rural schemes the second industry benchmarking report, covering 1998-99 data was prepared by the Australian National Committee on Irrigation and Drainage and released in February 2000. The report provides comparisons of performance in four key areas:

- systems operation;
- environmental issues;
- business processes; and
- financial aspects.

The Australian National Committee on Irrigation and Drainage is continuing to improve and refine their approach to benchmarking. The report notes, however, that data collection and reporting processes are still being developed and, therefore, this limits the ability to compare information between the 1997-98 and 1998-99 reports. It appears that the industry has a strong commitment to this project, as there was a 40 per cent increase in the number of rural service providers participating in the rural benchmarking project.

National Land and Water Resources Audit

The audit is a program of the Natural Heritage Trust. It was set up in 1997 to help improve decision-making on land and water resource management in Australia. In 2000, the fourth water resources assessment was undertaken in partnership with Commonwealth, State and Territory agencies.

The national audit provides summary information at national, State and Territory and surface water basin and groundwater management unit levels. It also identifies gaps and monitoring requirements which need to be addressed in order to make more effective water resource management decisions.

The key outputs of the water resources audit are to better define Australia's surface and groundwater management areas. The audit also attempted to quantify the amount of water being used and how it is being used and allocated.

The audit found that:

- of Australia's surface water resources, 84 of 325 basins (25 per cent) are either fully allocated or overallocated in terms of sustainable flow regimes. Of the 325 surface water basins, 44 have formal allocations for the environment;

- of Australia's groundwater resources, 161 of 538 groundwater management areas are either fully allocated or overallocated in terms of the sustainable yield assessments;

- water use efficiency, recycling, trading and pricing are increasingly becoming priorities and provide opportunities for development. To support this shift in development emphasis, improved information on water use is essential;

- water availability is at the centre of economic development and environmental management; and

- it is essential that Australia capitalise on the data collection investment of States and Territories and the audit and put in place Australia wide assessment and reporting systems.

The National Land and Water Resources Audit also produced a *Dryland Salinity Assessment 2000* in collaboration with the States and Territories which defines the distribution and impacts of dryland salinity across Australia.

The dryland salinity assessment concluded:

- approximately 5.7 million hectares of Australia are within regions mapped to be at risk or affected by dryland salinity. It has been estimated that in 50 years time the area of regions with a high risk may increase to 17 million hectares (three times as much as now);

- some 20 000 kms of major road and 1600 kms of railways occur in regions mapped as high risk. Estimates suggest these could be 52 000 kms and 3600 kms respectively by 2050;

- salt is transported by water. Up to 20 000 kms of streams could be significantly salt affected by 2050;

- Areas of native vegetation (630 000 hectares) and associated ecosystems are within regions with areas mapped to be at risk. These areas are projected to increase by up to 2 000 000 hectares over the next 50 years; and

- Australian rural towns are not immune: over 200 towns could suffer damage to infrastructure and other community assets from dryland salinity by 2050.

National Action Plan for Salinity and Water Quality

On 3 November 2000, CoAG endorsed the Commonwealth's proposal for an action plan to address salinity, particularly dryland salinity, and deteriorating water quality issues. These issues are of major national significance and are appropriately handled through a national action plan.

Salinity and deteriorating water quality are seriously affecting the sustainability of Australia's agricultural production, the conservation of biological diversity and the viability of our infrastructure and regional communities. At least five per cent of cultivated land is now affected by dryland salinity – this could rise as high as 22 per cent. One third of Australian rivers are in extremely poor condition, and land and water degradation, excluding weeds and pests, currently costs approximately $3.5 billion per year.

The Action Plan builds on the achievements of the Natural Heritage Trust, initiatives by individual State and Territory governments, the CoAG water reforms, and the work of the Murray-Darling Basin Commission.

The goal of the Action Plan is to motivate and enable regional communities to use coordinated and targeted action to:

- prevent, stabilise and start to reverse trends in dryland salinity affecting the sustainability of production, the conservation of biological diversity and the viability of our infrastructure; and

- improve water quality and secure reliable allocations for human uses, industry and the environment.

The national Action Plan will involve six elements, all of which are necessary to achieve lasting improvements over dryland salinity and deteriorating water quality:

1. targets and standards for salinity, water quality and associated water flows, and stream and terrestrial biodiversity agreed either bilaterally or multilaterally, as appropriate;

2. integrated catchment/regional management plans developed by the community and accredited jointly by Governments, in the 20 agreed catchments/regions that are highly affected by salinity, particularly dryland salinity, and deteriorating water quality;

3. capacity building for communities and landholders to assist them to develop and implement integrated catchment/region plans, together with the provision of technical and scientific support and engineering innovations;

4. an improved governance framework to secure the Commonwealth, State and Territory investments and community action in the long term: including property rights; pricing; and regulatory reforms for water and land use;

5. clearly articulated roles for the Commonwealth, State, Territory, local government and community to provide an effective, integrated and coherent framework to deliver and monitor implementation of the action plan; and

6. a public communication program to support widespread understanding of all aspects of the action plan so as to promote behavioural change and community support.

The action plan involves new expenditure by Commonwealth, State and Territory governments of $1.4 billion over the next seven years. The Commonwealth's financial contribution of $700 million for regional implementation of the action plan will be matched by new State and Territory financial contributions.

CoAG agreed that compensation to assist adjustment where property rights are lost will need to be addressed in developing catchment plans. While any such compensation is the responsibility of the States and Territories, the Commonwealth is prepared to consider making an additional contribution, separate from the $700 million announced to implement the action plan.

National Objectives for Biodiversity Conservation

In June 2001, the Commonwealth, New South Wales, Victoria, South Australia, Western Australia and the ACT endorsed an overarching policy document that sets targets and objectives for national biodiversity conservation in Australia.

The objectives cover such areas as:

- protection and restoration of native vegetation and terrestrial ecosystems;
- freshwater ecosystems, marine and estuarine ecosystems;
- control of invasive species;
- integration of measures for dryland salinity;
- promotion of ecological sustainable grazing;
- minimisation of the impact of climate change on biodiversity;
- maintenance of the biological knowledge held by indigenous people;

- improvement in scientific knowledge and access to scientific information; and

- introduction of institutional reform in integrated regional management and review and remove any legislative impediments to biodiversity conservation.

High Level Steering Group

The High Level Steering Group on Water provides a good example of intergovernmental cooperation in water reform. The group is set up under the Agriculture and Resource Management Council of Australia and New Zealand and comprises representatives of the agriculture and environment agencies of the Commonwealth and Australian State Governments.

This group's role is to help maintain the impetus of the CoAG water reforms, by reporting to the Agriculture and Resource Management Council of Australia and New Zealand and the Australian and New Zealand Environment and Conservation Council on progress in implementing reform. Importantly, the High Level Steering Group is also involved in valuable work to assist in implementation of the water reforms. This has included commissioning research on key reform issues such as costing and charges for externalities, establishing a consistent national approach to water trading, institutional approaches to water resource management, water for the environment and opportunities for improved management of groundwater. It is intended that, once finalised, these papers will be available on the Commonwealth Department of Agriculture Fisheries and Forestry website.

The Council's approach to assessing progress

The Council's approach to assessing the water component of the 2001 NCP assessment has recognised the complexity of the issues and the level of detail and breadth of the agreements. This assessment needs to accommodate the fact that each State and Territory faces different problems and has started with different sets of environmental and institutional characteristics.

The Council based its 2001 assessment on information provided by State and Territory Governments, its own research, and other reports including:

- The Australian Urban Water Industry (WSAA Facts);

- The National Land and Water Resource Audit Assessment of Water Resources 2000; and

- work by the High Level Steering Group on Water.

Stakeholders have also had a substantial input into this assessment. The Council received 10 submissions from irrigators and environmental groups. None of these submissions questioned the need for reform, or the underlying objectives of the water agreements. Generally, the submissions discussed the process and speed of reform and which aspects of the reform package should be given priority. However, there is universal recognition that appropriate water reforms are fundamental to Australia's future.

To facilitate a broad understanding of the Council's approach and to enable interested stakeholders to provide submissions the Council released a framework for the 2001 NCP assessment in February 2001.

The CoAG water reform agreements generally provide very broad descriptions of the water reform obligations. Because of this, the framework developed a more detailed explanation and interpretation of the water reform obligations. The framework did not redefine the commitments determined by CoAG, rather it's aim was to:

- provide a clear, transparent basis for assessment particularly in relation to matters considered in previous assessments;

- identify the type of information that jurisdictions should provide to demonstrate compliance; and

- provide a basis for early identification and bilateral discussion of areas where achieving reform outcomes is proving difficult.

The assessment framework is at appendix A to this document.

To further assist informed debate the Council also released seven discussion papers (see box 1). The discussion papers are available on the Council's website.

In this report the Council has provided comprehensive coverage of the water reform assessment issues identifying current and future issues and providing sufficient information to inform stakeholders of the reasons for the assessment.

Box 1: Background information papers on water reform commitments

Rural water pricing - covers full cost recovery in the rural sector including CSOs and positive rates of return.

New investment in rural water infrastructure - discusses a methodology to assess the economic viability and ecological sustainability of new investments in this area.

Institutional reform issues in the water industry - discusses why regulation is important and examines the potential for conflicts of interest between regulation and service provision and arrangements to deal with these.

Environmental requirements of the CoAG Water Reforms (paper prepared with the assistance of Environment Australia) - outlines the national agreements on the environment that may be useful as a guide in reporting progress against the environmental requirements of the water framework.

Implementing the National Water Quality Management Strategy (paper prepared by Environment Australia and the Department of Agriculture Fisheries and Forestry Australia in consultation with State and Territory government agencies) - the Commonwealth, after consultation with States and Territories, has proposed that implementation of the guidelines should be assessed through a two yearly review process. This paper provides a list of the component modules of the National Water Quality Management Strategy guidelines and their current status. The Council will be looking to jurisdictions to show how the guideline principles have been adopted in the 2001 NCP assessment and subsequent assessments.

Defining water property rights - discusses the specification of water property rights so as to promote efficient and sustainable investment and trade.

Water reform and legislation review - outlines the status of legislation reviews of relevant water legislation for each jurisdiction based on a stocktake report conducted by Marsden Jacob consultants.

Australian Capital Territory

The Cotter and Queanbeyan rivers, which are tributaries of the Murrumbidgee River, are the main sources of water supply in the ACT. Metropolitan and urban use dominates the ACT water sector. The major users are the household and the business sectors located in Canberra and Queanbeyan. Groundwater use in the ACT is relatively small, mainly for golf courses and on farms for domestic, stock and irrigation purposes. The ACT does not have any overallocated or stressed water systems. Nor is there any publicly funded rural water supplies.

ACTEW Corporation, a Territory-owned corporation, is the service provider, that supplies metropolitan water and sewerage services. ACTEW and AGL recently formed a joint venture (ActewAGL) with the aim of improving the performance of the Territory's water, wastewater and energy services. Under the new partnership arrangements, ACTEW retains the ownership of water and wastewater assets. Service delivery is contracted to the partnership entity ActewAGL.

The water resource service manager in the ACT is Environment ACT within the ACT Department of Urban Services. The Independent Competition and Regulatory Commission (formerly the Independent Pricing and Regulatory Commission) sets standards for economic performance. The Environment Management Authority of Environment ACT and the Department of Urban Services set the environmental and other standards respectively. The Independent Competition and Regulatory Commission regulates prices. Under the *Utilities ACT 2000*, the Essential Services Consumer Council and the Safety and Technical Regulator can provide other required regulatory functions.

Progress on reforms

Pricing and cost recovery

In its second tranche NCP assessment the Council concluded that the ACT had substantially implemented urban water pricing and cost recovery reforms. These included: introducing two-part tariffs; removing cross-subsidies from pricing structures; implementing well defined and targeted community service obligation (CSO) regimes; achieving a positive rate of return on assets in urban water supply; and fulfilling the requirement to

assess the economic viability and ecological sustainability of new investments.

The ACT has further improved cost recovery by adopting a water 'abstraction charge' on all licensed use, including water harvested by ACTEW. The Independent Competition and Regulatory Commission recommended in February 2000 recommended that the 10 cents per kilolitre abstraction charge be fully passed through to the consumers. The abstraction charge reflects catchment management costs, environmental costs of water supply and use, and a scarcity value of water.

ACTEW's has a two-part tariff with a stepped volumetric charge and has been reducing the level of consumption that triggers a higher per unit charge. The Council supports this reform as long as it does not lead to monopoly returns.

ACTEW water and water services have continued to recover costs above the lower bound of the CoAG pricing guidelines.

The Council is satisfied for the 2001 NCP assessment that the ACT has complied with urban water pricing and full cost recovery commitments.

Institutional reform

The Council concluded in its second tranche NCP assessment that the ACT had met the institutional reform requirements to a large extent, particularly given its intention to implement the reforms to regulation proposed in the Statement of Regulatory Intent for Utilities in the ACT. The ACT has passed the Utilities Act that gives effect to the framework set out in that statement. The new regulatory framework enhances the ACT's institutional reforms, for example, it clearly defines the responsibilities of industry and technical codes that will be binding on all utilities, including water utilities. The Independent Competition and Regulatory Commission, Essential Services Consumer Council and the Safety and Technical Regulator will administer the Act's provisions. Environment ACT will continue to retain responsibility for environmental management and the Chief Health Officer will have responsibility for ensuring public health requirements, including protecting drinking water quality. The ACT is still in the process of implementing these reforms. While considerable progress has been made since the second tranche NCP assessment, the Council has identified several issues that it will monitor in the 2002 NCP assessment.

The Utilities Act, and in particular, the draft operating licence requires ACTEW to participate in the Water Services Association of Australia performance monitoring and benchmarking arrangements. Under the ACTEW and AGL partnership arrangements, ACTEW will manage the water and wastewater assets according to agreed standards and performance indicators. The new partnership arrangements are expected to strengthen ACTEW's commercial focus. The Council is satisfied for the 2001 NCP

assessment that the ACT has complied with institutional reform commitments.

Allocation and trading

In its second tranche NCP assessment the Council concluded that the *Water Resources Act 1998* provided for a comprehensive system of water entitlements and that the ACT had procedures and policies that will allow allocations to be developed for the environment. The Council noted the need to monitor the Territory's commitment to complete the water allocation process and its development of trading rules and interstate trade before the 2001 NCP assessment.

The Water Resources Act was supplemented by the environmental flow guidelines in December 1999 and the Water Resource Management Plan in February 2000. Water allocations are managed through the plan, which sets out estimates of total water resources, environmental flow requirements and water available for consumption. Under the plan, environmental flows are allocated for 10 years for all 32 subcatchments in the ACT. The ACT has advised that there will be a review of these allocations in 2003.

While groundwater use is relatively minor in the ACT, the Government continues to require groundwater bores to be metered so by 2002 it will have a better basis to allocate water for groundwater use. The Council has reviewed water allocation arrangements in the ACT and remains of the view that almost all water use in the Territory is covered by a comprehensive licensing and allocation system.

There is no demand for intra-territory trading in water, so no trading rules have been developed. However, as demand for water expands, it is important that trading rules are developed, clearly understood and implemented. Interstate trade, particularly between the ACT and New South Wales, is likely to occur in the future. It has been constrained by two factors: first, the lack of trading rules for the Murrumbidgee Valley; and second, the absence of the ACT component of the Murray-Darling Basin Commission cap on water extraction. The Commission needs to develop rules for a wider water trading market that could enable the ACT to take part in interstate trade.

The ACT's conservative approach to environmental allocation implies that the absence of a cap is not putting the environmental water requirements at risk. However, an ACT cap is being negotiated. The Council notes that the current arrangement whereby the ACT cap remains unspecified is not in the long-term interest of the Territory or of the integrity of the general operation of the Murray-Darling Basin Commission cap.

In the 2002 NCP assessment, the Council will review the ACT's progress in negotiating the cap and resolving other impediments to interstate trade. The Council is satisfied for the 2001 NCP assessment that the ACT has complied with water allocation and trading reform commitments.

Environment and water quality

In its second tranche NCP assessment the Council noted the need to monitor the development of integrated resource management initiatives in the ACT. Developments since the second tranche NCP assessment include the release of the Territory's integrated catchment management framework in March 2000. The framework supports the development of subcatchment management plans by community groups working with the government. Two such subcatchment management plans were released in 2000.

In relation to the implementation of the National Water Quality Management Strategy guidelines, the Council's second tranche NCP assessment noted the need to monitor the ACT's progress in developing necessary arrangements. For drinking-water quality the ACT developed the Drinking Water Quality Code of Practice in 2000 under the *Public Health Act 1997*. It is a performance-based code that references the 1996 Australian Drinking Water guidelines. The code clearly specifies the roles of the water service provider, ACTEW, and the ACT Chief Health Officer in ensuring the quality of drinking-water.

In 2000 the ACT also implemented a polluter-pays charging system for environmental authorisation to maintain water quality. The Council is satisfied that for the 2001 NCP assessment, that the ACT has complied with environment and water quality reform commitments.

Consultation and education

The ACT Government has undertaken widespread public consultation and education programs in relation to its water industry reforms in developing the Utilities Act. For example the ACT Government (particularly through the Department of Treasury) initiated an extensive two-year consultation process. This has involved public workshops and community forums. The Department of Urban Services has an ongoing role in promoting community involvement and partnership in the management of natural resources, including water, through Waterwatch, Landcare, school groups and catchment management initiatives.

In its second tranche NCP assessment, the Council noted that it is inappropriate for service providers to make decisions on the level of public education on matters such as water conservation. The ACT has indicated that it agrees that responsibility for appropriate public education lies with the relevant Government agency, not with the service provider. The Council is satisfied for the 2001 NCP assessment that the ACT has complied with public education and consultation reform commitments.

Assessment

The ACT has met reform commitments required for the 2001 NCP assessment. The ACT has demonstrated a substantial degree of commitment and progress, implementing water reforms.

Pricing and cost recovery: urban

Governments have agreed that urban, non-metropolitan urban and rural water services should introduce full cost recovery and consumption based pricing and identify and report CSOs and cross-subsides. (clause 3)

The water industry in the ACT can be divided into two sectors the metropolitan urban and rural sectors. Most of the Territory's water and wastewater users are located in urban areas. ACTEW provides bulk and reticulated water and wastewater services to households, businesses and industry in these areas.

There is no government-owned or funded irrigation in the ACT. Charges for rural water services such as licensing extractions are set under the Water Resources Act and administered by the Environmental Management Authority.

In 1999-2000 infrastructure assets valued in the order of $800 million were used to deliver water and wastewater services to 122 760 water and 119 846 wastewater customers (ACTEW 2000). A total of 57 929 megalitres of water were supplied with average consumption per person of around 175.5 kilolitres. Almost 33 gigalitres of wastewater was treated, with an average per person of 105.2 kilolitres (ACTEW 2000). All water supplied by ACTEW is obtained from impounding reservoirs (dams and so on).

Full cost recovery

Governments have agreed to set prices so that water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but to avoid monopoly returns. To this end governments agreed that prices should be set by a jurisdictional regulator (or its equivalent) to recover:

- at most the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital; and

- at least, the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.

Asset values should be based on the deprival methodology unless an alternative approach can be justified and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment. Governments can still provide assistance to special needs groups through community service obligations but this should be done in a transparent way. (clauses 3a and 3b)

ACT arrangements

Commercial viability

In 1999-2000 ACTEW water and wastewater services earned a before-tax profit (Table 1).

Table 1: ACTEW operating result, by industry segment, 2000 ($'000)

	Electricity	*Water*	*Waste-water*	*Other*	*Totals*	*Eliminations*	*Consolidated*
Operating revenue							
Sales to outside customers	228 309	46 734	53 152	8 583	336 778		336 778
Intersegment sales	1 936	167	66	8 753	10 922	(10 922)	
Other revenue	11 421	1 968	9 368	3 786	26 543		26 543
Total revenue	241 666	48 869	62 586	21 122	374 243	(10 922)	363 321
Segment results before tax	**48 354**	**14 274**	**28 257**	**(16 466)**	**74 419**		**74 419**

Source: ACTEW (2000).

Rate of return

Overall, (including energy activities) ACTEW recorded a total operating profit after tax of $65.4 million - an increase of $20.5 million on the preceding year's profit. Before-tax water and sewerage business returns rose by 26 per cent and 47 per cent from their 1998-99 levels to $14.3 million and $28.3 million respectively. The ACTEW 2000 annual report stated that the bulk of the increase in returns was due to tax adjustments.

WSAA facts 2000 reported that real economic rates of return to water and wastewater services in 1999-2000 reached their highest levels in at least five years, recording real economic rates of return of 4.9 per cent and 7 per cent respectively.

Taxes and tax equivalents

ACTEW is subject to the Territory's tax equivalent regime. In 1999-2000 ACTEW paid income tax equivalents of $8.7 million a significant reduction on the $21.7 million paid the previous year. The ACT have advised that a significant factor in this was the increased taxation options available to ACTEW following its move to fully commercial arrangements.

Dividends

ACTEW paid a dividend of $65.7 million to the ACT Government in 1999-2000. This payment reduced ACTEW's retained earnings to zero. Retained

earnings were also reduced to zero in 1998-99 following payment of a $45.7 million dividend.

Assets

For reporting purposes, water asset values are based on the recoverable amount determined by estimating the net present value of the future cash flows associated with the assets as at 30 June 1997. Wastewater assets are reported at their 'fair values' as at 1 July 1995. The appropriateness of wastewater asset values is reviewed annually by reference to the recoverable amount. ACTEW accounts for assets consumption for most major assets via straight line depreciation. Non-infrastructure land and buildings are revalued every three years.

In setting maximum prices the Independent Pricing and Regulatory Commission (now the Independent Competition and Regulatory Commission) has valued ACTEW water and wastewater assets at their estimated economic value (recoverable amount), adjusting contributed assets and asset augmentation. Straight line depreciation was used in projecting asset roll forward (that is, adjustments to the initial asset base to reflect changes in the value of the productive capacity of existing assets and new investment in the business).

Discussion

In regard to full cost recovery, the Council's second tranche NCP assessment concluded that ACTEW:

- meets operating, maintenance and administration costs;
- meets interest costs;
- pays tax or a tax equivalent;
- pays a dividend to Government; and
- earns a real rate of return on capital.

ACTEW water and wastewater services have continued to recover costs above the lower bound of the CoAG guidelines. In regard to the upper bound, the Council notes that ACTEW enjoyed a significant increase in returns in 1999-2000. The Independent Pricing and Regulatory Commission price direction for 1999-2000 to 2003-04 recommended price increases of the consumer price index (CPI) plus 3 to 4 per cent for water services and an increase of CPI plus 0 to 1 per cent for wastewater prices, leading to a return on assets[1] of 4.8 to 6.6 per cent for water services and 6.1 to 6.3 per cent for wastewater

[1] Pre-tax and excluding capital contributions.

services.[2] This compares with a return on assets for 1999-2000 of around 3 per cent and 7 per cent for water and wastewater respectively.

Actual returns to wastewater services, based on the available information, are slightly above the Independent Pricing and Regulatory Commission estimated return. The ACT has argued that higher-than-anticipated returns are not inconsistent with the CPI–X incentive regulation approach adopted by the Independent Pricing and Regulatory Commission. Under the 1999-2000 to 2003-04 price direction, to the extent that ACTEW is able to improve its productivity levels at a faster rate than that assumed in the price direction, then it is able to retain the higher returns earned until the end of the period for the determination. The return earned by the wastewater businesses is also well below the pre-tax nominal weighted average cost of capital (10.3 to 12.8 per cent) estimated by the Independent Pricing and Regulatory Commission.

In regard to dividends paid by ACTEW, the ACT advises that from 1997-98 to 2000-01 the dividend target was to be based on 100 per cent after-tax profits, although the actual dividend payment was subject to the circumstances and trading results of each year. The Council is potentially concerned about the limited reserves being retained within the business for future growth. The Council is satisfied with the measures in place to value and maintain existing assets, but is potentially concerned that a pay-out ratio of 100 per cent does not leave funds within the business to assist future growth or provision for higher service or environmental standards. In these circumstances ACTEW would have to increase its debt or the Government would have to provide an injection of capital. The Council will seek to explore this matter with the ACT prior to its next assessment. In doing so the Council will look to ensure the ACT's dividend policy to be consistent with the CoAG guideline's requirement that dividends where provided they reflect 'commercial realities and stimulate a competitive market outcome'.

Assessment

The Council is satisfied that the ACT has complied with 2001 full-cost recovery commitments for urban water and wastewater. The Council will revisit the ACT Government's dividend policy when it reviews progress again in 2002, to ensure consistency with CoAG commitments.

[2] The Independent Pricing and Regulatory Commission also set side constraints to limit the price impacts on individual customers. For 2000-01 the side constraint for water limits the real increase in water bills to 6 per cent and the increase in wastewater bills to 1 per cent, after allowing for inflation.

Consumption-based pricing

Governments have endorsed the principle that prices should reflect the volume of water supplied so that prices encourage more efficient water use and to give customers more control over the size of their water bill. For urban water providers using surface or groundwater, two-part tariffs (comprising a fixed access component and a volumetric cost component) are to be introduced where cost effective. (Clause 3a and 3b)

ACT arrangements

Retail and distribution water charges

ACTEW has set a two-part tariff for water services, comprising a $125 fixed access/supply charge and a stepped volumetric charge. For 2000-01 the price step for the volumetric charge was lowered from 276 kilolitres to 251 kilolitres. The charge for consumption above the step was also be increased to $0.86.

Table 2: ACTEW water supply charges, 1999-2000 and 2000-01

1999-2000		*2000-01*	
Standard supply charge	*$125/year*	*Standard supply charge*	*$125/year*
Consumption to 276 kL	$0.38/kL	Consumption to 251 kL	$0.38/kL
Consumption above 276 kL	$0.83/kL	Consumption above 251 kL	$0.86/kL

Note: Excludes abstraction charge.

Source: ACTEW (2000).

The Government established a 10 cent per kilolitre water abstraction charge and announced it in the 1999-2000 Budget. The Independent Pricing and Regulatory Commission directed that the water abstraction charge be treated as a direct pass through, as shown separately on the water bill. In making its direction, the Commission stated that:

> *For the water abstraction charge to have the desired effect in terms of signalling the scarcity value of water and the environmental costs associated with its use, the Commission considered that it was desirable that there be a pass through of the charge in a manner such that final consumers could both identify the cost involved and were required to pay that cost (IPARC 2000, p.5)*

The abstraction charge applies at the full rate to those customers such as schools and churches for whom a CSO-funded discount is currently paid. The Independent Pricing and Regulatory Commission direction notes that if the Government wishes to extend the discount to these customers to cover all or part of the abstraction charge, then it will need to negotiate an appropriate CSO with ACTEW.

For unmetered properties and multiple dwellings such as flats, a consumption rate of 175 kilolitres is deemed and a fixed charge is made.

Bulk water charges

The Independent Pricing and Regulatory Commission noted a preference in its 1999-2000 to 2003-2004 direction for bulk water prices to reflect efficient cost of water delivery, and for two-part tariffs with the use component reflecting the marginal cost of supply. Although not determining a price, the Independent Pricing and Regulatory Commission did direct that ACTEW is free to negotiate bulk water prices so long as customers are charged no less than the avoidable costs of supply.

The ACT have advised that ACTEW currently provides bulk water to the Queenbeyan local government. Charges for this service are negotiated between the two parties but must fall within the avoidable cost and stand alone cost of the service.

Wastewater charges

The Independent Competition and Regulatory Commission regulates wastewater charges. Charges for 1999-2000 and 2000-01 are shown below.

Table 3: ACTEW wastewater charges, 1999-2000 and 2000-01

	1999-2000	*2000-01*
Residential supply charge	$310.5/year	$317.60/year
Non-residential supply charge	$310.50/year	$317.60/year
	plus	plus
	$269.10 for each flushing unit in excess of two	$275.60 for each flushing unit in excess of two

Source: ACTEW (2000)

Trade waste charges

The Council understands that ACTEW does not currently levy trade waste charges. Under existing arrangements an application can be made to ACTEW to discharge trade waste into the wastewater system; however, in approving the application, ACTEW can place conditions on the approval to ensure no adverse effect on the fabric or operation of the system. These conditions could include:

- limiting the nature, components and characteristics of the waste;
- limiting the total daily and average peak volume that may be discharged;
- requiring that a specific waste treatment or management process be used; and

- requiring storage facilities be used to control the rate of discharge.

Discussion

ACTEW has applied a two-part tariff consistent with CoAG commitments. The Council supports the reduction in the level of consumption that triggers a higher per unit charge because this provides a stronger incentive to improve water use efficiency.

In its direction on the water abstraction charge, the Independent Pricing and Regulatory Commission noted that it intends to examine further the issue of whether individual meters should be provided for multiple dwellings such as flats as a means of more accurately measuring consumption. The Council supports the introduction of metres (wherever cost effective) so water bills are directly reflective of the volume of water used, thus encouraging more efficient water use.

The Council is satisfied that bulk water retail wastewater charges are consistent with CoAG commitments. However, the Council strongly urges the ACT to move towards a trade waste charge. The absence of such a charge reflecting both the quantity and quality of the waste provides significant scope for non-transparent cross-subsidies and has the potential to undermine the principle of consumption-based pricing endorsed by governments when they agreed to the CoAG .

Assessment

The Council is satisfied that the ACT has meet 2001 NCP commitments in this area, but is concerned that ACTEW does not have trade waste charges. The Council will look for this matter to be substantially addressed when it reviews progress in 2002.

Community service obligations

Where service deliverers are required to provide water services to classes of customers at less than full cost this cost be fully disclosed and ideally be paid to the service deliverer as a CSO. Governments have agreed that the Council would not make its own assessment of the appropriateness of any individual CSOs but would review information provided by governments in totality to ensure that these CSOs do not undermine the objectives of the agreed water reform framework. (clause 3a)

ACT arrangements

The Utilities Act confers on the Minister the power to direct that a utility such as ACTEW provide a defined service in accordance with the relevant Government programs. However, this direction can only be made once all

reasonable efforts have been made to reach agreement with the utility to achieve the desired result (such as the provision of a discount to a particular group). The amount of the CSO is to be based on the avoidable cost method.

The ACT 2001 NCP annual report states that ACT policy since 1997-98 has been that CSOs be identified and separately funded. CSOs provided by ACTEW for water and wastewater services are shown below.

Table 4: CSOs delivered by ACTEW, 1999-2000

Description	*Value ($'000)*
Half cost of water use for schools and churches	859
Half cost of wastewater services to hospitals and churches	1335
Compensation for water and wastewater rates for lease granted under the (repealed) *Church Land Act 1924*	30
Rebates on water and wastewater bills to pensioners	2621
Administration costs for rebates	115

Source: ACT (2001).

Assessment

The Council is satisfied that the ACT has met its 2001 NCP commitments in this area.

Cross-subsidies

Cross-subsidies should be transparently reported and ideally removed where they are not consistent with efficient service provision and use. (clauses 3a, b and c)

ACT arrangements

ACTEW is a vertically integrated supplier of water, wastewater and electricity services to customers throughout the ACT. Consequently, there would appear to be potential for significant cross-subsidisation between ACTEW's activities or customer groups. As noted in the second tranche NCP assessment, CSOs and subsidies — scrutinised through the Independent Pricing and Regulatory Commission process — are determined and funded by Government and directed to meeting social objectives. The Independent Pricing and Regulatory Commission identified cross-subsidies between both electricity and water customers and domestic and industrial customers. It also noted that water prices have been raised so the need for subsidy is reduced. Water prices will continue to rise as other relevant costs are recognised in the price and as external costs are passed through to consumers in water accounts. In addition, CSOs are made transparent and reported annually.

Discussion and assessment

The Council notes that reform undertaken by the ACT, including prices oversight by the Independent Competition and Regulatory Commission, reduces the potential for non-transparent cross-subsidies. However, the Council is concerned that the absence of trade waste charges is a significant potential source of cross-subsidies.

The Council is satisfied that the ACT has met 2001 NCP commitments in this area but will look for substantial progress in developing a trade waste charging regime when it next assesses performance in 2002.

Pricing and cost recovery: rural

For the purposes of water pricing the Council has defined the rural supply sector to include all water supply services other than those supplied to urban customers. A broad definition has been adopted to achieve a comprehensive application of pricing reform across the water and wastewater industry. Under this definition CoAG rural water pricing commitments apply to such activities as:

- services provided by government-owned irrigation schemes and government-owned bulk water supply services to users in non-urban areas, such as private irrigation schemes, power stations or processing and mining plants; and

- licence fees set for commercial users extracting surface or groundwater using their own infrastructure.

The ACT has no publicly owned rural water infrastructure, so the Council does not need to assess compliance with CSO or cross-subsidy commitments. Extraction licences are issued to a range of water users.

Full cost recovery

Governments have agreed that urban, non metropolitan urban and rural water services should introduce full cost recovery and consumption based pricing and identify and report CSOs and cross-subsides. (clause 3)

ACT arrangements

Licence fees are paid by non-urban users such as golf courses and irrigators. Fees are set under the *Water Resource Act 1998* by the Minister for Urban Services. The Act does not provide guidance as to the matters to be taken into in setting these fees. Currently fees charged to water users include:

- a fixed charge for granting water allocations;
- a licence application charge;
- a licence volume based annual licence administration charge;
- a volume based abstraction charge (discussed in urban pricing section above); and
- fixed application fee and annual fee for recharge licences.

The Council has been advised that licence fees are set so as to broadly reflect of the cost to the Government of processing the licence. In the case of the annual administration fee, the ACT notes that the larger the licence volume the greater the amount of analysis warranted to ensure its environmental sustainability and thus the higher the cost. The Council has also been advised that a more rigorous determination of the actual cost of each licence is not warranted given the size of the ACT and the nature of its resource management system.

Discussion

In assessing compliance with rural cost recovery commitments across Australia for the purposes of the 2001 NCP assessment the Council's primary focus has been on the performance of government-owned or funded irrigation. Cost recovery by other rural water services will receive closer scrutiny in future assessments. As noted above, the ACT does not have any publicly-owned or funded irrigation schemes.

In regard to charges for other rural water services, available information suggests that under current ACT arrangements licence fees are set on a relatively ad hoc basis. The Council notes that administrative and compliance arrangements should be as streamlined as possible so as to avoid unnecessary costs. However, the Council is also of the view that charges should as far as possible send an effective price signal to water users so as to encourage efficient water use.

The Council suggests that in setting future fees consideration be given to establishing a more robust estimate of the cost of processing and enforcing licences. Further consideration should also be given to an appropriate methodology for allocating these costs (for example, using an avoidable cost method). Independent expertise potentially provided by the Independent Competition and Regulatory Commission could assist this process. This matter will be revisited in future assessments.

Assessment

In the absence of any publicly-owned or funded rural water infrastructure the Council is satisfied that the ACT has met 2001 commitments in this area. However, in undertaking future assessments the Council will look at the mechanisms for setting other rural charges.

New rural schemes

Governments have agreed that all investments in new rural water schemes or extensions to existing schemes should only be undertaken after appraisal indicates that it is economically viable and ecologically sustainable. (clause 3d(iii))

The arrangements established by the ACT to ensure new developments are both economically viable and ecologically sustainable were outlined in the second tranche NCP assessment. The Council has been advised that no new Government-funded or private rural water infrastructure has been developed since the second tranche assessment in 1999.

Any new developments or rural infrastructure are subject to the water use and catchment policies of the Territory Plan (which protect water and catchments by specifying environmental uses and environmental values that must be protected) and the allocation, licensing and environmental flow provisions of the Water Resources Act.

Assessment

There have been no significant developments in this area since the second tranche NCP assessment. Consequently, the Council reiterates its assessment that ACT arrangements are consistent with CoAG commitments.

Institutional reform

Structural separation

As far as possible the roles of water resource management, standards setting and regulatory enforcement and service provision should be separated institutionally by 1998. (clauses 6c and d)

The water sector in the ACT is characterised by one utility, ACTEW, which provides metropolitan water and sewerage services. ACTEW is a Territory-owned corporation.

The Department of Urban Services is responsible for storm water services although the actual provision of these services is contracted out. Below ground storm water assets are currently maintained by ACTEW while another ACT government owned business, TotalCare, is responsible for maintenance of the above ground assets.

ACT arrangements

The ACT passed the Utilities Act in November 2000. This Act implements the framework set out in the Statement of Regulatory Intent for Utilities in the ACT. As part of this legislative reform package, a number of other water-related Acts were either repealed or amended.

The new utilities regulatory framework for water consists of:

- the Utilities Act*;*
- the *Utilities (Consequential Provisions) Act 2000*;
- utility services licences;
- standard customer contracts for water and sewerage services; and
- industry codes, including the Consumer Protection Code, the Drinking Water Quality Code of Practice, and the Waste Water Code of Practice, as well as technical and safety codes.

In summary, the Utilities Act:

- provides the general basis of the regulatory structure, including a licensing regime for all utilities (including water);
- sets out the broad objectives for the regulation of utilities;
- sets out specific legal rights, including rights of access to and ownership of existing assets and rights to acquire third-party easements;
- enables the responsible Minister to issue directions on licence conditions or industry and technical codes that will be disallowable;
- authorises industry and technical codes governing specific areas of operation, such as disconnection procedures, consumer protection, and safety and technical standards. These codes are enforceable as licence conditions, subject to amendment either by Ministerial direction or by the Independent Competition and Regulatory Commission after consultation with industry;

- makes customer contracts enforceable subject to minimum terms and conditions. These contracts may be varied as agreed by the customer and the utility subject to the normal statutory restrictions (for example, fair trading legislation); and

- requires utilities to provide CSOs at an agreed price.

The legislation also contains provisions for Ministerial directions (which would be disallowable by the ACT Legislative Assembly) that can include new conditions or other Government requirements in operating licences.

Three key bodies will administer provisions contained in the legislation, namely:

- the Independent Competition and Regulatory Commission, which is responsible for independent prices oversight and licence administration;

- the Essential Services Consumer Commission, which can prevent disconnection on hardship grounds and can determine appeals about consumer complaints involving amounts up to $10 000; and

- the Safety and Technical Regulator, which is responsible for developing standards and monitoring compliance.

Environment ACT retains responsibility for environmental management. While the Chief Health Officer has responsibility for public health requirements, including protecting drinking-water quality. Drinking-water quality is set consistent with the *1996 Australian Drinking Water Guidelines*, in the Drinking Water Quality Code of Practice. This code is enforceable through a utility services licence.

Discussion

The Council has considered three broad areas of regulation when looking at institutional arrangements:

- economic regulation and service standards;

- resource allocation, water management and environmental regulation; and

- health regulation.

In its second tranche NCP assessment the Council concluded that the ACT had met its structural reform commitments, particularly given its intention to implement the Statement of Regulatory Intent. The Council also noted that it would continue to monitor the government's implementation of the reform measures and expected the new arrangements to be in place before June 2001.

The ACT has made significant progress since June 1999, addressing the three broad areas of institutional arrangements by:

- passing the Utilities Act;
- establishing the roles of the Independent Competition and Regulatory Commission;
- setting up licensing and reporting requirements;
- providing for various industry codes; and
- establishing the drinking-water quality code of practice.

However, implementation has still not been finalised in a number of areas. The benchmark customer contract and utility services licence were only released as discussion drafts in February 2000 and they are not expected to be finalised until July 2001. Further, the Council has not seen copies of any other codes of practice relating to the water sector.

Assessment

The ACT is in the process of implementing its institutional reforms. While it has made considerable progress since the second tranche NCP assessment, it has still to finalise some key elements of the package. While the Council has concluded that sufficient progress has been made in this area for the 2001 assessment, it will look at these issues again in 2002 to determine that:

- the benchmark customer contract and utility services licence have been finalised;
- any other relevant industry codes have been established; and
- in practice, these arrangements are delivering sufficient institutional separation to provide for transparent and rigorous regulatory processes.

Performance monitoring and best practice

ARMCANZ is to develop further comparisons of interagency performance with service providers seeking best practice. (clause 6e)

ACT arrangements and assessment

The ACT has performance monitoring arrangements in the Utilities Act. In particular, the draft utility services licence requires ACTEW to continue to participate in the Water Services Association of Australia benchmarking

process. Therefore, the Council concludes that the ACT has met its 2001 NCP commitments in performance monitoring and best practice.

Commercial focus

Metropolitan service providers must have a commercial focus, whether achieved by contracting out, corporatisation, privatisation etcetera, to maximise efficiency of service delivery. (clause 6f)

ACT arrangements

Under the Actew/AGL partnership arrangements, ACTEW has contracted responsibility for the water and sewerage operations to the partnership. While the water and wastewater assets are retained by ACTEW and not contributed to the joint venture, ActewAGL is contracted to manage those assets according to agreed standards and performance indicators. Prices are still subject to scrutiny by the Independent Competition and Regulatory Commission. Because ACTEW retains ownership of the assets, it remains accountable for the provision of water and wastewater services.

Assessment

Under the new arrangements ACTEW has contracted out the provision of water and wastewater services. This is likely to enhance the commercial focus of ACT water and wastewater services. For the 2001 NCP assessment, the Council is satisfied that the ACT continues to meet this area of its reform commitments.

Devolution of irrigation scheme management

Constituents be given a greater degree of responsibility in the management of irrigation areas, for example, through operational responsibility being devolved to local bodies, subject to appropriate regulatory frameworks being established. (clause 6g)

The ACT does not have any publicly funded rural irrigation infrastructure and, therefore, the Council does not need to assess its performance in this area.

Allocation and trading

Water allocations and property rights

There must be comprehensive systems of water entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality. Governments must have determined and specified property rights, including the review of dormant rights. (clause 4a)

The ACT manages water allocations occurs through the Water Resources Management Plan 2000, which sets out estimates of total water resources, environmental flow requirements and water available for consumption.

ACT arrangements

Water property rights

Water Resources Act 1998

In the second tranche NCP assessment, the Council found that the ACT had met the property rights commitments. In summary, the Water Resources Act vests the rights to use, flow and control all water of the Territory in the Territory Executive, including the waters of the Googong Dam area. The ACT also manages the waters of the Queanbeyan and Molongolo rivers on behalf of the Commonwealth. The Act lays the legal basis for the allocation of water, licences to take water, and setting environmental flow requirements. It also ensures other users or changes in management do not diminish provisions made for the environment.

Water rights are issued in perpetuity and provide the holder with a right to a share of the resource. A water licence and allocation is needed to use any water for irrigation including run-off collected in a farm dam. A permit is needed to construct a dam greater than two megalitres or any dam in a waterway.

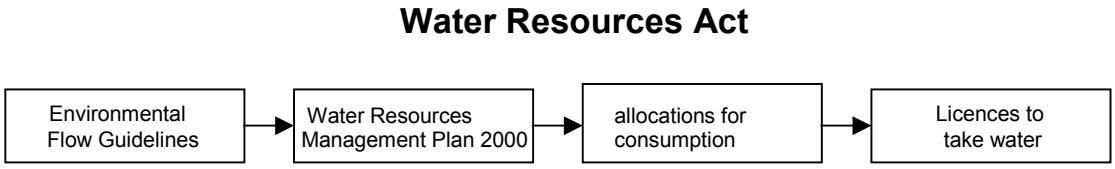
Groundwater in the ACT is often not owned by the Crown. Rather, holders of Territory leases issued before December 1998 have common law rights to groundwater. While the ACT can licence the use of this water it cannot apply a charge for the water. The property rights to groundwater remain connected to the land parcel until the lease is re-issued. The ACT has advised that many significant users of groundwater will need to have their leases re-issued in the future. As a result, the ACT expects that most groundwater use will be subject to use charges and the allocation system in five to 10 years.

Water Resources Management Plan

The Act sets out the requirements for the preparation of the Water Resources Management Plan, which came into effect in February 2000. The Act requires the plan to include:

- a description of the water resources of the ACT in terms of the quantity and seasonal distribution of flows (on a subcatchment basis) and the link between groundwater and surface flows;
- a description of the flows required to meet the environmental needs of individual waterways and aquifers;
- proposed allocations for use of water in the ACT for the next 10 years;
- water allocations to be created for urban water supply, industry and other uses; and
- actions by the Environmental Management Authority to manage the water resources of the ACT.

As a starting point, the plan allocates water set aside by the Environmental Flow Guidelines for environmental flows and then sets out how the ACT Government intends to manage the remaining water resources for consumption. A key part of the plan is to provide for water allocations over the next 10 years. Allocations and licences cannot be granted unless the plan provides for them.



For each of the 32 subcatchments, the Water Resources Management Plan sets out estimates of total water resources, environmental flow requirements in accordance with the Environmental Flow Guidelines, and water available for non-environmental uses. It then provides for new allocations that the ACT Government expects to create over the next 10 years. The plan indicates that existing use of water totals about 65 gigalitres. Provision is made for future allocations of around 1.9 gigalitres to meet agricultural demand and 6.5 gigalitres for water supply over the next 10 years, leaving 120 gigalitres unallocated.

Information on existing use included in the plan is incomplete because some users are yet to be metered. As a result, provisions for future allocations under the plan are conservative, and the plan includes a requirement for a review in 2003 when additional information is expected to be available.

Licences

Water may be taken without a licence only for domestic, stock, garden irrigation (not exceeding two hectares) and fire-fighting purposes. Otherwise, a licence to take water must be obtained from the Environment Management Authority.

Set up under the *Environment Protection Act 1997* and located within the Department of Urban Services, the Environment Management Authority is responsible for administering the Water Resources Act. Its primary functions are:

- to keep the state and condition of the water resources of the Territory under review;
- to coordinate policies in relation to water resource management;
- to regulate the allocation of water from waterways;
- to compile and maintain up-to-date information relating to water resources in the Territory;
- to promote the importance, and encourage the efficient use, of water resources; and
- to foster public education about the management of water resources.

In granting licences, the Environmental Management Authority is required to account for the availability of water, the existing and future demand for water, and environmental flow guidelines in allocating water.

Licences specify the rate and maximum amount of water that may be taken. All licensed users are required to install a meter (or other approved measuring system) within three months of issue. Licences may also contain information regarding licence compliance. The ACT has advised that licensing of water use commenced in December 1999 and that almost all water use in the ACT is now covered by a licensing and allocation system. Appeals for reviews of decisions concerning water allocations and licences may be made to the ACT Administrative Appeals Tribunal.

Allocations

Allocations provide a general right to take water under the control of the ACT Government and apply to all water in the Territory other than some groundwater (which is under national land or land subject to a Territory lease prior to December 1998 and Lake Burley Griffin which is under Commonwealth control). All allocations are based on average flows.

The total quantity of water available for allocation and the accompanying set of rules have been determined for each subcatchment on a reach-by-reach basis. Each allocation is specified in terms of the quantity of water taken and

can include the timing and the manner in which it is taken. In most subcatchments, 10 per cent of flows above the 80th percentile has been selected as the suitable portion of water for abstraction for consumption. For 'water supply catchments',[3] 100 per cent of flows above the 80th percentile are available for abstraction except for spawning flows. In keeping with the ACT's conservative approach to water extractions, groundwater abstraction is limited to 10 per cent of average annual recharge or seven gigalitres per year. Allocations are made only where the Water Resources Management Plan provides for them and if they are environmentally sound.

Allocations involves considering whether:

- groundwater and surface water are linked on a catchment basis, in which case they must be considered together in allocation determinations; and

- environmental flows are needed, in which case they must be provided for before water can be allocated for other uses. This requirement extends to the allocation of groundwater and surface water.

In addition to ensuring compliance with all licence conditions, the ACT is refining the determination of allocations. Prior to the introduction of the Act, no accurate water use information was available except for the urban supply network. While volumetric allocations have been issued, metering of licensed water use should provide more precise information to better determine allocations by the end of 2002.

The Water Resource Management Plan permits reductions in allocations where there are reductions in the flow of a waterway or emerging scientific evidence indicates reductions in water quality or damage to dependent ecosystems.

Where subcatchments extend into New South Wales, such as those on the Murrumbidgee and Molongolo rivers, New South Wales is advised of the ACT view of the maximum potential allocations.

Overland flows

A water licence and allocation is needed to use any water for irrigation including run-off (overland flow) collected in a farm dam. A permit is needed to collect more than two megalitres of water from waterways. Regulation of farm dams for stock and domestic purposes is not an issue for the ACT.

[3] This refers to the Cotter River and the waters of the Googong Dam in New South Wales.

Register

The Water Resources Act requires the Environment Management Authority to establish a register of licences, water allocations, permits granted and transfers made in the ACT. Hard copies of these documents may be examined by the public on request at the authority's office in Lyneham (the ACT Government intends to develop an electronic version of the register). While there is no facility to note the existence of third-party interests at this stage, the ACT has advised that this will be a simple matter to address when the need arises.

Compensation

Compensation is only available for the removal of a water allocation where there is a need to remove a previously approved structure. There is no compensation for the loss of the water. The ACT has advised that while water rights are issued in perpetuity and provide the holder with a right to a share of the resource, the majority of allocations have been issued on the basis that the volume will be reviewed after three years to ensure it accurately reflects historic use.

MDBC cap

The ACT component of the overall Murray-Darling Basin Commission cap on water extraction is under negotiation. The ACT has participated in the Murray-Darling Basin initiative since March 1998 and agreed to participate in the cap initiative. However, there has been no decision on what the ACT cap should be. Any cap for the Territory is likely to be expressed in terms of net use and will include both taking water from and the returning of water to streams.

The cap may have implications for the Water Resource Management Plan. However, the ACT Government has argued based on its submission to the Murray-Darling Basin Ministerial Council for a cap of 61 gigalitres that there should not be a need to change the plan with finalisation of the ACT cap negotiations. The issue of setting the ACT cap was considered at the August 2000 Murray-Darling Basin Ministerial Council meeting, at which the ACT proposed a cap of 61 gigalitres. The Independent Audit Group proposed that the cap be set at 38 gigalitres. It argued that a climate-adjusted cap of 34.4 gigalitres would have entitled the ACT to a 'credit' of around 8 gigalitres based on its diversions in 1999-2000 of 26 gigalitres.

Assessment

The Council has considered the ACT's progress since the last assessment in clarifying water property rights. In particular, the Council was satisfied that the Water Resources Act provides an effective water resources allocation

system consistent with second tranche obligations, so long as there is no overallocation.

The Council did note, however, that it would need to review the effectiveness of the Territory's allocation system in the lead-up to the 2001 NCP assessment, including evidence that the completed Water Resource Management Plan for prescribed resources was based on robust assessments of environmental needs.

The Council agrees with the Independent Audit Group assessment that the current arrangement whereby the ACT cap remains unspecified is not in the interests of the Territory or of the integrity of the general operation of the MDBC cap. However, the ACT cap is under negotiation. The ACT's conservative environmental flow guidelines guarantee adequate environmental flows without the cap.

The Council has reviewed the efficacy of water property rights and remains of the view that the Water Resources Act, now supplemented by the Water Resource Management Plan, implements comprehensive water allocation and licensing arrangements covering all water controlled by the Territory. The Act separates water property rights from land title and clearly specifies entitlements in terms of volume.

Provision for the environment

Jurisdictions must establish a sustainable balance between the environment and other uses, including formal provisions for the environment for surface and groundwater consistent with the ARMCANZ/ANZECC national principles. Jurisdictions should have instituted a state-wide process in setting environmental allocations, including the issue of new entitlements.

Best available scientific information should be used and regard had to the inter-temporal and inter-spatial water needs of river systems and groundwater systems.

For the 2001 assessment, States and Territories will have to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocation to the environment in all river systems which have been over-allocated, or are deemed to be stressed. By 2005, allocations and trading must be substantially complete for all river systems and groundwater resources identified in implementation programs.

Jurisdictions are to consider environmental contingency allocations, with a review of allocations five years after they have been initially determined (clauses 4b to f).

The ACT approach treats groundwater and surface water as the one resource. The Water Resources Act gives clear priority to the environmental uses of water and requires the Environmental flow guidelines to provide water for the environment before provision for any other use. The Water Resource Management Plan shows that average total water available from ACT-controlled catchments is 465 gigalitres per year, of which the environmental flow guidelines designate 272 gigalitres as environmental flow.

ACT arrangements

Environmental flow guidelines 1999

The Water Resources Act provides the legislative framework for the allocation of water to the environment. Under that framework, environmental flows are identified and provided for before water is made available for consumptive purposes. The environmental flow guidelines that apply to all ACT water bodies were reviewed by the Council in the second tranche NCP assessment and finalised in October 1999. The guidelines include environmental flows for Lake Burley Griffin and releases from Scrivener Dam, which the Commonwealth manages. They provide for the protection of low flows up to the 80th percentile calculated monthly. The 80th percentile flow is the flow that is exceeded 80 per cent of the time. The limit on abstractions for consumptive use is 10 per cent of flows over the 80th percentile.[4]

Water Resources Management Plan

The Water Resource Management Plan sets out the environmental allocations and the potential allocation available for consumptive use for each of the 32 subcatchments. The plan is the main vehicle for achieving provision of water for the environment. No new allocations of water will be made unless provided for by the plan. The ACT has advised that environmental flows are now in place for all 32 subcatchments, as set out in the plan. As reported in the second tranche NCP assessment, there are no stressed or overallocated systems in the ACT.

Review of allocations

The Water Resource Management Plan sets a planning framework of 10 years. There is no time limit on allocations or any legislative requirement governing the time periods for review. In effect, allocations are permanently set subject to the power to reduce allocations in certain circumstances, and to the transitional arrangements that specify that volumes will be reviewed in 2003 to ensure allocations reflect existing use.

As future metering provides better data, adjustments to allocations are likely to be needed in the short to medium term. The review will take account of the results of scientific research on environmental flows, stream management and groundwater management. It will be subject to public consultation.

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[4] Water supply catchments can extract all water above the 80th percentile level up to the level of allocation. There is also a requirement to meet spawning flows under the guidelines in two out of every five years.

In relation to the CoAG requirement for jurisdictions to consider establishing environmental contingency allocations that provide for a review five years after allocation determination, the ACT has advised that the environmental flows are sufficiently conservative to include an environmental contingency. In the high-use catchments such as the Cotter River, the environmental flows focus on protecting the stream hydrograph, rather than on specifying the amount of water that can be taken. While allocations specify the volume, the licence requires compliance with environmental flows.

The ACT has also advised that the Environment Management Authority is required by the Act to keep water resources under review such that both the Water Resource Management Plan and environmental flow guidelines would be reviewed at no greater than five-year periods.

Discussion

National Principles for the Provision of Water for Ecosystems

Below is a discussion of the ARMCANZ/ANZECC National Principles of Water for Ecosystems that are relevant to this NCP assessment.

Principle 1 River regulation and/or consumptive use should be recognised as potentially impacting on ecological values.

The Council continues to be satisfied that the Water Resource Management Plan and the environmental flow guidelines identify water resources and appropriate flow requirements for the environment and ecological values. Allocations continue to be made subject to resource availability.

Principle 2 Provision of water for ecosystems should be on the basis of the best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems.

In the second tranche NCP assessment, the Council endorsed the ACT's building block approach using hydrological components in determining flow requirements in the environmental flow guidelines as a legitimate basis for using current scientific information. The Water Resource Management Plan, which sets the environmental flows, was prepared on the basis of the best scientific advice on habitat diversity and quality, nutrient and sediment cycling, movement of biota and connectivity between aquatic and terrestrial habitats. Biological data were collected using the AUSRIVAS program, which is sensitive to low flows. The Council is satisfied this principle has been met.

Principle 3 Environmental water provisions should be legally recognised.

The Water Resources Act provides that the provision of water for the environment must occur before provision for all other uses. The ACT Government has now endorsed the environmental flow guidelines, and the Water Resource Management Plan (provided for under the Act) requires considerations of whether there is sufficient water to meet the needs of the environment before new water allocations are granted.

*Principle 4 In systems where there are existing users, provision of water for ecosystems should go **as far as possible** to meet the water regime necessary to sustain the ecological values of aquatic ecosystems whilst recognising the existing rights of other water users.*

As reported for the second tranche NCP assessment, no water systems in the ACT have insufficient water to meet both environmental and user needs. Further, the Water Resources Act provides for allocations to the environment to take priority over allocations for other purposes.

Principle 5 Where environmental water requirements cannot be met due to existing uses, action (including reallocation) should be taken to meet environmental needs.

This principle is not relevant to any water system in the ACT.

Principle 6 Further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained (that is, that ecological values are sustained).

The ACT continues to demonstrate that no further allocations will be made without considering water availability, water quality and the needs of the environment.

In the case of the Jerrabomberra Creek catchment, the Government issued a moratorium on new groundwater allocations because the proportion of water use that can be sourced from groundwater has been fully used. Similarly, the ACT is closely monitoring the Woolshed Creek catchment as it approaches full allocation.

The National Land and Water Resources Audit 2000 found that the ACT's sustainable yield assessment is in the lowest class of reliability for data. The ACT has advised that limited groundwater investigations are planned for the resources identified by the audit. However, it is worth noting that the ACT has taken a conservative approach in determining water for allocation from groundwater resources. If the demand for the groundwater resources of a specific area exceeds these conservative limits, then specific investigations

will be undertaken to define sustainable use more accurately, as was done in the Jerrabomberra catchment.

The Council is satisfied the ACT meets this principle.

Principle 7 Accountabilities in all aspects of management of environmental water provisions should be transparent and clearly defined.

As defined in the Water Resources Act, the Environment Management Authority is responsible for ensuring licensed users comply with environmental flow requirements in accordance with the Water Resource Management Plan and environmental flow guidelines.

Principle 8 Environmental water provisions should be responsive to monitoring and improvements in understanding of environmental water requirements.

The ACT is to commission a major study with the Cooperative Research Centre for Freshwater Ecology of the impacts of existing environmental flows and of whether the anticipated ecological outcomes are being realised for the Cotter River. ACTEW is conducting extensive monitoring so the impact of flows can be assessed.

Principle 9 All water uses should be managed in a manner which recognises ecological values.

The environmental flow guidelines require environmental flows to be specified to sustain the environmental value of maintaining aquatic ecosystems (including protecting biological diversity and maintaining essential processes and life support systems).

Principle 10 Appropriate demand management and water pricing strategies should be used to assist in sustaining ecological values of water resources.

The ACT considers that there are real gains to Australia from fully pricing water and that it is one of the few jurisdictions that are adopting full cost-recovery pricing. The Government has included an environmental charge in its price through the abstraction charge. The abstraction charge on all metered use by licensed users includes the environmental catchment management costs resulting from water supply and use, and a component for the scarcity value of water.

The ACT has expressed concern with the slow pace of reform in the application of full cost pricing across Australia because the approach to pricing in the ACT could place it at a competitive disadvantage with other jurisdictions. To avoid this, the ACT makes a competition equalisation payment to licensed rural irrigators in competition with New South Wales to

equalise the ACT water price with that charged to New South Wales irrigators on unregulated rivers. The payment ensures the abstraction charge does not work to disadvantage ACT irrigators.

The regulatory framework applied in the ACT means that it is in ACTEW's interests to promote efficient water use and reuse schemes. ACTEW maintains water efficient demonstration gardens and sometimes is involved with water and energy efficient demonstration houses. The ACT Government provides a subsidy for the installation of rainwater tanks and, in conjunction with the Master Builders Association, runs a subsidy program to replace inefficient shower roses.

Principle 11 Strategic and applied research to improve understanding of environmental water requirements is essential.

The ACT activities now focus on the involvement of the Cooperative Research Centre for Freshwater Ecology, particularly with regard to the environmental flows project on the Cotter River and related activities. The environmental flow guidelines identify that further investigative work is required into: local aquatic biota; the impact of diurnal, seasonal, annual and episodic flow variability on the long term health of aquatic systems; and the impact of groundwater abstractions on flows.

Principle 12 All relevant environmental, social and economic stakeholders will be involved in water allocation planning and decision-making on environmental water provisions.

The Water Resources Management Plan, the environmental flow guidelines and the Water Resources Act were the subject of extensive public consultation, and the review of the plan in 2003 will be the subject of full public consultation.

Assessment

The ACT has environmental flows in place in each of its 32 subcatchments. ACTEW's licence requires it to release water from its dams to meet environmental flow requirements. The Council considers that the ACT's environmental flow provisions are now in place and provide for some of the largest environmental allocations in Australia. While the ACT uses some 70 gigalitres of water, the provisions of the environmental flow guidelines and Water Resources Management Plan provide for the possible allocation of up to 200 gigalitres per annum for the environment.

While groundwater use is relatively minor, the ACT continues to meter groundwater bores so that by 2002, it will have a better basis on which to allocate water for groundwater use.

The Council considers that the ACT has fully met all requirements for the 2001 NCP assessment in relation to environmental provisions in water resources allocation.

Water Trading

Governments have agreed that water trading arrangements should be in place so as to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. (clause 3)

There is no water trading either within or involving the ACT. The lack of trade is largely a reflection of the available resource and the relatively small industry and agricultural sector in the ACT compared with those in other jurisdictions.

The ACT Government has advised that there is presently insufficient demand in the Territory to justify the establishment of an intraterritory trading market. Interstate trade involving the Territory depends upon the development of trading rules for the Murrumbidgee and Murray Rivers and the finalisation of the ACT Cap on Diversions.

ACT arrangements

Legislative base

As noted in the second tranche NCP assessment, the Water Resources Act permits permanent or temporary transfer of all or part of a water allocation. The approval of the Environment Management Authority is required where an allocation is transferred or the water is to be used at the same place for the same purpose. In determining whether to approve the transfer of a licence, the Authority is required to take into account the water environmental record of the applicant. Where the Authority refuses the a transfer of an allocation or licence, the Act permits the review of the decision by the ACT Administrative Appeals Tribunal.

The Water Resources Act also requires the Environment Management Authority to establish a register of licences, water allocations, permits granted and transfers made in the ACT. While there is no facility to note the third-party interests in an allocation at this stage, the ACT has advised that this will be a simple matter to address when the need arises.

Institutions and policies

Intra-territory trade

The ACT 2001 NCP annual report noted that no water trades have taken place in the ACT, because of insufficient demand. Trading rules, beyond the requirement for the approval of the Environment Management Authority, have not been developed for the same reason. It appears Limited trade is likely in the future as demand for water resources increases.

Interstate trade

Interstate trade, particularly between the ACT and New South Wales is likely to occur in the future. The ACT has previously noted its intention to permit, subject to equitable trading rules, interstate trade as part of an expanded Murray-Darling Pilot Project. However, no interstate trade, either into or out of the ACT, has occurred. The primary impediment to trade with New South Wales is the absence of trading rules for the Murrumbidgee and Murray rivers, particularly the lack of exchange rates to facilitate the transfer of water rights. The Council notes that this matter will be progressed through the Murray-Darling Basin Commission, which has separately advised that it will be a priority in coming months.

Another important part of the establishment of efficient and sustainable interstate trade is the finalisation of the Murray-Darling Basin Commission cap on Diversions for the ACT. Cross-border trade involving the ACT is impractical until the cap is in place. Finalisation of the cap will constrain the availability of water resources and result in demand for trading once the limit of available water has been reached.

Discussion

Given that all legislative impediments to trade were removed, the Council deemed for the second tranche assessment that the ACT had met its requirements with regard to water trading. This compliance essentially required the passage of water management legislation to allow for the transfer of water entitlements. However, the Council noted that for the 2001 NCP assessment it would look to the Government's consideration of the development of trading rules beyond Environment Management Authority approval and the further development of interstate trade with New South Wales.

Trade within the ACT

In light of the absence of demand for trade within the ACT, the Council is satisfied that the lack of trading rules does not provide a significant barrier to

trade at this stage. However, as water use and scarcity, and therefore demand for trade, increases, trading rules need to be developed, implemented and clearly understood. As discussed earlier in the section on allocations, the Council is satisfied that the ACT has in place mechanisms to assess resource demand though the Water Resources Management Plan. This will allow the ACT to determine when the level of scarcity warrants the development of more detailed trading arrangements. The ACT is in an enviable position of being able to learn from the knowledge of the other States to establish an effective water trading market. This advantage is likely to allow the Government to develop such mechanisms quickly if demand increases.

Interstate Trade

The finalisation of trading rules between New South Wales and the ACT will need to await amendments to appropriate legislation in New South Wales as part of that State's more general review of the operation of the water market in the Murrumbidgee Valley. The expansion of the Murray-Darling Water Trading Pilot could eventually enable the ACT to trade with the Murray River in New South Wales, Victoria and South Australia. However, the arrangements for this market are unlikely to be developed for at least two years.

The ACT has also yet to agree and sign the Murray-Darling cap on Diversions. This issue has yet to be resolved and is further discussed in the section on allocations.

While there is little demand for trade within the ACT, there is pressure from surrounding New South Wales Shires for cross-border urban water supply. Through the ACT and sub-region Planning Committee, the ACT is participating in a group established to develop a draft 'Integrated Water Supply Strategy for the ACT and Sub-region'. This will include what will essentially be trading rules to apply on a regional scale.

Assessment

The Council is satisfied that the ACT has met its NCP 2001 reform requirements with regard to water trading, but notes two outstanding issues: the lack of rules governing the trade of water in the Murrumbidgee and Murray Rivers, and the Murray-Darling Cap for the ACT. The Council will look to see that these issues are resolved in due course and will reconsider the ACT's progress in this area in June 2002.

In reviewing the future application of the ACT's legislative provisions, the Council will look for the Government to consider the following matters[5]:

- a clear definition of water rights (that is, what is being traded);
- clear water trading zones and rules (that is, where and how trade can occur);
- robust markets and trading procedures (that is, clearance and facilitation of trade);
- a variety of market choices to effect trade;
- accessible and equitable market information;
- certainty, confidence and timeliness; and
- capital efficiency.

Environment and water quality

Jurisdictions must have in place integrated resource management practices, including:
• demonstrated administrative arrangements and decision making processes to ensure an integrated approach to natural resource management and integrated catchment management;
• an integrated catchment approach to water resource management including consultation with local government and the wider community in individual catchments; and
• consideration of landcare practices to protect rivers with high environmental values. (clauses 6a and b, and 8b and c)

Developments in this area since the second tranche NCP assessment include the implementation of an integrated catchment management framework during 2000 and the development of subcatchment management plans for Sullivans Creek and Ginninderra by community groups working with Government.

5 These issues are consistent with the principles identified in High Level Steering Group on Water's document 'A National Approach to Water Trading', where further information is available.

Integrated Resource Management

ACT arrangements

The ACT continues to embrace an integrated approach to planning and resource management. In particular, the Territory Plan[6] contains the objectives that require planning for land and water resources to:

- be integrated, based on total catchment management principles;
- seek to protect identified environmental values and proposed beneficial uses of water resources; and
- be guided by principles of ecological sustainability and exclude catchment land and water uses that have an impact on the sustainability of designated environmental or water use values.

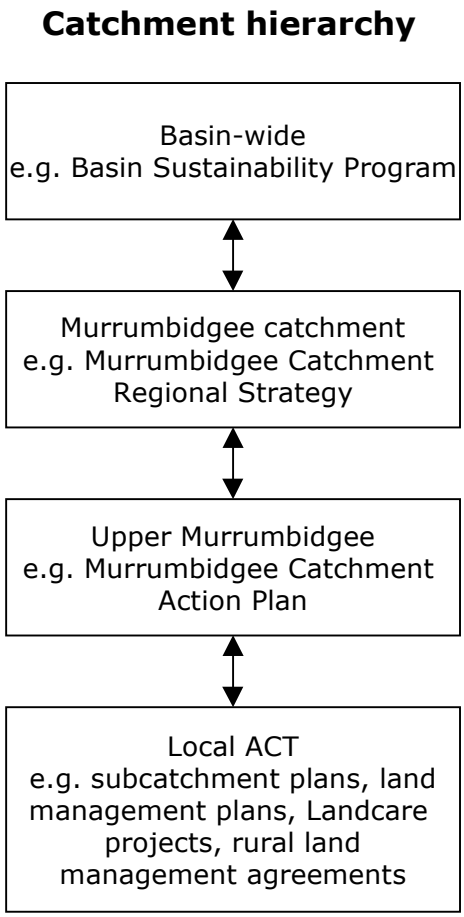
As reported in the second tranche assessment, the implementation of the objectives in the Territory Plan are statutorily supported by the Water Resources Act, the Environment Protection Act, and the Nature Conservation Act. The plan provides for community consultation requirements and community participation.

Integrated catchment management

Environment ACT released the ACT integrated catchment management framework in March 2000 as shown in Figure 3. The framework notes that the ACT is in a fortunate position, with over half of the Territory being reserved for nature conservation. However, major ongoing challenges in natural resource management relate to land-use practices, off-reserve conservation, urban development, water quality and responsibilities to downstream communities. The framework acknowledges developments in legislation and policies in natural resource management at the national level, and takes into account the regional and local contexts in which it will operate.

6 Empowered under the *Land (Planning and Environment) Act 1997.*

Figure 3: ACT ICM Framework in the Murray-Darling Basin context



Source: Environment ACT (2000)

The framework supports the development of subcatchment water allocation management plans by community groups working with Government. The Sullivans Creek Catchment Group and the Ginninderra Catchment Group released subcatchment management plans during 2000. The Sullivans Creek Catchment Management Plan 2000 includes a restoration strategy for the creek and its tributaries, and involves the construction of 14 wetlands and the removal of the concrete lining of Sullivans Creek and its tributaries. The catchment group also completed preliminary plans for a demonstration wetland project in the O'Connor subcatchment, including the installation of two wetlands (one of which will be funded by the private sector).

In relation to Googong Dam, a Drinking Water Quality Partnering Group has been established for the catchment. This group will identify factors that impacts on drinking-water quality in the catchment. The ACT Government is to promote effective catchment management as a requirement for any future integrated regional water supply strategy.

Assessment

The Council was satisfied in the second tranche NCP assessment that integrated resource management practices were in place in the ACT. The major development since the second tranche report has been the development of the integrated catchment management framework, which provides for the development of subcatchment plans. The Council has reviewed the framework and the contents of both catchment management plans. The framework cites the examples of better farm management, remnant native vegetation, the sustainable balance among competing needs for water, and stormwater management as successful integrated catchment management case studies. The Council is satisfied for the 2001 NCP assessment that the ACT continues to meet commitments in this area.

National Water Quality Management Strategy

Jurisdictions agreed to support ANZECC and ARMCANZ in developing the National Water Quality Management Strategy (NWQMS), through the adoption of market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness.

Jurisdictions are to demonstrate a high level of political commitment and a jurisdictional response to ongoing implementation of the principles contained in the NWQMS guidelines, including on-the-ground action to achieving the policy objectives. (clause 8b and 8d)

ACT arrangements

The ACT continues to take account of the National Water Quality Management Strategy guidelines and documents as appropriate to ACT circumstances. Water quality issues for the ACT relate to the issues of sewage and wastewater processing, given the large volumes flowing into the Murrumbidgee. Occasional incidents of bacterial contamination and outbreaks of blue-green algae in Lake Burley Griffin have closed the lake to recreational use.

Water quality

The ACT Drinking Water Quality Code of Practice 2000 is a performance based code that addresses the requirements of the National Water Quality Management Strategy for drinking water. The standards contained in the *Australian Drinking Water Guidelines 1996* are applied to provide trigger levels for licensees to undertake remedial action to address occurrences relating to adverse water quality. Licensees are assessed in terms of reasonable efforts undertaken subject to local operation constraints. Punitive actions are undertaken against licensees only in the case of non-disclosure of adverse incidents.

Water monitoring

Environment ACT conducts water monitoring, including water quality and streamflow monitoring in the major urban lakes, the major rivers, some urban streams and Burrinjuck Reservoir (which is immediately downstream of the ACT). The ACT Government has released a water quality report on the results of the 1999-2000 program, which compares water quality indicator levels against ACT water quality standards.

The conclusion of the report is that lakes and streams in the ACT have 'generally good water quality'. The report concluded:

- Lake Ginninderra water quality is good, with turbidity being high only in Lake Ginninderra east;
- water quality in Lake Tuggeranong is fair to good and continues to show improving trends in phosphorous, turbidity and suspended solids;
- water quality in the Molongolo River is good, with the median values comparing well with the water quality standards at all monitored sites; and
- water quality in the Murrumbidgee River is quite good, leading to the conclusion that the ACT has minimal impacts on the water quality in the river and that land-use practices are minimising pollution from the ACT.

The report pointed to increases in turbidity and suspended solids in some waterways, although all were within standard limits. Readings for faecal coliforms were within standard limits, although Ginninderra Creek and the Queanbeyan River were outside standards for primary contact recreation, but well within standards for secondary contact recreation. The report did not consider Lake Burley Griffin which is the responsibility of the Commonwealth. The ACT Government also requires ACTEW to conduct regular water quality monitoring as a condition of its licences.

The ACT water quality guidelines were developed in 1994 and take account of the ANZECC Australian Water Quality Guidelines for Fresh and Marine Waters. They have since been incorporated into the Environment Protection Act 1997 regulations. The ACT has advised that the approach to water quality management recommended by the soon-to-be released ANZECC revised guidelines is consistent with the ACT approach.

National Land and Water Resource Audit

The National Land and Water Resources Audit reported on surface water quality against the standards contained in the 1992 ANZECC Australian Water Quality Guidelines for Fresh and Marine Waters as shown in Table 5.

Table 5: Exceedance of water quality guidelines for the ACT

	Number of monitoring sites assessed	*Major exceedances*	*Significant exceedances*
Nutrient: total nitrogen	5	5	0
Nutrient: total phosphorous	5	0	5
Salinity: electrical conductivity	5	0	5
Turbidity	5	2	3
pH level	5	0	5
faecal coliforms	5	3	2

Source: NLWRA (2001a)

The NLWRA audit found that water quality in the ACT was generally within the guideline values. The main exceptions were sites that have direct run-off from urban development which showed some exceedances of the recommended threshold for total nitrogen, turbidity and faecal coliforms. Adverse impacts of land use and development were particularly evident in the Molongolo River sites.

Discharge of treated effluent is a key issue for the ACT particularly as it is located entirely within the Upper Murrumbidgee River catchment. Treated sewage effluent from the New South Wales city of Queanbeyan is also discharged into the ACT upstream of Lake Burley Griffin. The high nitrogen levels downstream of the ACT are related to these discharges. The ACT Government has advised that its discharge licensing of sewage effluent focuses on reducing phosphorous and biological oxygen demand from the treatment plants, in line with the most recent expert advice for inland waters. While the ACT urban lakes are multipurpose, they are an integral part of the ACT stormwater system and play a major role in protecting the water quality in the Murrumbidgee river. Trend analyses indicated an increasing trend in faecal coliforms in the Murrumbidgee river downstream of the ACT. This is likely to be related to urban and rural runoff. The ACT Government has advised that blue-green algae blooms have not occurred in Lake Burley Griffin for some years.

Pollutant Loading Scheme

The ACT implemented a polluter-pays charging system from July 2000, to coincide with a similar scheme introduced by New South Wales. The scheme charges regulated industries according to the level of pollutants they emit, giving them a financial incentive to reduce emissions. The major water activities in the ACT affected by the pollutant loading fee are:

- the ACTEW sewage treatment at the Lower Molongolo Water Quality Control Centre; and
- the Queanbeyan Sewage Treatment Works.

The scheme ensures organisations know the full environmental costs of their actions by ensuring that it costs more to pollute more.

WSAA Facts 2000

WSAA Facts 2000 reported on ACT drinking water quality compliance for 1999-2000. ACTEW was found to be 94.8 per cent compliant for bacteriology quality and 91.5 per cent compliant for physical-chemical attributes (turbidity/colour/ph) as set out in the 1996 Australian Drinking Water Guidelines.

Assessment

Demand for water in the ACT comes mainly from the urban sector and is likely to expand with rises in the Territory's population. In the short term, water supplies are adequate to meet any expansion in demand due to population growth. With regard to drinking water quality, the Council noted in its second tranche NCP assessment that the ACT had no formalised standards. The ACT, through its Drinking Water Quality Code of Practice, is the only jurisdiction in Australia to mandate standards for drinking water. The Council is satisfied for the 2001 NCP assessment that the ACT has met its commitments in this area of reform.

Public consultation and education

Jurisdictions must have consulted on the significant CoAG reforms (especially water pricing and cost recovery for urban and rural services, water allocations and trade in water entitlements). Education programs related to the benefits of reform should be developed. (clauses 7a to e)

The ACT has widespread public consultation and education mechanisms throughout its water industry. Substantial stakeholder involvement is also a key part of the process to develop water allocation arrangements and environmental flows.

ACT arrangements

Public consultation

It is ACT Government policy to undertake public consultation for any significant initiative. For utility matters such as the development of the Utilities Act, consultation has been the responsibility of the Department of

Treasury. Developing the Utilities Act involved a two-year consultation process, including the release of the Statement of Regulatory Intent and the Draft Outline of Regulating Utilities and exposure drafts of legislation including associated regulatory instruments including draft licence agreements, codes of practice and customer contracts. Treasury also ran public workshops and community forums. Further, the draft legislative package was the subject of an inquiry by the ACT Legislative Assembly Standing Committee on Planning and Urban Services.

For matters relating to water resource management, public consultation is the responsibility of the Department of Urban Services, not the service provider. The Department, through Environment ACT, undertook extensive community consultation, in preparing the Water Resources Act, the Environmental Flow Guidelines and the Water Resource Management Plan.

Public education

The ACT Government, particularly through the Department of Urban Services, undertakes an ongoing role in promoting community involvement and partnership in the management of natural resources, including water, though Waterwatch, Landcare, school groups and the catchment management initiatives.

In the second tranche NCP report, the Council identified a potential conflict of interest where service providers determine the level of ongoing public education on water conservation while having a financial interest in increased water consumption. The ACT has advised that it agrees that the Government, not the service provider, has responsibility for ensuring appropriate public education, but that it has put in place arrangements that encourage everyone who takes water from the environment to use it wisely, including the urban water supply service provider. Through the regulatory system now in place in the ACT, it is very much in the service provider's interest to promote efficient use.

The ACT has cited the example that an additional allocation now attracts an upfront fee of $450 per megalitre (in addition to the 10 cents per kilolitre use charge) and that there is a cap on pollutant loads emitted from sewage treatment plants. This is a major driver of water re-use in the ACT because it is impractical to reduce the concentration of discharges further, so input volume must not increase with increasing population.

In addition, regulated urban water supply prices are set on the basis of average costs. However, because one fifth, on average, of urban water supplies are sourced from the relatively high-cost of Googong Dam, the urban water service provider has strong incentives to promote conservation to reduce consumption from that dam.

Assessment

The ACT continues to actively consult with all stakeholders in all aspects of the reforms and has ongoing consultation and education mechanisms. The Council is satisfied for the 2001 NCP assessment that the ACT has met its commitments in this area of reform.

Attachment 1: Water licence fees

Type of licence or permit	*Fee*	*Payment requirements*
Grant of a water allocation Where the allocation relates to taking of water through a practice which existed prior to 1 May 1998 where an allocation relating to taking of water through a practice which existed prior to 1 May 1998 is adjusted to more accurately represent the amount of water taken in line with the prior practice in all other cases	 Nil Nil $450 per ML	On a date set by the Environment Management Authority
Application fee for a licence to take water	$100	On application for a licence
Licence to take water administration fee for each licence year relating to a licensed volume of: Up to 6 megalitres per year More than 6 megalitres and up to 2000 megalitres per year More than 2000 megalitres and up to 5000 megalitres per year More than 5000 megalitres and up to 10 000 megalitres per year More than 10 000 megalitres and up to 25 000 megalitres per year More than 25000 ML per year.	 $50 $100 $400 $1000 $2000 $5000	For the first year of a licence, the fee shall be paid in full: by 31 May 2000 for existing licences issued up to the day this determination appears in the Gazette; and on application for new licences issued after the day this determination appears in the Gazette. Thereafter, the fee shall be paid in full within 60 days after the commencement of subsequent licence years.
Licence to take water abstraction fee calculated on the basis of: in the case of water supplied through the water supply network, water delivered to users; and in all other cases, water taken from surface water or groundwater.	$0.10 per kilolitre	In the case of water taken for the urban water supply network, the fee shall be paid on a three monthly basis, ending on the last day of February, May, August and November each year and within 28 days of the end of the three month period. In all other cases the fee for a licence year shall be paid within 60 days of the end of the licence year. The fee shall be based on the sum of the monthly water use records for each month in the licence year. In all cases, where fees relating to part of a month are due, each day's use will be taken to be equivalent to average daily use for that month and, where monthly meter readings are not available, the Environment

Type of licence or permit	*Fee*	*Payment requirements*
		Management Authority shall estimate water use after consultation with the licensee.
Recharge licence application fee	$200	On application for a licence.
Recharge licence yearly fee	$100	For the fist year the fee shall be paid on application. Thereafter, the fee shall be paid in full within 60 days after the commencement of subsequent licence years.

Source: ACT (2000)

Appendix A: Third tranche assessment framework

Note: originally released in February 2001

Water reform highlights the multifaceted nature of NCP. The reform package put in place by CoAG in 1994 encompasses urban and rural water and wastewater industries and includes economic, environmental and social objectives. The reform program is aimed at improving the efficiency and effectiveness of water service providers and instituting water management planning such that the effect of all water use (by agriculture, industry, households and the environment) is taken into account.

Significant second tranche reform matters included: urban water pricing; approaches to determining the economic viability and ecological sustainability of new investment proposals; timetables for providing environmental allocations in stressed river systems; and frameworks to allow for appropriate institutional structures and the allocation and trading of water.

The third tranche program extends these commitments. It focuses on the 'on-the-ground' outcomes of the reform process in such areas as rural water pricing and cost recovery, environmental allocations or provisions for the environment, water quality issues, trading arrangements and further institutional reforms.

The Council's second tranche assessment for water reform focused on the establishment of the legislative systems and structures to deliver the CoAG water reforms. A key focus of the third tranche and future assessments will be seeking information from jurisdictions that the reforms, structures and systems are generating real benefits. The 1994 CoAG strategic water reform framework (the CoAG Framework) and related documents subsequently endorsed by CoAG provide the basis for the Council's assessments of water reform progress. The CoAG documents provide generally very broad descriptions of the water reform obligations. Because of this, the third tranche framework developed by the Council provides more detailed explanation and interpretation of the water reform obligations. The framework does not redefine the commitments determined by CoAG, but aims to:

- provide a clear, transparent basis for assessment particularly in relation to matters not considered in previous assessments;
- identify the type of information that jurisdictions should provide to demonstrate compliance; and

- provide a basis for early identification and bilateral discussion of areas where achieving reform outcomes is proving difficult.

The Council's interpretation is based on the experience of earlier assessments, discussions with States and Territories and other stakeholders, and other work by the Council and other relevant organisations.

Jurisdictions have also provided input into the material presented in this chapter. The comments made by governments ranged from the need to be more specific in some areas on how the NCC might assess an item, to the view that the approach in areas is too prescriptive. The Council has sought to accommodate specific comments wherever possible.

Jurisdiction-specific matters arising from the CoAG Strategic Framework

The Council recognises that the reforms may be applied in different ways depending upon the specific circumstances faced by jurisdictions. For example, effective resource management is important for all jurisdictions but the manner in which it is applied may vary according to a range of factors including the level and number of stressed river systems within the jurisdiction. Also, some reforms may not be relevant for some jurisdictions. For example, the ACT does not have a rural water sector and hence these reforms are not required.

In the same way it conducted its second tranche assessments, in the lead up to the third tranche water assessment the Council will hold bilateral discussions on jurisdiction-specific matters and any differences in interpretations relevant to the implementation of the 1994 Strategic Framework. Any remaining concerns can be dealt with through bilateral discussions.

Further NCC Background Papers on Aspects of CoAG Water Reforms

In addition to the guidance on each reform commitment provided in this framework, the Council is separately releasing several additional background papers providing more detailed discussion on a number of issues covered by this framework.

These papers provide background information on the rationale underlying some of the Council's interpretations of the CoAG water reform commitments in a number of *hot spot* areas. However, these papers are provided as background material for reference by jurisdictions and interested parties. They do not form part of this assessment framework.

The Papers have been provided to the Commonwealth and all States and Territories and will be available shortly after the release of the third tranche assessment framework. Copies of the papers will be available from the water section of the Council's website at www.ncc.gov.au.

The papers are listed in Box A.1.

Box A.1: Background information papers on water reform commitments

- **Rural water pricing**. This paper covers full cost recovery in the rural sector including CSOs and positive rates of return.
- **New investment in rural water infrastructure**. This paper discusses a methodology to assess the economic viability and ecological sustainability of new investments in this area.
- **Institutional reform issues in the water industry**. This paper discusses why regulation is important and examines the potential for conflicts of interest between regulation and service provision and arrangements to deal with these.
- **Environmental requirements of the CoAG Water Reforms** (paper prepared with the assistance of Environment Australia). This paper outlines the national agreements on the environment that may be useful as a guide in reporting progress against the environmental requirements of the water framework.
- **Implementing the National Water Quality Management Strategy** (paper prepared by Environment Australia and the Department of Agriculture Fisheries and Forestry Australia in consultation with State and Territory government agencies). The Commonwealth, after consultation with States and Territories, has proposed that implementation of the guidelines should be assessed through a two yearly review process. This paper provides a list of the component modules of the National Water Quality Management Strategy (NWQMS) guidelines and their current status. The Council will be looking to jurisdictions to show how the guideline principles have been adopted in the third tranche and subsequent assessments.
- **Defining water property rights.** This paper will discuss the specification of water property rights so as to promote efficient and sustainable investment and trade.
- **Water reform and legislation review.** This paper will outline the status of legislation reviews of relevant water legislation for each jurisdiction based on a stocktake report conducted by Marsden Jacob consultants.

The 1994 CoAG Strategic Framework

Reform commitment: pricing and cost recovery

In relation to pricing:

3(a) in general –

(i) to the adoption of pricing regimes based on the principles of consumption-based pricing, full-cost recovery and desirably the removal of cross-subsides which are not consistent with efficient and effective service, use and provision. Where cross-subsides continue to exist, they be made transparent,

> Queensland, South Australia and Tasmania endorsed these pricing principles but have concerns on the detail of the recommendations;

(ii) that where service deliverers are required to provide water services to classes of customer at less than full cost, the cost of this be fully disclosed and ideally be paid to the service deliverer as a community service obligation (CSO);

3(b) urban water services –

(i) to the adoption by no later than 1998 of charging arrangements for water services comprising an access or connection component together with an additional component or components to reflect usage where this is cost-effective;

(ii) that in order to assist jurisdictions to adopt the aforementioned pricing arrangements, an expert group, on which all jurisdictions are to be represented, report to CoAG at its first meeting in 1995 on asset valuation methods and cost-recovery definitions; and

(iii) that supplying organisations, where they are publicly owned, aiming to earn a real rate of return on the written-down replacement cost of their assets, commensurate with the equity arrangements of their public ownership;

3(c) metropolitan bulk-water suppliers –

(i) to charging on a volumetric basis to recover all costs and earn a positive real rate of return on the written-down replacement cost of their assets;

3(d) rural water supply –

(i) that where charges do not currently fully cover the costs of supplying water to users, agree that charges and costs be progressively reviewed so that no later than 2001 they comply with the principle of full-cost recovery with any subsidies made transparent consistent with 3(a)(ii) above;

(ii) to achieve positive real rates of return on the written-down replacement costs of assets in rural water supply by 2001, wherever practicable;

(iii) that future investment in new schemes or extensions to existing schemes be undertaken only after appraisal indicates it is economically viable and ecologically sustainable;

(iv) where trading in water could occur across State borders, that pricing and asset valuation arrangements be consistent;

(v) where it is not currently the case, to the setting aside of funds for future asset refurbishment and/or upgrading of government-supplied water infrastructure; and

(vi) in the case of the Murray-Darling Basin Commission, to the Murray-Darling Basin Ministerial Council putting in place arrangements so that, out of charges for water, funds for the future maintenance, refurbishment and/or upgrading of the headworks and other structures under the Commission's control be provided;

3(e) groundwater –

(i) that management arrangements relating to groundwater be considered by Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) by early 1995 and advice from such consideration be provided to individual jurisdictions and the report be provided to CoAG;

NCC interpretation and benchmarks for third tranche

Consumption-based pricing (clauses 3(a), 3(b) and 3(c))

Governments have committed to the principle of consumption-based pricing. For urban water providers using surface or groundwater, two-part tariffs (comprising a fixed access component and a volumetric cost component) are to be introduced where cost effective.

Most governments have made progress against commitments for urban water providers to implement two-part tariffs where cost effective. Where the deadline was not achieved at the time of the second tranche assessment, the

Council in its third tranche assessment will look for substantial subsequent progress.

The third tranche assessment will look for assessments of the cost effectiveness of two-part tariffs, to be completed for service providers with greater than 1000 connections. Jurisdictions are asked to provide copies of any reviews which show that implementation is not cost effective, particularly where this involves large service providers.

Where these assessments show two-part tariffs to be cost effective, the Council is looking for jurisdictions to commit to timely implementation. A strong net public benefit justification will need to be provided where implementation is to be phased beyond 2001.

Metropolitan bulk water suppliers should establish internal and external charges that are volumetrically based or are comprised of a two-part tariff with an emphasis on the volumetric component. Metropolitan wastewater charges should reflect the level of services received (volume and pollutant load) where practicable (for example, through effective trade waste charges). Similarly, the Council supports rural water prices including an appropriate volumetric component wherever practicable.

Ideally, all free water allowances should be removed, as these can lead to cross-subsidisation, inhibit incentives for economical water use and undermine the principle of consumption-based pricing. In any instances where low level free water allowances are retained or are to be phased out over time, jurisdictions should provide evidence that a significant proportion of customers and water supplied still face a strong volumetric signal.

Charges based on property values do not necessarily reflect cost of services provided to different customer classes. Where property values are used the Council will look to ensure that they do not undermine the principle of consumption-based pricing.

Full cost recovery – in general (clauses 3(a)(i), 3(b)(iii) and 3(c)(i) 3(d)(i), 3(d)(ii), 3(d)(v) and 3(d)(vi))

Compliance with the CoAG pricing guidelines developed through the Standing Committee on Agriculture and Resource Management (SCARM) Taskforce on CoAG Water Reform and endorsed by ARMCANZ and Senior Officials (see Box A.2) will form the basis of the Council's assessment of progress against CoAG commitments in this area.

Jurisdictions are asked to provide information on the degree to which each aspect of the CoAG guidelines has been met. This should involve, among other things, information on methodologies for assets valuation and provision for asset consumption, as well as information on the treatment of taxes and tax-equivalent regimes (TERs), externalities, dividends and return on capital. Information should be provided on water and wastewater services separately.

Box A.2: Guidelines for the application of Section 3 of the Strategic Framework and Related Recommendations in Section 12 of the Expert Group

1. Prices will be set by the nominated jurisdictional regulators (or equivalent) who, in examining full cost recovery as an input to price determinations, should have regard to the principles set out below.

2. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.

3. An annuity approach should be used to determine the medium to long term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained.

4. To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or TERs [tax equivalent regime], provision for the cost of asset consumption and cost of capital, the latter being calculated using a WACC [weighted average cost of capital].

5. To be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement (as noted in (3) above). Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.

6. In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level.

7. In determining prices, transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, and tax equivalent regimes.

Source: NCC (1998)

Jurisdictions will need to demonstrate that urban and non-metropolitan urban (NMU) water and wastewater providers are recovering costs consistent with the agreed guidelines and CoAG commitments. For vertically integrated providers, processes should be in place to establish the contribution to total cost of major functional areas such as headworks, bulk water, reticulation and retail services.

In regard to rural water pricing[1], consistent with the outcomes of the 14 January 1999 tripartite meeting,[2] the Council will assess jurisdictions as having complied with the pricing requirements where jurisdictions:

[1] The Council has defined this to include all water supply services other than those supplied to urban or non-major customers.

- have achieved full cost recovery;
- have established a price path to achieve full cost recovery beyond 2001 with transitional CSOs made transparent; or
- for schemes where full cost recovery is unlikely to be achieved in the long term, have made the CSO required to support the scheme transparent; and
- have made cross-subsidies transparent.

In applying the outcomes of the tripartite meeting to rural water providers, the Council will look for a substantial proportion of schemes to be recovering at least the lower band of the agreed guidelines. Consistent with CoAG commitments, the Council will look for schemes to, wherever practicable, be earning a positive rate of return on assets.

As with its assessment of urban water providers, the Council will look for rural service providers to establish an annuity for upgrading or refurbishing water supply infrastructure but will also accept other approaches where consistent with the objectives of this aspect of the CoAG Framework.

The Council will look for a sound public benefit justification for those schemes that are unlikely to attain the lower bound even in the long run. The Council will also look for the number and materiality of these schemes to be small.

The CoAG water pricing principles call for regulators to take into account externalities in the setting of prices. The Council would consider a proxy for environmental externalities as the costs to water agencies of mitigating environmental problems. While the approach is not ideal, it is the best the Council can do at this stage of the reform process given the embryonic nature of mechanisms for addressing externalities including problems in trying to identify, quantify and attribute externality costs into individual prices.[3]

Cross-subsidies (clause 3(a)(i))

Clause 3(a)(i) of the CoAG Framework states that cross-subsidies should be transparently reported and ideally removed where they are not consistent

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2 In January 1999, a tripartite meeting was held between representatives from the NCC, the High Level Steering Group on Water Reform (augmented with representatives from ARMCANZ and ANZECC) and the Committee on Regulatory Reform to discuss concerns surrounding the implementation of the CoAG water reform framework. The recommendations arising from the meeting were subsequently endorsed by CoAG.

3 The reality is there will be environmental costs that will not be reflected in pricing. Of course, another way of approaching the problem is for governments to establish some form of property rights over the environment and establish environmental allocations or contingencies.

with efficient service provision and use. In response to the 14 January 1999 tripartite meeting, governments subsequently agreed that:

> *In making its assessment the NCC shall not seek to make its own assessment of the adequacy of the justification of any individual CSOs or cross-subsidies but jurisdictions will provide explanations of the intent of the CSOs and cross-subsidies and the NCC will examine how in totality they do not undermine the overall policy objectives of the strategic framework for the efficient and sustainable reform of the Australian water industry.*

The Council's third tranche assessment will look for governments to demonstrate that they have identified and transparently reported the objectives and size of all cross-subsidies. Furthermore, where a cross-subsidy has efficiency or effectiveness implications that are sufficient to undermine the overall policy objectives of the CoAG Framework, the Council will look for jurisdictions to justify the rationale for the retention of the cross-subsidy. This information should include the objectives of the cross-subsidy and discussion of why these objectives could not be achieved more effectively by another means. The Council will also consider the mechanisms in place to ensure ongoing effective treatment of cross-subsides in the future (for example, guidelines, independent regulation, future reviews).

An economic measure which looks at cross-subsidies outside of a Baumol band (which sets prices between incremental and stand alone cost), is consistent with the CoAG objective of achieving economically efficient water usage and investment outcomes. Thus, CoAG commitments do not preclude differential pricing within the bounds of incremental and standalone cost. However, where prices are below incremental cost, any shortfall in total revenue recovered through prices above standalone cost should be transparently reported. Further, where inconsistent with efficient and effective service provision and use, cross-subsidies should ideally be removed or replaced with a transparent CSO.

Community Service Obligations (clause 3(a)(ii))

Where service deliverers are required to provide water and wastewater services to classes of customers at less than full cost, this must be fully disclosed and, ideally, be paid to the service deliverer as a CSO.

As noted above, as a result of the January 1999 tripartite meeting, governments agreed that the Council would not make its own assessment of the appropriateness of any individual CSOs. However, it was also agreed that the Council would review information on CSOs provided by governments in totality to ensure that these CSOs do not undermine the objectives of the agreed water reform framework.

Thus, the third tranche assessment will look for governments to provide information on the size and objectives of CSOs provided by State and local government water businesses. In considering this information the Council

will look for State and local government CSOs to be provided via an effective framework for identifying, costing, funding, delivering and reporting CSOs. The Council will also look for evidence that the application of this framework is leading to CSOs that are clearly defined, have an explicit public benefit objective, are transparently reported and are consistent with the aims of CoAG pricing reforms.

New rural schemes (clause 3(d)(iii))

This provision commits jurisdictions to conducting robust, independent appraisal processes to determine *economic viability* and *ecological sustainability* prior to investing in new rural schemes, existing schemes and dam construction. Jurisdictions are to assess the impact on the environment of river systems before harvesting water. Legislative provisions, institutional arrangements as well as policies and procedures must be in place to ensure the economic viability and ecological sustainability of new investments in rural schemes prior to development.

In undertaking its third tranche assessment the Council will review developments since the second tranche assessment. This will include:

- revisiting matters raised for further consideration;
- review any changes to arrangements since July 1999; and
- ensuring that the viability and sustainability of any new projects has been established prior to their construction.

In considering the above matters the Council will look for assessment processes to provide for appropriate independence and public consultation and scrutiny. Arrangements should also be flexible enough to match the depth of analysis with the size and significance of the project. For large developments in particular, assessments should be based on the best information available with any assumptions and limitations clearly stated.

For assessments of economic viability the Council will look for all relevant economic, social and environmental costs and benefits to be factored into the analysis.[4] For large developments the Council suggests that a robust cost benefit analysis is an effective way of meeting CoAG commitments.

For assessments of ecological sustainability the Council is interested in information on the nature of the assessment and decision making processes as well as mechanisms to monitor the impacts of the development and compliance with environmental standards.

[4] Viability assessments should also discount cash flows using an appropriate rate such as a project specific weighted average cost of capital.

Reform commitment: institutional reform

In relation to institutional reform:

> 6(c) to the principle that, as far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision be separated institutionally;
>
> (d) that this occur, where appropriate, as soon as practicable, but certainly no later than 1998;
>
> (e) the need for water services to be delivered as efficiently as possible and that ARMCANZ, in conjunction with the Steering Committee on National Performance Monitoring of Government Trading Enterprises, further develop its comparisons of inter-agency performance, with service providers seeking to achieve international best practice;
>
> (f) that the arrangements in respect of service delivery organisations in metropolitan areas in particular should have a commercial focus, and whether achieved by contracting out, corporatised entities or privatised bodies this be a matter for each jurisdiction to determine in the light of its own circumstances; and
>
> (g) to the principle that constituents be given a greater degree of responsibility in the management of irrigation areas, for example, through operational responsibility being devolved to local bodies, subject to appropriate regulatory frameworks being established;

NCC interpretation and benchmarks for third tranche

Institutional role separation (clause 6(c), 6(d))

As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision should be separated institutionally. The Council will look for jurisdictions, at a minimum, to separate service provision from regulation, water resource management and standard setting. Jurisdictions will need to demonstrate adequate separation of roles to minimise conflicts of interest.

The January 1999 tripartite meeting found that, while separate Ministers would be an acceptable form of separation, it is not the only acceptable form to demonstrate adequate separation of service provision from other roles to minimise conflicts of interest. If the regulator and service provider are responsible to the same Minister, the Council would require information about how the resulting potential conflict of interest has been effectively

addressed. The CPA gives implicit support to the desirability of independent regulators in its clause 2 provisions concerning independent prices oversight.

Performance monitoring and best practice (clause 6(e))

Jurisdictions have established national processes for inter-agency comparisons and benchmarking. Benchmarking systems have recently been put in place for the NMU and rural sectors while the Water Services Association of Australia reports annually on progress with major urban providers.

The Council views active participation in these initiatives as demonstrating compliance with this aspect of the reform framework. The Council recognises the first reports for the NMU and rural sectors are likely to be a rough cut in the initial years.

Commercial focus (clause 6(f))

Metropolitan service providers must have a commercial focus, whether achieved by contracting out, corporatisation, privatisation, etc, to maximise the efficiency of service delivery. The Council will look for appropriate structural and administrative responses to the CPA obligations, covering legislation review, competitive neutrality and structural reform.

Irrigation scheme management (clause 6(g))

Jurisdictions endorsed the principle that constituents be given a greater degree of responsibility for the management of irrigation areas citing, as an example, the potential devolution of operational responsibility subject to the establishment of an appropriate regulatory framework.

In conducting the third tranche assessment, the Council will look for all impediments to devolution to have been removed and local management arrangements identified in the second tranche assessment to have been implemented. The Council will also look for decisions to be made in regard to whether devolution of irrigation scheme management takes place and, if so, advice on when this will occur. Where reform has been undertaken, evidence should be provided demonstrating that an appropriate regulatory framework has been put in place.

Reform commitment: allocation and trading

In relation to water allocations or entitlements:

4(a) the State government members of the Council, would implement comprehensive systems of water allocations or entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality;

(b) where they have not already done so, States, would give priority to formally determining allocations or entitlements to water, including allocations for the environment as a legitimate user of water;

(c) in allocating water to the environment, member governments would have regard to the work undertaken by ARMCANZ and Australian and New Zealand Environment and Conservation Council (ANZECC) in this area;

(d) that the environmental requirements, wherever possible, will be determined on the best scientific information available and have regard to the inter-temporal and inter-spatial water needs required to maintain the health and viability of river systems and groundwater basins. In cases where river systems have been over-allocated, or are deemed to be stressed, arrangements will be instituted and substantial progress made by 1998 to provide a better balance in water resource use including appropriate allocations to the environment in order to enhance/restore the health river systems;

(e) in undertaking this work, jurisdictions would consider establishing environmental contingency allocations which provide for a review of the allocations five years after they have been determined; and

(f) where significant future irrigation activity or dam construction is contemplated, appropriate assessments would be undertaken to, interalia, allow natural resource managers to satisfy themselves that the environmental requirements of the river systems would be adequately met before any harvesting of the water resource occurs;

In relation to trading in water allocation or entitlements:

5(a) that water be used to maximise its contribution to national income and welfare, within the social, physical and ecological constraints of catchments;

(b) where it is not already the case, that trading arrangements in water allocations or entitlements be instituted once the entitlement arrangements have been settled. This should occur no later than 1998;

(c) where cross-border trading is possible, that the trading arrangements be consistent and facilitate cross-border sales where this is socially, physically and ecologically sustainable; and

(d) that individual jurisdictions would develop, where they do not already exist, the necessary institutional arrangements, from a natural resource management perspective, to facilitate trade in water, with the provision that in the Murray-Darling Basin the Murray-Darling Basin Commission be satisfied as to the sustainability of transactions;

NCC interpretation and benchmarks for third tranche

Water allocation (clause 4(a))

Governments have agreed to establish comprehensive systems of water entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality.

The Tripartite meeting considered 'comprehensive' required:

> *…A 'comprehensive system' of establishing water allocations to be put in place which recognises both consumptive and environmental needs. The system is to be applicable to both surface and ground water. However, applications to individual water sources will be determined on a priority needs basis (as determined by an agreed jurisdiction-specific implementation program.)*

The legislative and institutional framework to enable the determination of water entitlements and trading of those entitlements should be in place. The framework should also provide a better balance in water resource use including appropriate allocations to the environment as a legitimate user of water in order to enhance/restore river health. The Council will also look for appropriate treatment of overland flows.

Water Property Rights

The Council will look for evidence that jurisdictions have in place the necessary legislation, policy, administrative systems and institutional arrangements to implement comprehensive systems of entitlements backed by separation of property rights from land title and clear specification. These arrangements should set:

- the rights and responsibilities of the Crown, users and the environment;
- provide for consultation, community involvement and public education;
- provide a methodology for determining and reviewing a sustainable balance between competing uses (including the environment); and
- deal with intra and interstate consistency where necessary.

The Council is aware there have been some recent concerns by stakeholders concerning what constitutes a water property right for the purposes of the water framework. The Council notes the work done by ARMCANZ in the 1995 paper 'Water Allocations and Entitlements: A National Framework for the Implementation of Property Rights in Water', and by the High Level Steering Group on Water (HLSGW)[5] in the 2000 paper 'National Approaches to Water Trading' which has recently been released for public consultation.

All jurisdictions have passed legislation to define water rights more clearly, separate water entitlements from land title and establish resource management and trading regimes to promote more efficient and sustainable water use. One of the outcomes of separating water rights from land title has been a perception by financial sector participants that these changes will lead to an increase in risk profiles and lending rates. The HLSGW report has concluded that this effect has the potential to undermine the benefits from the broader water reform agenda.

In reviewing the efficacy of arrangements established in legislation the Council will look for a system of property rights that strikes an effective balance between water users' need for security and the environments need for adaptive resource management. Water property rights regimes should maximise efficient water trade and investment subject to environmental needs.

Factors the Council is considering in relation to water property rights regimes include:

- water property rights should be well specified so as to promote efficient trade within the social, physical and ecological constraints of catchments;

- to achieve the above, property rights should be in demand, well specified in the long term sense, exclusive, enforceable and enforced, transferable and divisible and provide for sustainability and community needs;

- in establishing rights that are well specified in the long term sense there is a need to ensure water users get the highest possible level of security in regard to the nature of the property right, and absolute security on the issue of ownership;

- in relation to ownership, while a 'lease in perpetuity' maximises security, it is not required to meet minimum CoAG commitments;

- compensation may be payable, for instance, where reductions in reliabilities and other relevant parameters are capricious or disproportionate but this is not a CoAG requirement and is the purview of governments;

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5 The High Level Steering Group on Water (HLSGW) is responsible for intergovernmental coordination of the water reform agenda.

- Part IV of the Trade Practices Act could potentially be applied if the acquisition of water property rights results in a substantial lessening of competition;

- the Council will be examining the efficacy of water property rights systems for the third tranche assessment;

- water rights should be linked to a robust adaptive resource planning system; and

- any constraints on water rights and trade should be based on a sound public benefit justification and be implemented in a way that minimises impacts on efficient trade.

Provision for the environment (clauses 4(b),4(c), 4(d),4(e), 4(f))

Jurisdictions must develop allocations for the environment in determining allocations of water and should have regard to the relevant work of ARMCANZ and ANZECC. The Council will be looking for progress in implementing jurisdictional programs to be consistent with the ARMCANZ and ANZECC *National Principles for the Provision of Water for Ecosystems* (ARMCANZ/ANZECC 1996).

Best available scientific information should be used and regard had to the inter-temporal and inter-spatial water needs of river systems and groundwater systems.

The CoAG Framework requires that where river systems are over allocated or deemed stressed, there must be substantial progress by 1998 towards the development of arrangements to provide a better balance in usage and allocations for the environment.

The tripartite meeting further clarified the requirements and timeframes:

> *For the second tranche, jurisdictions submitted individual implementation programs, outlining a priority list of river systems and/or groundwater resources, including all river systems which have been over-allocated, or are deemed to be stressed and detailed implementation actions and dates for allocations and trading to the NCC for agreement, and to Senior Officials for endorsement. This list is to be publicly available.*
>
> *For the third tranche, States and Territories will have to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocation to the environment in all river systems which have been over-allocated, or are deemed to be stressed.*

> *By 2005, allocations and trading must be substantially completed for all river systems and groundwater resources identified in the agreed and endorsed individual implementation programs.*

The Council will therefore look to States and Territories to provide information demonstrating that they have:

- considered environmental contingency allocations, including the planning process (allocation, management, operation implementation, and use), monitoring and review mechanisms (the maximum timeframe allowed before review and identification of triggers prior to this time elapsing) after initial determination;

- established a sustainable balance between the environment and other uses, including formal water provisions for surface and groundwater consistent with the ARMCANZ and ANZECC national principles;

- determined and specified property rights, including the review of dormant rights;

- instituted a statewide process in setting environmental allocations, and when issuing new entitlements, have provided for environmental allocations; and

- progressed the implementation of the endorsed allocation programs as published in the Council's second tranche assessment, providing:

  – a report on which river systems (including stressed, and other overallocated systems) identified in the second tranche have fully delivered/ partially delivered/ not yet commenced allocations to the environment, as well as for river systems; and

  – a report on the status of identified stressed rivers which were not addressed in a jurisdiction's endorsed 'roll-out' plan.

The Council agreed to the implementation programs provided by jurisdictions in its second tranche assessment while noting the following relevant matters:

- The National Land and Water Resources Audit, funded under the National Heritage Trust, is currently being undertaken and will provide valuable information to jurisdictions and the Council as to any relevant systems not included in the programs or requiring a higher priority.

- The High Level Taskforce on Water Reform may, prior to the third tranche assessment, undertake to identify some relevant criteria for classifying stressed river systems. This process may result in a modification to implementation programs.

- The implementation programs, by their nature, may need to be amended depending on proposed new developments and other significant events. In particular, the ongoing assessment of unregulated subcatchments may

result in additional High Stressed Catchments being included in the timetable.

The Council therefore concluded that implementation programs may change over time, subject to agreement between the Council and a jurisdiction.

For the third tranche assessment, the Council is seeking information on progress against implementation programs which demonstrates the following outcomes.

1. Regard to the work of ARMCANZ and ANZECC

In their approaches to water planning, allocations and use, jurisdictions will have had regard to the twelve principles embodied in work of the ARMCANZ and ANZECC *National Principles for the Provision of Water for Ecosystems* (ARMCANZ and ANZECC 1996). These are provided in Box A.3.

Box A.3: ARMCANZ National Principles for the Provision of Water for Ecosystems

Principle 1 - river regulation and/or consumptive use should be recognised as potentially impacting on ecological values.

Principle 2 - provision of water for ecosystems should be on the basis of the best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems.

Principle 3 - environmental water provisions should be legally recognised.

Principle 4 - in systems where there are existing users, provision of water for ecosystems should go as far as possible to meet the water regime necessary to sustain the ecological values of aquatic ecosystems whilst recognising the existing rights of other water users.

Principle 5 - where environmental water requirements cannot be met due to existing uses, action (including reallocation) should be taken to meet environmental needs.

Principle 6 - further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained (that is, ecological values are sustained).

Principle 7 - accountabilities in all aspects of management of environmental water should be transparent and clearly defined

Principle 8 - environmental water provisions should be responsive to monitoring and improvements in understanding of environmental water requirements.

Principle 9 - all water uses should be managed in a manner which recognises ecological values.

Principle 10 - appropriate demand management and water pricing strategies should be used to assist in sustaining ecological values of water resources.

Principle 11 - strategic and applied research to improve understanding of environmental water requirements is essential.

Principle 12 - all relevant environmental, social and economic stakeholders will be involved in water allocation planning and decision-making on environmental water provisions.

Source: (ARMCANZ and ANZECC 1996)

2. Stressed or over-allocated rivers or aquifers

Jurisdictions will need to show that they have achieved substantial progress in meeting the commitments with regard to stressed or over-allocated systems within the timelines provided in the implementation programs as published in the second tranche assessment.

The Tripartite meeting identified that '*significant progress*' is required for the third tranche assessment and was defined to include at least allocations to the environment in all river systems which have been over-allocated, or are deemed to be stressed. Jurisdictional programs in this area must be substantially complete by 2005.

The issue of environmental allocations in stressed or over-allocated systems will be carefully scrutinised by the Council in the third tranche assessment. Jurisdictions will need to demonstrate progress in setting allocations that are adequate to meet the environmental requirements of water sources and dependent ecosystems. Jurisdictions will also need to demonstrate that there are adequate monitoring and review arrangements in place, such that allocations are able to be revised should monitoring reveal current allocation arrangements are inadequate.

The Council accepts that some jurisdictions have only recently enacted legislation which provides for full recognition of the environment's right to a share of the water resource necessary to maintain ecological values. For third tranche compliance, the Council will expect that planning and implementation mechanisms are substantially in place such that allocations to the environment can be implemented as per a jurisdiction's timetable.

In the second tranche assessment, the Council noted that implementation programs may change over time, provided there is agreement between a jurisdiction and the Council.

3. Systems not defined as stressed or over-allocated

Jurisdictions will need to demonstrate both the capacity and intention to formally provide and use scientifically based environmental allocations for all water dependent ecosystems (as defined in the ARMCANZ and ANZECC principles), thus recognising the environment as a legitimate user of water.

The Council considers that, for all rivers and aquifers not presently declared over-allocated or hydrologically stressed, there should be no impediment to developing a formal allocation for the environment if required. The Council will therefore look for evidence in future assessments that jurisdictions have forward looking mechanisms in place and operating effectively for adaptive natural resource management.

In short, the Council seeks evidence of progress for the third tranche and subsequent assessments to ensure that allocations and trading will be substantially completed for all river systems and groundwater resources by 2005 as identified in the agreed and endorse individual implementation programs.

4. Review of allocations

While jurisdictions may have used the best available scientific information to determine initial allocation decisions, they will also need to demonstrate that they have not locked in allocations which over time and in the light of better information, could be seen as being inadequate to meet environmental water requirements.

The Council expects jurisdictions to have in place a clear pathway for review of allocations within the timeframe called for in the CoAG Framework.

Water trading (clause 5)

The objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the physical, social and ecological constraints of catchments. The CoAG Framework originally looked for trading arrangements in water entitlements to be instituted once the entitlement arrangements have been settled and that this should occur no later than 1998.

Jurisdictions should establish a framework of trading rules, including developing necessary institutional arrangements from a natural resource management perspective to eliminate conflicts of interest, and remove impediments to trade. The Council will consider the adequacy of trading rules to ensure that the scope for efficient trade is maximised. Where restrictions on trade exist, information should be provided on the physical, social or ecological reasons for the restrictions.

The Council will be looking for impediments to trade to be addressed and the further development of interstate trade in water. For the third tranche assessment, the Council is looking for States and Territories to:

- provide information on developments since the second tranche assessment including current trading rules, the legislative and institutional arrangements, as well as the value, volume, location and nature (for example, permanent versus temporary trades, transfers from lower to higher value uses) of inter and intrastate trades;

- Where cross-border trade is possible, trading arrangements must be consistent between jurisdictions and facilitate trade. Where trading across State borders can occur, relevant jurisdictions must review pricing and asset valuation policies to determine whether there is any substantial distortion to interstate trade. Jurisdictions should develop proposals for further extending interstate trading in water, given the framework requirement for cross border trade to be as widespread as possible (for example, the second tranche assessment calls for interstate trade between: New South Wales and Queensland as a priority; the ACT and New South Wales; and Western Australia and the Northern Territory for the Ord system); and

- demonstrate that, where restrictions remain, the benefits of the restriction outweighs the costs (for example, show that mechanisms in place for water trading do not adversely impact on river health where surface waters are traded, or in the case of groundwater, do not result in demands on aquifers that are ecologically unsustainable).

Reform commitment: environment and water quality

In relation to institutional reform:

> 6(a) that where they have not already done so, governments would develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
>
> (b) to the adoption, where this is not already practiced, of an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments;

In relation to the environment:

> 8(a) that ARMCANZ, ANZECC and the Ministerial Council for Planning, Housing and Local government examine the management and ramifications of making greater use of wastewater in urban areas and strategies for handling stormwater, including its use, and report to the first Council of Australian Governments' meeting in 1995 on progress;
>
> (b) to support ARMCANZ and ANZECC in their development of the National Water Quality Management Strategy, through the adoption of a package of market-based and regulatory measures, including the establishment of appropriate water quality monitoring and catchment management policies and community consultation and awareness;
>
> (c) to support consideration being given to establishment of landcare practices that protect areas of river which have a high environmental value or are sensitive for other reasons; and
>
> (d) to request ARMCANZ and ANZECC, in their development of the National Water Quality Management Strategy, to undertake an early review of current approaches to town wastewater and sewage disposal to sensitive environments, noting that action is underway to reduce accessions to water courses from key centres on the Darling River system. (It was noted that the National Water Quality Management Strategy is yet to be finalised and endorsed by governments.);

NCC interpretation and benchmarks for third tranche

Integrated resource management (clause 6(a), 6(b) 8(b), and 8(c))

Jurisdictions should have in place integrated resource management practices, including:

- demonstrated administrative arrangements and decision making processes to ensure an integrated approach to natural resource management and integrated catchment management;
- an integrated catchment management approach to water resource management including consultation with local government and the wider community in individual catchments; and
- consideration of landcare practices to protect rivers with high environmental values.

The Council will examine the programs established by jurisdictions to improve approaches for integrated resource management. Programs should desirably address such areas as government agency coordination, community involvement, coordinated natural resource planning, legislation framework, information and monitoring systems, linkages to urban and development planning, support to natural resource management programs and landcare practices contributing to protection of rivers of high environmental value.

Integrated catchment management

It is important that jurisdictions demonstrate that the catchment management planning process is free from domination by narrow sectoral interests to ensure decisions reflect the balance of interests within the wider community. Genuine stakeholder participation in catchment planning requires agreement to the principles underpinning the plan such as cost sharing arrangements, acceptable basin impacts, and allowable tradeoffs amongst water users. Appropriate institutional arrangements should ideally have a statutory underpinning.

The Council is aware that there has been little guidance developed to date to address issues of integrated catchment management. The Council notes the House of Representatives Standing Committee on Environment and Heritage is conducting an inquiry into catchment management practices in Queensland, New South Wales, South Australia, Western Australia, ACT and Victoria, and is expected to report its findings shortly.

The Council proposes to review the process followed by each jurisdiction to ensure effective implementation of catchment management practices. Further, the Council will also take account of any reviews by jurisdictions in this area and whether the findings of these reviews are being implemented.

Information provided by jurisdictions could include:

- a description of the overall coordinating body including its composition and functions relating to natural resource management and links to regional/local government bodies;

- a description of the process whereby catchment management bodies (trusts, committees, councils, or groups) are formed including how the local community, local government, and state agencies are involved;

- a description of the statutory basis of catchment management plans/strategies and capacity and mechanisms to enforce actions identified in the plan;

- a description of the framework used to assist catchment managers to evaluate/review the effectiveness of a catchment management process; and

- a description of landcare practices (including extent of coverage) that protect areas of river which have a high environmental value.

National Water Quality Management Strategy (clauses 8(b) and 8(d))

The National Water Quality Management Strategy (NWQMS) aims to deliver a nationally consistent approach to water quality management. It is being developed in response to growing community concern about the condition of the nation's water. The policy objective is '*to achieve sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development*.'

The Council is proposing to take the following approach for the third tranche assessment.

- Each jurisdiction should be able to demonstrate a high level of political commitment and a jurisdictional response to ongoing implementation of the principles contained in the NWQMS guidelines, including to achieving the policy objectives. Such commitment should include the development of practical on-the-ground action, which might involve the use of legislation, policy instruments, programs or plans. These should contain provisions which are consistent with the guidelines, and scope for review.

- Each jurisdiction should have a publicly stated commitment to implementing the principles identified in the Strategy and have implemented an approach for adopting the scientific framework outlined in the *Australian Water Quality Guidelines for Fresh and Marine Waters* (ANZECC 1992). There should be an appropriate statewide approach to water quality management.

- Each jurisdiction should have in place a water reform program that integrates water quality and quantity management requirements in their

approaches to land-use planning. In relation to water quality, this program should target the attainment of the ambient environmental quality objectives set in consultation with the community.

- All relevant legislative, regulatory and policy measures to protect water quality should, where practicable, be consistent with the *Implementation Guidelines for the NWQMS* (ARMCANZ and ANZECC 1998). In particular, they should include measures to promote:

  – integrated resource management;

  – identification of environmental values and associated water quality objectives; and

  – catchment, coastal and groundwater management planning.

Each jurisdiction should be able to demonstrate use of the relevant national guidelines. Where necessary, jurisdictions should have produced local guidelines or codes of practice consistent with the national guidelines so far completed for those industries covered under the NWQMS. The national guidelines seek adoption of local guidelines to underpin the regulation of each of the activities covered.

The strategy for the achievement of sustainable water quality management should build on a full mix of approaches including, but not limited to, regulatory and market based approaches, education and guidance. This is supported by CoAG. Market-based approaches should play a complementary role in achieving protection and enhancement of water quality where appropriate.

Where modules have been finalised, jurisdictions must have finalised their approach and initiated market-based and regulatory activities and measures such as water quality monitoring, catchment management policies, town wastewater and sewerage disposal and community consultation and awareness to give effect to the NWQMS.

Jurisdictions should support ANZECC and ARMCANZ in the development of the remaining modules of the NWQMS.

Reform commitment: public consultation and education

In relation to consultation and public education:

> 7(a) to the principle of public consultation by government agencies and service deliverers where change and/or new initiatives are contemplated involving water resources;

(b) that where public consultation processes are not already in train in relation to recommendations (3)(b), (3)(d), (4) and (5) in particular, such processes will be embarked upon;

(c) that jurisdictions individually and jointly develop public education programs in relation to water use and the need for, and benefits from, reform;

(d) that responsible water agencies work with education authorities to develop a more extensive range of resource materials on water resources for use in schools; and

(e) that water agencies should develop individually and jointly public education programs illustrating the cause and effect relationship between infrastructure performance, standards of service and related costs, with a view to promoting levels of service that represent the best value for money to the community;

NCC interpretation and benchmarks for third tranche

Consultation prior to change (clauses 7(a) and 7(b))

Jurisdictions must have consulted on the significant CoAG reforms (especially water pricing and cost recovery for urban and rural services, water allocations and trade in water entitlements). The Council will examine the extent and the methods of public consultation, with particular regard to pricing, allocations and water trading.

Public education programs (clauses 7(c), 7(d) and 7(e))

Education programs related to the need for and benefits of reform should be developed. Evidence should also be provided of agencies working individually and jointly to develop public education programs that illustrate the need for reform, and general awareness of water related issues. This could include the relationship between infrastructure performance, standards of service and related costs. These programs should promote levels of service that represent the best value for money to the community.

The Council will look for evidence that responsible agencies are working with education authorities to develop a more extensive range of resource materials for use in schools.

The Council noted in the second tranche assessment that there is a potential conflict in the service provider being responsible for determining the level of ongoing public education on water conservation when it has a financial

interest in increased water consumption. The Council is interested in information on measures used by jurisdictions (for example, an effective purchaser provider split) to address this issue, including programs offered by service providers as 'good corporate citizens'.

Reviewing and reforming water legislation: the CPA commitment

As well as implementing the CoAG Framework, governments agreed to ensure the water industry is subject to clause 5 of the CPA. This commits governments to ensuring that legislation does not restrict competition unless the benefits of the restriction to the community as a whole outweigh the costs and the objectives of the legislation can only be achieved by restricting competition.

Legislative reform was important for meeting a number of second tranche water reform commitments in relation to, for example, water allocations and trading, institutional separation and resource management. Until recently a key third tranche issue was the risk that jurisdictions may not have implemented amendments to legislation by the year 2000 deadline, in line with the CPA legislation review commitments.

However, in November 2000 CoAG agreed that the 2000 deadline for the full completion of all jurisdictions' legislation review programs should be extended to 30 June 2002. Accordingly, the Council will continue to monitor progress and look for full implementation by 30 June 2002, with a robust public interest justification provided for any delays beyond this date.

For the third tranche, the Council is looking for jurisdictions to provide a status report on reviews of water legislation including whether a piece of legislation has been repealed by passage of new legislation. Where a government chooses to continue a restriction on competition, or not to apply recommended reforms, the Council will require evidence in the annual report of the public interest justification or why non-implementation benefits the community.

Appendix B: Water trading

Governments have agreed that water trading arrangements should be in place to so as to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments.

Consistent with commitments under Clause 5 of the CoAG framework, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the physical, social and ecological constraints of catchments. The Council's view is that, as far as possible, water rights regimes should facilitate trading that maximises the value of the resource with any restriction on trade being transparent and based on a sound public benefit.

In assessing compliance with Clause 5 of CoAG framework, the Council has looked for the following matters to be given due consideration:

- a clear definition of sustainable water rights; (ie what is being traded)
- clear water trading zones and rules; (ie where and how trade can occur)
- robust markets and trading procedures; (clearance and facilitating trade)
- a number of market choices;
- accessible and equitable market information;
- certainty, confidence and timeliness; and
- capital efficiency.

This approach is consistent with the High Level Steering Group on Water report 'A National Approach to Water Trading' (2000).

In making its assessment the Council recognises that the means through which each of the above issues are addressed will vary from jurisdiction to jurisdiction. That said, as trading in most jurisdictions is still in its infancy, the assessment has focussed on the establishment of mechanisms, policies and information that provide a sound foundation for efficient water trading. Particular focus in this assessment has therefore been extended to:

- the clear definition of property rights;
- adequate specification of appropriate trading rules and zones;
- appropriate market procedures; and

- accessible and equitable market information.

In future assessments, the Council will look for evidence of effective trade in areas of demand and measures to be in place to increase the depth of water trading markets.

Definition of water entitlements

Well-defined property rights are essential for efficient water trade. Efficient trade in water rights requires that market participants are able to form a reasonable expectation about the magnitude and distribution of the benefits likely to be provided by the water right and the likelihood that those benefits will be realised. That is, water rights must be well defined in terms of both:

- *the nature of the right* – the benefits promised by holding the water right; and

- *ownership* – the right holders ability to realise those benefits.

In addition, transitional mechanisms that allow for the movement to a system of sustainable property rights should be open and transparent so that potential market participants understand the impact upon their water rights.

Discussion on the definition of water entitlements has been given in the allocations section. Therefore, the focus in this chapter will be solely upon the impact of these issues on the efficacy of inter- and intra- state trading markets.

Nature of the right

Efficient water trade, consistent with the clause 5 objective of maximising water's contribution to national income, requires that buyers and sellers have a clear understanding of exactly what they are trading. This includes clear specification of the volume, ownership, reliability and, if appropriate, quality of the water provided by the right over time. Poorly defined rights increase the risks associated with holding a water right, which is likely to discourage beneficial trade and investment that would have otherwise occurred.

Ownership

Uncertainty about the individual right holder's security of tenure can impede efficient trade and investment. Rights covering only a short time or which have significant risk of uncompensated reductions in the share of the available resource provided for the duration of the water right mean that water users are more uncertain about whether they will have access to the water in the future. This can be a significant issue, particularly when considering major investments in assets with long lives with little or no resale value. Key issues in ensuring that water rights' security of ownership of

water rights is maximised include the duration of the right, ensuring that the right is enforced, the quality of the title and establishing rights that are transferable and divisible.

Water trading zones and rules (where and how people can trade)

Efficient and effective trading requires clearly defined trading zones and rules. Uncertainty about where and under what conditions trading can take place can discourage mutually beneficial trades. Where trading rules and zones are used to pursue environmental or community objectives, this should be done in a way that minimises the impact on efficient trade.

Markets and trading procedures

As noted by the High Level Steering Group on Water's Report, any financial transaction involves risk to the participants (including payment to the seller and delivery to the buyer). However, water trade involves an important set of additional risks relating to environmental impacts and third party effects. If water trading is to maximise water's contribution to national income and welfare, transparent and efficient clearance procedures must be in place to address risks to both market participants and third parties.

Where precautionary measures are put in place, it is important to:

- separate legitimate from illegitimate reasons for restricting trade;
- recognise that social impacts should not be ignored but should be addressed in their own right;
- examine and improve the efficacy and efficiency of legitimate restrictions; and
- balance the need for appropriate protection for buyers, sellers and third parties, generally through buyer and seller checks, with the need for timely processing of trade applications.

Ideally, sufficient information should be provided to allow potential buyers and sellers to shop around and compare water prices, transaction fees and services offered by water brokers and water exchanges.

Market choices

The HLSGW Report notes that it is important for potential market participants to have a wide choice in the manner in which their trade is conducted. There are three main mechanisms for trade:

- Private trade;
- Water brokers; and
- Water exchanges.

While it is not essential to have all of these options available for all trades, a variety of mechanisms for trade will only benefit trading markets. A variety of trading mechanisms usually results in the wider public availability of information regarding trading mechanisms, availability and price and encourages participation in the market as buyers and sellers can make a reasonable estimate of the value of their water. As well as providing a mechanism for trade, a water exchange is one way in which market information can be provided effectively. Evidence suggests that these exchanges also facilitate trade by providing a price-setting function for private sales in the region

Market information

Water trading will only maximise the resources contribution to income and welfare when actual and potential market participants have enough and equal information to make and informed decision about a particular trade. As noted by the HLSGW Report an effective market depends on buyers and sellers having access to timely and relevant quality information on the key questions of:

- what is being traded;
- where can water be traded to and from;
- how trades can be executed;
- what are the procedures; and
- what are the risks and can these be managed.

The Report also notes the value of water exchanges as a forum for the dissemination of market information and price information. Evidence suggests that exchanges also serve a price setting function for private sales.

Certainty, confidence and timeliness

It is important for potential market participants to fully understand the risks involved with participation in the market and that these risks be minimised. As such, the High Level Steering Group on Water report notes that:

> *Governments should ensure that trading is as open and transparent as possible and should seek to minimise any artificial impediments to trade.*

Market transparency could be accomplished through easily available market information and information on trading rules, practices and procedures. This would include clear specification of water property rights, especially in terms of the nature of the right and ownership. Governments should work to remove any impediments to effective trade, and ensure that remaining impediments are based on sound public benefit and be the least distortionary means possible.

Capital efficiency

Improved capital efficiency of water entitlements and property rights is a key outcome of the better specification of property rights and the development of trading markets. Water entitlements are valuable capital assets, and in many areas, are more valuable than the land they used on. A water user with a water entitlement of 5000ML could potentially own a resource with a value in excess of $5million.

As such, water users need flexibility in the methods of managing water as a capital asset. These methods may include:

- Mortgage security;
- Leased for one or many years in the same manner as vehicles and equipment, rather than purchased outright;
- Sold to a financier and leased back; and
- Subject to conditional sale, purchase or lease contracts and other forms of options.

It should be noted that mechanisms to improve capital efficiency as described, particularly the latter two, are generally found only in developed, or mature, markets. As water markets are generally still in their infancy, the Council will not be requiring a specific suite of these mechanisms in its third tranche assessment. Instead, the Council has looked for the appropriate basis to exist for the development of these options, and consideration by Governments of how markets may be improved in future assessments.

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