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

NORTHERN 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

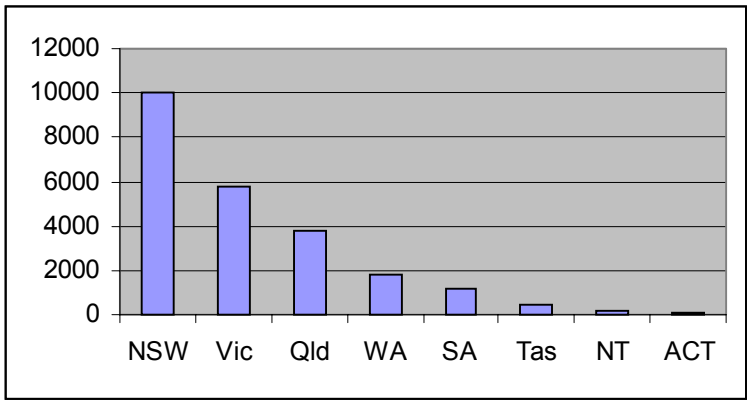
ANCID	Australian National Committee on Irrigation and Drainage
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
CoAG	Council of Australian Governments
CSO	Community Service Obligation
NCC	National Competition Council
NCP	National Competition Policy
NLWRA	National Land and Water Resources Audit
NWQMS	National Water Quality Management Strategy
SS	Suspended Solids
WRC	Water and Rivers Commission
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.

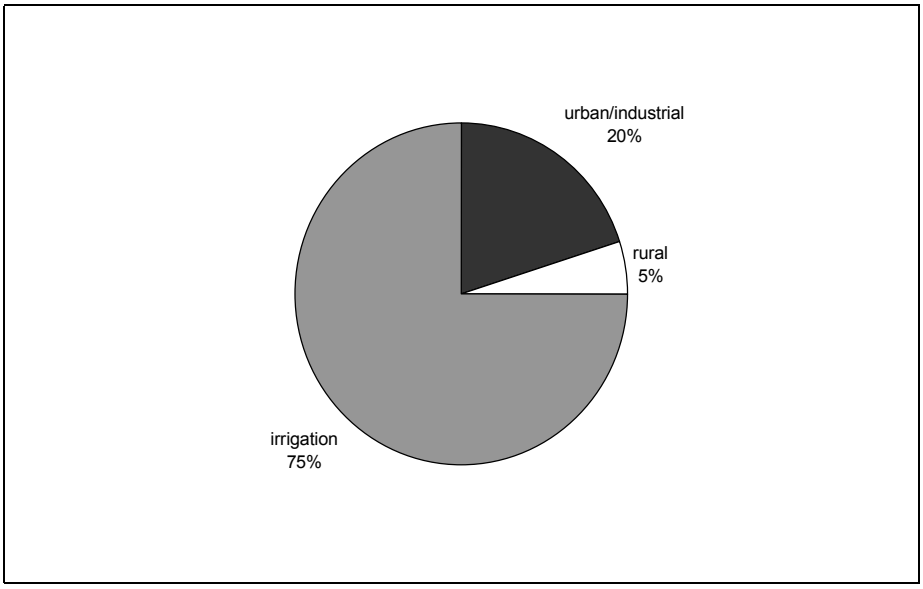
- Regional planning processes on natural resource management issues have started in all States and Territories and communities are heavily involved in consultation on these processes.

- 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.

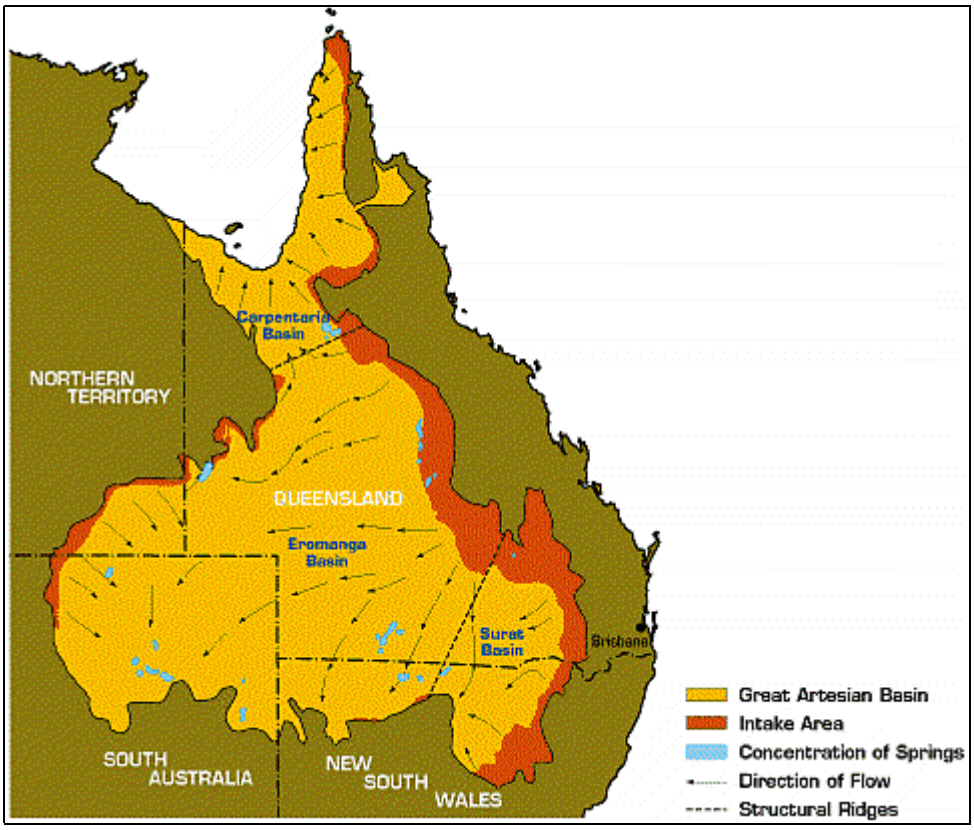
Managing groundwater basins cooperatively

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.

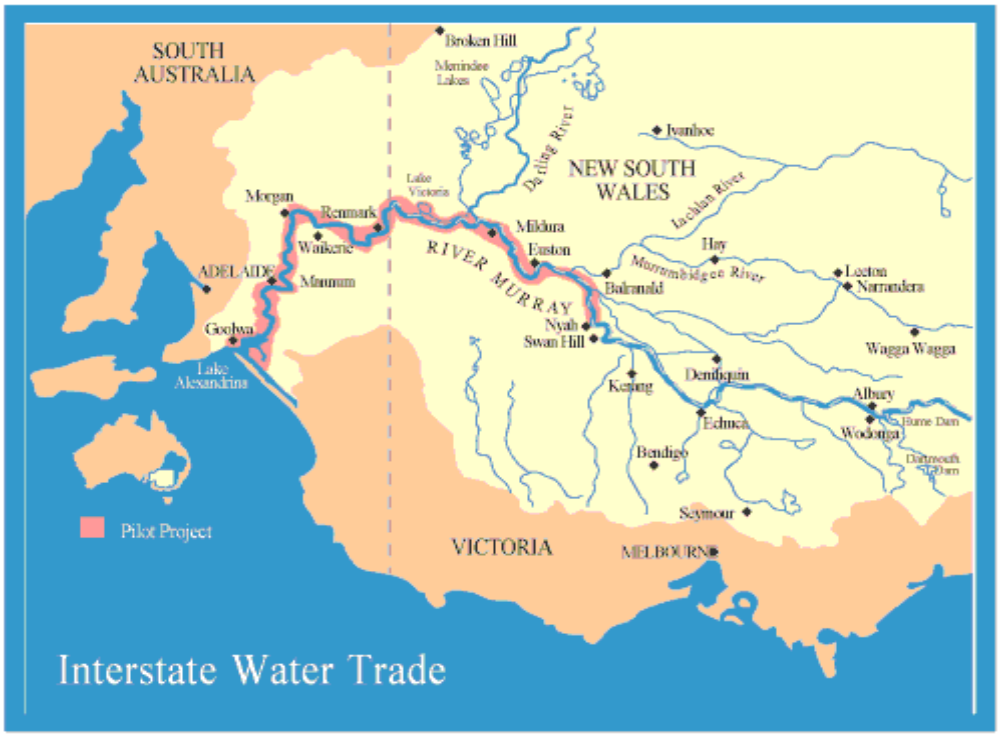
This Great Artesian Basin Strategic Management Plan is expected to be implemented over the next 15 years at a cost of $286 million.

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.

Northern Territory

The Power and Water Authority, a Government owned and vertically integrated corporatised entity is the key service provider in the Territory. It supplies water and sewerage services to the Northern Territory's four major urban areas (Darwin, Katherine, Tennant Creek and Alice Springs). The Power and Water Authority also supplies water and wastewater services to a number of rural and remote communities in the Territory.

Around 85 per cent of Darwin's water comes from the Darwin River Dam, with the remainder supplied from the McMinns borefield. The Manton Dam provides a back-up of supply. Katherine receives its water from a mix of river water and groundwater, while Alice Springs and Tennant Creek rely on groundwater. The Northern Territory does not have any overallocated or stressed water systems. There are no publicly funded rural water supply services in the Territory.

The water resource manager in the Territory is the Department of Lands, Planning and Environment. It is the lead agency for the delivery of regional natural resource management strategies and integrated catchment management throughout the Territory. An Inter Departmental Land Resource and Environment Subcommittee provides broader coordination of regional natural resource management planning. The subcommittee consists of the chief executive officers from the Department of Lands Planning and Environment, Parks and Wildlife Commission, the Department of Primary Industry and Fisheries, and the Department of Mines and Energy. Under the *Water Supply and Sewerage Services Act 2000,* the Utilities Commission licenses all service providers, monitors service standards and provides advice to the regulatory Minister (currently the Treasurer) on pricing matters, service standards and CSOs.

Progress on reforms

Pricing and cost recovery

Overall, the Power and Water Authority's water and wastewater businesses earned sufficient revenue to achieve a positive rate of return in 2000. The Council notes that the recent measures undertaken by the Power and Water Authority to improve cost recovery, include: improved asset valuation and management; better internal allocation of costs to relevant business units within the Power and Water Authority and the application of internal charges

accordingly; and the development of a financial model for calculating future price paths. The Power and Water Authority also made arrangements to ring-fence its vertically integrated business activities.

The Power and Water Authority applies a two-part tariff for water services and a fixed charge to wastewater services. The Northern Territory Government approved a 5 per cent increase in water and sewerage charges for 2000-01. The 5 per cent price rise applied to all fixed charges and volumetric charges of non-government customers. The Northern Territory indicated that it intends to phase out the cross-subsidies from government water customers to domestic and commercial customers in future price pathways. From July 2001 internal bulk water charges within the Power and Water Authority will incorporate operational costs, allocated overheads, depreciation charges and a return on assets. The Power and Water Authority also indicated that it plans to introduce trade waste management and charging arrangements from 1 July 2001. There is no explicit provision for externalities (for example, to take account of any environmental spill-over effects arising from water supply and use) in the setting of water prices. The Council will look for progress on this issue in future NCP assessments.

The Council has reviewed the various pricing and cost-recovery reforms undertaken and planned by the Power and Water Authority and the Territory Government, and expects those reforms to help further improve full cost recovery and efficient pricing. The Council is satisfied for the 2001 NCP assessment that the Northern Territory for this assessment has complied with urban water pricing and full cost-recovery commitments.

Institutional reform

Following earlier assessments, the Northern Territory made substantial progress in further reforming the institutional role separation in the water sector. For example, the enactment in January 2001 of the Water Supply and Sewerage Services Act gave effect to improved enforcement of economic regulation and standard setting. The Act introduced a licensing system for all water and wastewater providers, with the Utilities Commission to issue licences. The Act also transferred price-setting powers and the responsibility for determining service and supply conditions to the regulatory Minister.

No specific water quality is set for drinking water in the Territory. Further, the Power and Water Authority's compliance with Australian Drinking Water Guidelines has not been independently audited. The Northern Territory indicated that it envisages addressing these issues through its new licensing system for the Power and Water Authority and the associated monitoring and reporting arrangements. In the 2002 NCP assessment, the Council will review the Territory's approach to enforcing drinking water quality standards.

The Power and Water Authority is continuing to participate in the WSAA performance monitoring and benchmarking arrangements. Recent structural

reforms– including management and accounting separation into product lines and the allocation of costs to relevant business units– are expected to improve the Power and Water Authority's commercial focus. The Council is satisfied for the third tranche NCP 2001 assessment that the Northern Territory has complied with institutional reform commitments.

Allocation and trading

Under the *Water Amendment Act 2000,* water allocation planning occurs via an integrated regional resource management process covering both ground water and surface water. Water allocation plans may be declared for water control districts in the Territory. These plans are set for 10 years and water advisory committees are expected to oversee their implementation and review every five years. Plans include contingent allocations for the environment – the aim being to provide a conservative sustainable balance between environmental needs and other water uses. At the time of this assessment, water allocation plans were being developed for four of the six water control districts.

The Territory has a comprehensive system of water entitlements supported by a separation of water property rights from land title. Property rights are well defined and specified in surface water and groundwater extraction licences issued under the *Water Act 1992*. Licence-holders are required to report regularly on water use, to help minimise the scope for the allocation of dormant water rights. The Council notes, with the establishment of water control districts and the proposed formal declaration of water allocation plans for priority regions of water use, that the Northern Territory continued to demonstrate that no further water allocations will be made without considering the availability and quality of water and the environmental needs.

The Water Amendment Act allows for trading in water extraction licences. Given the geographically dispersed nature of developed water resources in the Northern Territory, the Act limits trade in water entitlements to individual water control districts. There has been no trade in licensed water entitlements to date. The Council is satisfied for the 2001 NCP assessment that the Northern Territory has complied with water allocation and trading reform commitments.

Environment and water quality

The Council in its second tranche NCP assessment indicated that in the 2001 NCP assessment it would look for information on how generic approaches to developing a water resource management strategy had been implemented and how best practice is being achieved.

Declaration of water resource beneficial uses (under the Water Act*)* provides a framework for integrated catchment management in the Territory. The range of beneficial uses which may be declared for water resources includes agricultural, aquaculture, environmental, cultural, public water supply, manufacturing industry and riparian activities. The water advisory committees are responsible for developing and implementing the relevant catchment management plans. While 16 catchments, 5 regional groundwater systems and 6 coastal areas are declared for beneficial use, only three catchment management plans have been developed to date. The Northern Territory Government indicated that the development of integrated catchment management plans will be undertaken on a needs basis.

The Government used statutory declaration of beneficial uses for water quality management (under the Water Act) to implement the National Water Quality Management Strategy guidelines. To date, the Territory has completed such declarations for surface water quality management in 16 catchments, five regional groundwater systems, and six coastal areas. The declarations of beneficial uses for water quality management also led to the issue of waste discharge licences. Seventeen such licences are in place, predominantly covering mines and sewage treatment plants in the Territory.

The Northern Territory's 2001 NCP annual report stated that the Power and Water Authority is moving to introduce the Drinking Water Quality Management Framework into major and regional water supplies in the Territory. The Council is satisfied that the Northern Territory has complied with environment and water quality reform commitments for the 2001 NCP assessment.

Consultation and education

The Northern Territory Government has engaged in a number of community consultation and public education programs regarding the implementation of water reforms. Public consultation was undertaken, for example, to secure public and customer input into the development of the Water Supply and Sewerage Services Act.

Considerable public consultation was also undertaken on water allocation and trading. Recent examples include the intensive consultation efforts in the development of a water allocation plan for the Ti-Tree Regional Water Strategy.

In the second tranche NCP assessment the Council noted that care needs to be taken to avoid any conflict of interest where service providers such as the Power and Water Authority are also responsible for public education programs addressing water conservation. The Northern Territory indicated that the Natural Resources Division of the Department of Lands, Planning and Environment is developing public education programs for water conservation, including initiatives such as WaterWise to educate school children about water issues.

The Council is satisfied that the Northern Territory has complied with public education and consultation reform commitments for the 2001 NCP assessment.

Assessment

The Council is satisfied that the Northern Territory has met reform commitments required for the 2001 assessment. The Council acknowledges the Territory's substantial degree of commitment to and progress in 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 Power and Water Authority provides the majority of the Northern Territory's urban water and wastewater services.[1] A small amount of water is also provided privately, such as to employees of remote mining operations. In regard to rural services there is no publicly provided or funded irrigation.[2] The Territory also does not, for the most part, pass on resource management costs (including the costs of administering the licensing regime) to license holders.

Urban services

The Power and Water Authority provides water, wastewater, gas and electricity services, with total turnover of over $400 million and assets valued at almost $900 million (PAWA 2000).

The Power and Water Authority provides services to the Territory's four urban centres (Darwin, Katherine, Tennant Creek and Alice Springs), as well as to a large number of rural and remote communities and outstations. In 2000, it serviced to almost 37 000 water customers and around 42 500 wastewater commercial customers. This involved provision of 47 370 megalitres of water and treatment of 18 324 megalitres of wastewater (PAWA 2000). The Power and Water Authority also provided services that year to 705 water and 359 wastewater customers on a fee-for-service basis under the auspices of Aboriginal Essential Services. The Power and Water Authority currently provides water and wastewater services free of charge to Aboriginal Essential Services domestic customers under a fully funded Community Service Obligation.

[1] Urban services include bulk and reticulated water and wastewater services to households, businesses and industry to metropolitan and non-metropolitan urban areas.

[2] Services to non-urban areas are broadly classified as rural services. They include bulk water provided for irrigation and non-urban industry, drainage services and licensing services.

Full cost recovery

Governments agreed to set prices so 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 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 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. (clause 3a and 3b)

Northern Territory arrangements

Commercial viability

The Power and Water Authority overall, earned a profit of $44.7 million in 2000 (table 1) compared with around $26 million in the previous year. After tax, earnings by the authority's water business increased by over 350 per cent in 1999-2000 to almost $12 million while wastewater services turned around a $3 million loss in 1998-99 to earn a $5 million after-tax profit.

Table 1: Earnings by the Power and Water Authority water, wastewater and total activities ($000)

	Water		*Wastewater*		*All services*	
	2000	*1999*	*2000*	*1999*	*2000*	*1999*
Revenue outside consolidated entity	52 874	47 603	31 491	22 347	404 841	381 298
inter-segment revenue	1 015	730	207	29	0	0
Total revenue	53 889	48 333	31 698	22 376	404 841	381 298
Segment operating surplus/(deficit) after income tax	11 942	2 649	5 143	-2 995	44 743	25 983
Segment assets	220 224	212 778	96 072	89 152	881 855	875 502

Source: the Power and Water Authority (2000)

Taxes and Tax Equivalent Regimes

As a wholly Government-owned business division, the Power and Water Authority is required to make tax equivalent payments to the Government. In

1999-2000 income tax attributable to operating surplus was $23 000, compared with $43 000 in the previous year.

Externalities

The Council has not received any advice that explicit provision is made within prices for any environmental externalities arising from urban water use.

Assets

The Northern Territory 2001 NCP annual report noted that asset consumption costs are calculated for pricing purposes on a written-down replacement cost basis, with a replacement annuity being used to ensure compliance with the CoAG lower band. The Northern Territory also stated that the comprehensive asset revaluation in 1999-2000, and the move to a written-down replacement cost method for the calculation of depreciation charges, results in a far more accurate determination of the authority's capital costs. Further, it stated that these measures also result in a more reliable assessment of the operating results of the Power and Water Authority's water and sewerage operations and will assist in the development of more cost-reflective charges.

Dividends

Consistent with the Northern Territory Government's policy, the Power and Water Authority paid dividends of 50 per cent of operating surplus after income tax in respect of its non-Aboriginal Essential Services Operations. As a result of a record turnover in 2000, the resulting increase in earnings led to a 107 per cent increase in dividends to $26.5 million in 2000.

Rate of return

Overall the Power and Water Authority earned a return on assets of around 5 per cent in 1999-2000. This compared with an estimated pre-tax nominal cost of capital of 10 per cent. The Power and Water Authority 2000 annual report suggested that the authority is earning a positive rate of return overall and on its water and sewerage assets. However, the Northern Territory 2001 NCP annual report noted that the Power and Water Authority is not yet earning a positive return in all urban areas (table 2).

Table 2: Water supply cost recovery in urban centres 1999-2000 ($'000)

	Darwin	*Katherine*	*Tennant Creek*	*Alice Springs*	*Total*
Operations, Maintenance and Administration	15 465	2 839	1 014	6 523	25 841
Debt Servicing	3 440	437	373	1 132	5 382
Depreciation	7 765	598	897	2 250	11 510
Total Cost	26 670	3 874	2 284	9 905	42 733
Total Revenue*	31 284	2 551	1 059	6 182	41 076
-from trading					
Community Service Obligations	101	901	824	3 448	5 274
Surplus/Deficit (excluding CSOS)	4 614	(1 323)	(1 225)	(3 723)	(1 657)
Surplus/Deficit (including CSOS)	4 715	(422)	(401)	(275)	3 617

*excluding community service obligations

Source: Northern Territory 2000

The Council understands that future performance will be assisted by a 5 per cent increase in water and wastewater prices, which the Northern Territory approved for 2000-01. The Government stated that this increase, combined with other structural charges such as the introduction of prices oversight, is expected to result in a significant improvement in the Power and Water Authority's financial performance for water and wastewater services.

Discussion

The Power and Water Authority must provide services to a small but widely distributed population; a factor that constrains any economies of scale in service provision and thus affects the costs of service provision. The Government's uniform tariff policy also has an impact on the authority's capacity to recover costs through customer charges. However, where the Government requires the Power and Water Authority to pursue non-commercial outcomes, the costs of these outcomes are negotiated and funded through a transparent CSO.

The Power and Water Authority's 2001 annual report suggested that the Authority's water and wastewater businesses earned sufficient revenue to achieve a positive rate of return in 2000. This compares with the 1998 results considered in the second tranche assessment, in which neither activity was commercially viable as defined by the CoAG pricing guidelines.

However, this positive rate of return results from the Darwin water business. All other areas made a loss, even after CSOs were taken into account. The Northern Territory argues that these losses reflect a difference in the estimated cost and actual cost of the CSO.

While not all urban water services are recovering costs, the Council notes the significant improvement in the Power and Water Authority's efficiency and

price-setting arrangements. For example, the Authority is improving its internal accounting arrangements (such as the restructuring of the Authority's ledger to enable full costs to be allocated to relevant business units and internal charging), improving asset valuation and management and the use of modelling to assist the development of future price paths. The establishment of independent price regulation also provides a sound basis for more transparent and open price setting. Also, the 5 per cent increase in prices in 2000-01 will assist cost recovery. The Council believes that measures taken and planned by the Power and Water Authority demonstrate the Territory's commitment to move all urban water and wastewater services to improved levels of efficiency and cost recovery in the future.

The Council understands that there is no explicit provision for externalities in the Power and Water Authority prices. Including externalities in setting prices is a requirement of the CoAG guidelines. One way of meeting this requirement could be to pass onto customers some of the costs of managing the environmental impacts of urban water use. However, the Council also notes that a comprehensive treatment of externalities also requires the Territory to consider issues such as property rights and standards (these issues are discussed further below).

The Council understands that the Northern Territory is considering including monitoring costs within licence conditions of some major water users, which would then be passed on to customers as part of operating costs. The Council sees this as a positive first step and will look for further progress on the issue of externalities in future assessments.

Assessment

The Council is satisfied that overall the Power and Water Authority has met 2001 cost recovery commitments. In future assessments, it will look for evidence of continued improvement in cost recovery in services provided to small regional centres. The Council will also look for the Government to consider further the issue of externalities.

Consumption-based pricing

Governments endorsed the principle that prices should reflect the volume of water supplied so 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)

Northern Territory arrangements

Domestic and non-domestic water charges

The Northern Territory 2001 NCP annual report stated that the Power and Water Authority charges for standard water services under a two-part tariff comprise:

- a daily access charge based on the cross-sectional area of the customer's meter; and
- a volumetric charge.

Charges for 2000-01 are shown in table 3.

Table 3: Domestic and commercial industrial charges, 2000-01

	Daily access	*Use*
Domestic	Up to 25 mm —26.25c 26–40 mm —67.20c 41–50 mm —$1.05 51–100 mm —$4.20. 101–150 mm —$9.45 151–200 mm —$16.80 Above 200 mm — tariff proportional to meter size	$0.63 / kL
Non-domestic	Up to 25 mm —26.25c 26–40 mm —67.20c 41–50 mm —$1.05 51–100 mm —$4.20 101–150 mm —$9.45 151–200 mm —$16.80 Above 200 mm — tariff proportional to meter size	Commercial $0.63/kL Government $0.70/kL

Source: www.nt.gov.au/pawa (accessed 2 June 2001)

Wastewater

Domestic wastewater customers pay a fixed annual charge of $299.25. The domestic charge applies to all houses, flats and residential unit properties able to be connected to the sewerage service regardless of whether they are actually connected. Wastewater charge for commercial customers are based on the number of sanitary fittings operated by the customer (table 4).

Table 4: Commercial wastewater charges 2000-01

Number of sanitary fittings	*Charge*
0–2 sanitary fittings	Fixed annual charge of $299.25, plus
3–24 sanitary fittings	$203.70 for each fitting beyond 2
25–49 sanitary fittings	$191.10 for each fitting beyond 24
50–99 sanitary fittings	$177.45 for each fitting beyond 49
100–149 sanitary fittings	$164.85 for each fitting beyond 99
150 or more sanitary fittings	$159.60 for each fitting beyond 149

Source: www.nt.gov.au/pawa (accessed 2 June 2001)

Bulk water

The Council has been advised that the Power and Water Authority's current ledger structure permits ring-fencing of costs across headworks, bulk water, reticulation and retail services as well as between water and other business divisions such as energy and wastewater. The Northern Territory's 2001 NCP annual report stated that from 1 July 2001 internal bulk water charges are to include operational costs, the allocation of overheads, depreciation charges and a return on assets.

In regard to external bulk water charges, the Council was advised that the Power and Water Authority's bulk water arrangements enable the calculation of bulk water charges on the basis of pre and post treatment, plus any additional infrastructure or operating costs incurred in contract delivery. There have been no external bulk water deliveries to date but indicative bulk water prices have been provided as inputs to feasibility assessments of a number of large industrial projects.

Trade waste

The Northern Territory 2001 NCP annual report stated that the Power and Water Authority plans to introduce new trade waste management and charging arrangements from 1 July 2001. Where cost effective, trade waste charges will be based on volumetric discharge and pollutant load. Where volumetric and pollutant load measurement are not readily achievable, the customer will be charged a fixed trade waste charge based on estimated volumetric discharge.

Discussion

All water charges now reflect the principles of consumption-based pricing. The Power and Water Authority has introduced a two-part tariff consistent with CoAG commitments. No free water allowances are included within current arrangements, ensuring water customers face a price incentive to use water economically regardless of the level of use.

The Council supports recent initiatives undertaken by the Power and Water Authority in relation to bulk water charges. The improved accounting arrangements provide for more accurate estimate of the real cost of providing these services to internal and external customers. The Council also supports the Northern Territory's introduction of a more robust trade waste regime. The new charging arrangements more closely align the costs incurred with the benefits received thus providing an improved incentive for efficient use of the wastewater system.

Further, domestic and non-domestic wastewater charges reflect the level of services provided to the extent that the number of sanitary units is a good proxy for the volume and quality of waste discharged into the system. No information has been provided on the correlation between these factors.

Assessment

The Council is satisfied that the Northern Territory has met 2001 commitments in relation to urban consumption based pricing.

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 these CSOs do not undermine the objectives of the agreed water reform framework. (clause 3a)

Northern Territory arrangements

The Territory's 2001 NCP annual report stated that the Power and Water Authority is subject to the Government's formal CSO policy statement. The Authority receives CSO funding for maintaining uniform water and waste-water charges across the Territory and for providing water and sewerage services on remote Aboriginal communities. The Northern Territory stated that these CSOs are a function of access and equity policies of the Territory Government. The cost of the CSOs is reported annually in the Territory's Budget Papers. Territory Health Services also funds the cost of providing pensioner discounts to senior citizens.

CSOs provided by the Power and Water Authority in 2000 are shown in table 5. The Power and Water Authority's annual report noted an increase of $11.2 million in 1999-2000. The Council understands that this increase is primarily due to a move to full funding of the Territory's uniform tariff policy.

Table 5: CSOs provided by the Power and Water Authority

	2000	*1999*
Uniform tariffs	21 773	11 626
Aboriginal essential services	34 882	33 336
Other	2246	2693
Total	58 901	47 655

Note: The above relate to CSOs delivered by the Power and Water Authority's water wastewater and energy businesses.

The other category is composed mainly of payments for providing discounts to pensioners.

Source: The Power and Water Authority (2000)

Discussion

At the time of the second tranche assessment, the Council was advised that Northern Territory CSO arrangements were being refined to improve transparency and to ensure the Government was getting value for money. Government Business Enterprises such as the Power and Water Authority were compensated for the services they provide. The Council was also advised that this would involve:

- negotiating a purchaser–provider agreement wherever possible and funding on a per unit basis; and
- as part of the Budget, annually reviewing the amounts of each CSO purchased to justify outlays against competing alternatives.

The Council previously expressed its view that the Northern Territory CSO policy is consistent with CoAG commitments and supported the move away from using a mix of CSOs and cross-subsidies to fund non-commercial objectives. The results for 2000 illustrate the effective application of the Northern Territory CSO policy.

Assessment

The Council is satisfied that the Northern Territory has met its commitments in relation to urban CSOs.

Cross-subsidies

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

Northern Territory arrangements

As noted above, the Northern Territory's 2001 NCP Annual Report stated that in relation to cross-subsidies, that Commonwealth, Territory and local government customers pay an additional 7 cents per kilolitre water volumetric charge over the price paid by domestic and commercial customers. The Territory Government has moved to reduce this difference by exempting Government customer's volumetric charge from the 5 per cent water tariff increase approved for 2000-01. Future price path submissions to the Regulatory Minister will be based on the phased elimination of cross-subsidies.

Discussion

As noted in previous assessments, the Power and Water Authority is a vertically integrated provider of water, wastewater and energy services to customers across the Northern Territory and this provides significant scope for non-transparent cross-subsidies. The Council supports the proposed elimination of the differential prices between Government and other customers. The measures taken by the Power and Water Authority to ringfence its different business activities will assist in decreasing the potential for non-transparent and inefficient cross-subsidies.

Similarly, measures to refine pricing arrangements to reflect more accurately the value of the service that customers receive – for example, introducing a robust trade waste regime – also decrease the potential for non-transparent cross-subsidies. Measures such as water access charges based on connection diameter or wastewater charges based on the number of sanitary fittings may also decrease cross-subsidies to the extent that they reflect the costs of the services that customers receive.

As illustrated in table 2, the Power and Water Authority did not recover costs in regional centres, even after the inclusion of CSO payments. This results in a cross-subsidy to these centres. While this cross-subsidy was not reported in the Power and Water Authority's 2000 annual report, the Council understands it will be reported in the 2001 and future annual reports.

Assessment

The Council is satisfied that the Northern Territory has met 2001 NCP commitments in relation to cross-subsidies. It will continue to monitor the reporting of cross-subsidies in future assessments.

Rural water services

Full cost recovery, consumption-based pricing, CSOs and cross-subsidies

The Northern Territory 2001 NCP Annual Report stated that there are no publicly funded irrigation water supply services. In relation to other services, the Environment Centre Northern Territory submission stated that there is no cost for water extracted from bores. However, the Council notes that amendments made to the Water Act in 2000 require that a water allocation plan must, ensure in the water control district:

> … *as far as possible – the full cost for water resources management is to be recovered through administrative charges to licensees and operational contributions from licensees.* (s22B(5)(d))

The Territory's first water allocation plan is currently due in July 2001. The Council also understands that the Territory is considering including monitoring costs in the licence conditions of some major water users and that the discharger currently meets the cost of complying with discharge standards.

Discussion

In assessing compliance with rural cost-recovery commitments in this assessment, the Council's primary focus has been on the performance of Government-owned or funded irrigation. Cost recovery by other rural water services, however, will receive closer scrutiny in future assessments.

In regard to the recovery of resource management costs in the Northern Territory, the Territory Government expressed the view that adopting a 'beneficiary pays' approach would lead to the Government paying the bulk of these costs. The Northern Territory also noted that the cost of administering the licensing regime accounts for only a small proportion of total resource management costs.

The Council supports further consideration of passing on an appropriate proportion of resource management costs to water users (where cost effective)

so as to a achieve a more rigorous application of the principle of full cost recovery and consumption-based pricing.

Assessment

While the Council is satisfied that the Northern Territory has met 2001 NCP commitments, in undertaking future assessments it will look for appropriate treatment of resource management costs (including administration costs) in water allocation plans and licensing arrangements.

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))

Northern Territory arrangements

The Council's second tranche NCP assessment outlined the Northern Territory's arrangements for ensuring the economic viability and ecological sustainability of new rural investment.[3]

The Northern Territory has advised that it does not provide, and is not planning to provide, irrigation services or other rural supply schemes.

Assessment

Given that the Council previously endorsed arrangements for ensuring the economic viability of new rural investments in the Northern Territory, and the advice that there has been no new investment, the Council is satisfied that the Territory has met 2001 NCP commitments in this area.

[3] See also the December 1999 supplementary NCP assessment

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. (clause 6c and d)

Northern Territory arrangements

The Power and Water Authority is the only provider of water and sewerage services in the Northern Territory. A statutory authority, it is responsible to the Minister for Essential Services. Resource management, water allocation and environmental regulation are the responsibility of the Minister for Lands, Planning and the Environment. This involves responsibility for the administration of the *Northern Territory Water Act 1992*. The Act provides for granting licences to use water and drill for groundwater, and for issuing permits to dam or pump water from springs, creeks and rivers. The Water Act also covers regulation of water quality and wastewater disposal.

Economic regulation and the setting of service standards are the responsibility of the Treasurer acting on independent advice from the Utilities Commission. The primary functions of the Utilities Commission are: recommending licence conditions and issuing licences; establishing and monitoring minimum standards of service; assessing compliance with licence conditions and standards of service; approving technical codes; and providing advice to the Minister on the operation of the Water Supply and Sewerage Services Act.

Discussion

In its assessment of structural reform the Council has focussed on whether the arrangements in each State and Territory are accountable, transparent and deal effectively with conflicts of interest.

There are three broad areas of regulation that the Council has considered when looking at institutional arrangements:

- economic regulation and service standards;
- resource management, water allocation and environmental regulation; and
- health regulation.

The Council's second tranche assessment and supplementary assessments during 2000 and early 2001 discussed recent amendments to the Northern Territory's institutional arrangements. In those assessments the Northern Territory demonstrated that it had appropriate arrangements in place to regulate resource management, water allocation and environmental issues.

The Water Supply and Sewerage Services Act provides for economic regulation and standards setting and the Act had been passed by the legislative assembly. However, the arrangements are still being implemented. The Council has noted that it would monitor the implementation of this legislation in its 2001 assessment.

The legislation provides for a 12-month transitional period from the commencement of the Act – to 1 January 2002. During this time the Utilities Commission will request approval from the Regulatory Minister (currently the Treasurer) on a proposed regulatory framework. The framework proposes to issue a licence to the Power and Water Authority by 1 January 2002. In addition, the Power and Water Authority needs to develop customer contracts and a process for complaints resolution.

In the area of health regulation, the Council noted in its June 2000 supplementary assessment that the Productivity Commission report *Arrangements for Setting Drinking Water Standards* (2000) stated that in the Northern Territory there was no specific water quality standard set for drinking water or independent audit of the Power and Water Authority's compliance with water quality guidelines. The Council concluded that it would follow up on this issue in the 2001 assessment.

Economic regulation and service standards

The Utilities Commission has made progress in implementing the arrangements to enforce economic regulation and service standards setting. Work has commenced on negotiating the Power and Water Authority's water licence. In addition, the Northern Territory is developing:

- a customer contract that sets out the rights and obligations of customers and the arrangements for dealing with any concerns about service standards;
- codes of practice for trade waste, metering and new connections that will go to the Utilities Commission at the end of June 2001;
- an asset management plan for the Power and Water Authority, which is likely to be completed in the third quarter of this year; and
- consideration of licensing arrangements for services to remote areas where the Power and Water Authority does not own the assets and services are provided under contract.

Drinking water quality

The Northern Territory envisages addressing issues of water quality through its new licensing system for the Power and Water Authority. The Authority will be required to monitor and report on the services provided under that licence. Currently, the water quality standards set for Darwin are equivalent to the 1996 Australian Drinking Water Guidelines. The Council does not have any information on the standards that apply to other population centres in the Northern Territory.

Assessment

While implementation is not complete the Northern Territory has made significant progress in its institutional arrangements, consistent with the timeframes envisaged in the Council's second tranche assessments. Therefore, the Council has concluded that the Northern Territory has made sufficient progress for this assessment and it will further review implementation in future assessments.

The licensing system and associated monitoring and reporting provide a good mechanism to regulate water quality standards. However, to meet the water reform commitments this needs to be backed by a standard that is set after consideration of the 1996 Australian Drinking Water Guidelines. The Council will further review the Northern Territory's approach to enforcing drinking water standards in its 2002 assessment.

Performance monitoring and best practice

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

Northern Territory arrangements and assessment

The Northern Territory is continuing to support the benchmarking process. The Power and Water Authority provides performance information on metropolitan services to WSAA for inclusion in its benchmarking reports. Information for the Alice Springs area has also been provided for the AWA non-metropolitan urban performance monitoring report.

The Utilities Commission is discussing with the Power and Water Authority requirements for compliance reporting through WSAA facts and the NMU benchmarking report.

Therefore, the Council has concluded that the Northern Territory has met its reform commitments for benchmarking service providers.

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)

Discussion and Assessment

In the second tranche assessment, the Council concluded that subject to the reservations concerning institutional separation, it was satisfied with the commercial focus of the Power and Water Authority. As the structure of the Power and Water Authority remains unchanged the Council has again reached this conclusion.

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)

Northern Territory arrangements

The Northern Territory does not have any publicly funded rural irrigation infrastructure and therefore the Council does not need to assess this area of the framework.

Allocation

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)

Northern Territory arrangements

Water property rights

The Council considered the Northern Territory's property rights system against second tranche commitments as part of the June 2000 supplementary assessment. A brief summary of the features of the system are provided in table 6.

Table 6: Northern Territory Water Property Rights

Key item	*Northern Territory*
Entitlements/rights	
Nature of water entitlement	Basic water rights cover such matters as riparian water rights for stock or domestic purposes; rights to take surface water and groundwater for domestic use and watering stock; irrigation of a garden not exceeding 0.5 hectares. All non-riparian surface water extraction must be licensed. All bore extractions exceeding 15 litres per second in declared water control districts must be licensed. There is a standard licence for surface water or groundwater. Licences are issued for up to 10 years. If a longer period is required, the controller must apply to the Minister for Lands, Planning and the Environment. The Power and Water Authority and some other major users have been granted up to 50 year licences.
Nature of water right	Water rights are volumetric, separate from land title, tradeable and enforceable. Regional water allocation plans set allocations for 10 years and are reviewable every five years. Amendments to water allocation plans can occur at any time, although are only likely where a proposal for major development is not provided for in a plan, or where monitoring information shows the environment is significantly at risk. This would require public consultation. Appeals to review the decision of the controller or Minister can be made to a water resource review panel under s24 of the Act. There is no provision for compensation under the Water Act. Overland flows can be managed under local by-laws if use requires licensing under the Water Act, except in the case of rural dams of less than 3 metres in height and with a 5 square kilometre catchment area.

The Council found in the December 1999 supplementary second tranche NCP assessment that the Territory has established a comprehensive system of water entitlements, backed by a separation of water property rights from land title and by the specification of entitlements in terms of ownership, reliability, volume, transferability and, if appropriate, quality.

Water allocation planning occurs via an integrated regional resource management process encompassing groundwater, surface water, demand requirements and environmental needs. Property rights are clearly specified in respect of surface water and groundwater extraction licences issued under the Water Act. Subject to the Act, property rights and the rights to the use, flow and control of all water are vested in the Territory Government and exercisable by the Minister on behalf of the Territory.

Licences

Stockwater and limited domestic use rights are held by virtue of occupation of land. All other use of surface water and groundwater, requires the grant (upon application) of a property right in the form of a licensed entitlement. Licenses are separate from land title, clearly specify ownership and set conditions to be met including volumetric limits on extractive use, recording and reporting rates of use, methods of application and purpose of use. Penalties apply for breach of licence conditions. Licenses are issued only after accounting for environmental needs.

A 'use it or lose it' policy operates in respect of all water extraction licences. It is a condition of all licences that they report annually to the Department of Lands, Planning and Environment on levels of extraction, uses of the water, and water efficiency measures. Irrigators are required to report extraction monthly and overall use and efficiency annually. As a result, dormant rights (dozer/sleeper licences) are not an issue for the Territory.

Water allocation

Water allocation plans may be declared for surface water and groundwater in conjunction with water control districts, which are established on the basis of existing or potential competition for water resources. These plans are established through extensive community consultation to ensure that water is always allocated to the environment and that all consumptive use is within the estimated sustainable yield after accounting for environmental allocations. Water resource management, including trading of entitlements, must accord with a water allocation plan. Plans are being developed on a priority needs basis for four of the Territory's six water control districts.

Water advisory committees oversee the implementation and review of water allocation plans, and advise Government on their effectiveness in maximising economic and social benefits within ecological constraints. The water allocation plans must be reviewed at no more than five-year intervals. Advisory committees represent community, industry, environmental and cultural interests in the sustainable management of water resources in a water control district.

Provision for the environment: contingency allocations

Surface water extraction in the Top End is limited to no more than 20 per cent of streamflow at any time. It is generally not viable in the arid zone, but up to 5 per cent of overland flow diversion may be permitted for stockwater supplies.

Groundwater extraction licences are limited so groundwater-dependent ecosystems are protected where known. In the Top End, this generally limits groundwater extraction to no more than 20 per cent of the recharge rate. In the arid zone, aquifers tend to be deeper and, generally, licences are limited so no more than 80 per cent of aquifer storage will be depleted over at least one hundred to two hundred years.

In the absence of scientific methods for determining environmental water requirements in the Territory, it is considered that the contingent allocations for the environment, as described above, provide a conservative sustainable balance between the environment and other uses. As scientific information becomes available from research underway in the Territory, the contingent environmental allocations will be reviewed.

Formal declarations of water allocation plans are being progressed for the four priority regions of water use in the Territory. As a precautionary principle, regional water allocation plans include contingent environmental allocations and, in addition, reserve some 20 per cent of the remaining water resource from consumptive use allocation. Each grant or renewal of a water extraction licence is based on a consideration of these contingent environmental allocations.

Other submissions

The Environment Centre Northern Territory submission to the Council argues the Northern Territory Government is yet to separate water property rights from land title.

Assessment

The Council reviewed the efficacy of property rights arrangements in the Northern Territory and considered the provisions of the Water Act. It considers that it would be optimal for rights to be vested in the end user. However, where rights are not vested in the end user, the Council believes the rights must still be able to ensure a licence holder is able to:

- invest in the rights;
- buy and sell the right commodity, that is, trade it; and
- plan business activities based on the surety of the rights.

For these reasons, the Council reviewed the efficacy of property rights in terms of the following three criteria:

- that the reliability is specified. There should be enough information to enable stakeholders to know what they have got and to be able to trade;

- that the length of the right, the presumption of rollover of a right (unless there is a specific need for change) and the registry system are adequately established to enable the right to hold a third party interest such as a mortgage. A right does not need to be granted in perpetuity;

- that whether there is provision for compensation during the terms of a plan depends on the frequency and likelihood of the need for changes to the plan. If during the duration of a plan there is little need for change to meet the needs of the environment, then compensation may not be necessary. If, however, change is likely, based on environmental needs (for example, there is a high level of overallocation), then compensation may be necessary.

The Council reviewed the efficacy of property rights under the Northern Territory system. Regional water allocation plans are to be set for 10 years and reviewed every five years, although the Northern Territory can amend water allocation plans at any time. This is only likely to occur where there is a proposal for a major development not provided for in a plan or where monitoring information shows the environment is significantly at risk and requires public consultation. The decision of the Minister or Controller is subject to review.

The Council also reviewed the Territory's property rights regime to ensure there is enough specificity and information about the rights. Licences explicitly state that the reliability of supply is not guaranteed. The water allocation plans will not ascribe reliability factors to groups of licences up to entitlement limits due to extraction from natural systems. Rather, the plans will publish information on hydrology and risk factors to allocations for the medium term in, for example, one in 10 years, or one in 20 years.

There is no provision for compensation under the Water Act. Given there is no overallocation, and the Northern Territory has a cautious approach to ensure the resource is underallocated, the need for compensation is considered to be very low.

With regard to the registry system, the Council notes that a hard copy of the register is available from the Department of Lands, Planning and Environment which is considering creating a version for the internet. The register contains details of licence holders, quantities of water and dates for renewal. It is a public database. The ability of third parties to register an interest is not an issue for the Northern Territory, given the zero value of water licences and the absence of trading at present because water is not scarce. As a result, the separation of water rights and land title has not created bankability concerns.

The issue raised by the Environment Centre Northern Territory submission to the Council concerning separation of water property rights from land title, was addressed as part of the December 1999 supplementary assessment and the passage of the Water Act. A licence is an entitlement to use water. Beyond basic stock and domestic requirements, a water licence separate from land title is required for all other extractions.

Given that the Northern Territory has no stressed or overallocated resources at this time, it is unlikely that water allocations will need to be reduced in the forseeable future. Where there is a change needed for example, for the environment, that affects the value of water allocations the Council would expect to see changes made in accordance with the objectives of the Act. The Council is satisfied that the Northern Territory system meets the commitments for the 2001 NCP assessment.

Provision for the environment

Jurisdictions must establish a sustainable balance between the environment and other uses, including formal provisions for the environment for surface water and groundwater consistent with the ARMCANZ/ANZECC national principles. Best available scientific information should be used and regard should be had to the intertemporal and interspatial water needs of river systems and groundwater systems. For the third tranche, States and Territories have had 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 that have been overallocated, or that are deemed to be stressed. By 2005, allocations and trading must be substantially complete for all river systems and groundwater resources must be 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 Northern Territory advised the Council that there are no overallocated or stressed systems in the Northern Territory in light of current and projected 5–10 year demands. However, longer term strategic planning identified priority resources in the Ti-Tree region, Katherine region and Darwin rural area as priority resources. Water allocations in Alice Springs were also being reviewed. These areas were included in the Northern Territory's implementation program.

Water allocation planning is at an early stage of development and occurs via an integrated regional resource management process, encompassing groundwater, surface water, demand requirements and environmental needs. Research into the best approaches for identifying environmental water requirements is an area of ongoing development.

Northern Territory arrangements

The Water Act does not oblige the Minister or controller to balance environmental requirements with other uses, but rather confers the power to declare a water control district and then declare the beneficial uses of water in that district. The Minister has declared six water control districts. Water allocation plans are being prepared for four of these districts. Under the Act, these plans must ensure that:

(a) water is allocated within the estimated sustainable yield to beneficial uses;

(b) the total water use for all beneficial uses is less than the sum of the allocations to each beneficial use; and

(c) water must be allocated to the environment.

The definition of environmental beneficial use of water under S4(d) of the Act is 'to provide water to maintain the health of aquatic ecosystems'.

Implementation of environmental flow program

Of the six water control districts, the Northern Territory Government advised there is no intention to develop water allocation plans for Tenant Creek or Gove water control districts at this stage. The following updates for the four plans in development as outlined in the implementation program are:

- A contingent environmental flow allocation was released for public comment for the **Ti-Tree region** through the regional strategy. The Ti-Tree regional water strategy was the subject of extensive public consultation and was endorsed by the Ti-Tree water advisory committee for referral to the Minister following further detail of ongoing regional assessment and monitoring programs. A longer than anticipated public consultation phase put the likely declaration of the water allocation plan some twelve months behind the original schedule. The Northern Territory argued this is justified by the regional community's high level of acceptance and understanding. The Minister will recommend declaration of the strategy in the Ti-Tree regional water allocation plan in accordance with the Water Act

- Environmental flow research is progressing on schedule in the **Katherine region**. Competing priorities caused some delay in the assessment of regional water balances that are necessary for sustainable yield estimates for the complex interaction of groundwater and streamflow in this region. The goal is to seek to develop a regional strategy (including a water allocation plan as a chapter) to be consistent with the National Action Plan on Water Quality and Salinity. A draft strategy is expected by the end of 2001, which is then to be released for public consultation and

consideration by a water advisory committee. Formal declaration of the strategy should be possible by the end of 2002.

- Work on the water allocation plan for the **Darwin region** is progressing. It is expected to be released in July 2001 for public consultation and formally declared within the following 12 months.

- Further groundwater resource investigations were undertaken to help establish the regional water balance and yield potential of the **Alice Springs** area. The Power and Water Authority is currently developing, through a regional reference group and in conjunction with the Department of Lands, Planning and Environment, the Alice Springs urban water management strategy, including a water re-use strategy. Upon completion, this will be broadened to consider regional and non-urban aspects. As a result of this additional work, there was a six month delay in the preparation of the regional water allocation plan and management strategy. Limited public consultation has commenced and the water allocation plan is expected to be declared in mid-2002.

Water advisory committees

The Minister appoints representatives to a water advisory committee on the basis of the issues facing a water control district. Where there are environmental issues, for example, environmental groups would be represented. Ti-Tree is the only formal water advisory committee at present. However, regional reference groups exist for Alice Springs, Mary River, Rapid Creek and the Great Artesian Basin. Wherever possible, stakeholders are invited to provide the Minister with nominations for the committee.

Surface water

The National Land and Water Resources Audit Australian Water Resources Assessment (NLWRA 2001a) reported that all surface water diversions were within the sustainable yield. The assessment of sustainable yield divided the Territory into two areas - a humid zone and an arid zone. Sustainable yields are defined as 20 per cent of the divertible yield in the humid zone and five per cent of the divertible yield in the arid zone. The remaining 80 per cent and 95 per cent respectively are assigned to the environmental water requirements.

Groundwater

Data on groundwater resource use for the Northern Territory (NLWRA 2001a) include where the resource is approaching full allocation, is fully

allocated or is overallocated in relation to the sustainable yield.[4] All sustainable yield estimates fall within the lowest two categories of data reliability. Table 7 is a summary of data for groundwater management units which are approaching full allocation or overallocated.

Table 7: Summary of data for groundwater management units that are at/or approaching full allocation or overallocated

Groundwater management unit	*Total abstraction (ML)*	*Total allocation (ML)*	*Sustainable yield (ML)*
Mereenie sandstone – Alice Water Control District	11 379	13 848	1 408
Alice Springs Town Basin Water Control District	842	651	300
Ti Tree	2 567	3884	3 897
Gove Water Control District	10 145	12 000	12 150
Great Artesian Basin – Western Northern Territory	570	570	490
Great Artesian Basin – Western Recharge – Northern Territory	380	380	330

Source: NLWRA (2001a)

In bilateral discussions with the Northern Territory, the Council highlighted the data on groundwater overallocation contained in the NLWRA 2000 Water Assessment Report particularly with regard to the Mereenie sandstone – Alice water control district. The Northern Territory advised that the information contained in the national audit was incorrect and is currently being amended. The Northern Territory undertook to provide further information to clarify this issue. The Northern Territory provided the following text:

> *Two groundwater management units, NT6 and NT7 are currently being mined. NT6 is the major water supply for Alice Springs and will continue to be utilised whilst it is considered economical. A new borefield exploiting the Mereenie Sandstone, which will shift the pumping centre away from the current Roe Creek borefield, is being considered. NT7 is an alluvial basin underlying urban Alice Springs and water levels are being managed to reduce the mobilisation of salts into the aquifer to reduce adverse infrastructure impacts.* (Northern Territory 2001, unpublished)

[4] The Northern Territory has advised that sustainable yield has been defined for groundwater management units as the groundwater extraction regime, measured over a specified planning timeframe, that allows acceptable levels of stress and protects dependent economic, social, and environmental values.

The definition of sustainable yield applied in the Northern Territory permits mining of aquifers over a specified planning timeframe. Consistent with this definition, the Northern Territory Government considered none of its groundwater resources overallocated.

Other submissions

The Environment Centre Northern Territory submission to the Council made a number of points in relation to water allocations and provision for the environment. The Centre argued that:

- the provisional environmental allocations lack credibility, are not scientifically based, and are not ecologically sustainable in some areas (for example, the Daly River). In the Daly River, water users have been allocated 20 per cent of dry season flow and, by default, the remaining 80 per cent is considered the 'environmental allocation'. The relationship between recharge and discharge is very close in the Top End, indicating that groundwater is young and that spring flows to groundwater dependent ecosystems relate to the immediate past wet season(s). Small variations in the dry season flow rate may have major impacts on the freshwater flora and fauna, including on several endangered species that are known to live in the Daly River;

- the Northern Territory Government is reluctant to require formal environmental impact assessment of new development proposals and has encouraged incremental, piecemeal development (for example, Daly Basin, Litchfield Shire, Ti-Tree) and that the only existing water allocation plan (a draft for Ti-Tree Basin) lacks a scientific basis;

- environmental water provisions have been legally recognised only via the beneficial uses process. The 'beneficial uses' process recognises competing interests and in no way guarantees ecologically sustainable water allocations because the Northern Territory Government have explicitly stated that the declaration of aquatic systems as the primary beneficial use will not preclude the possibility of large scale irrigation developments and environmental degradation; and

- the Government's position that there are no stressed river systems in the Northern Territory is not supported by scientific studies. Darwin, Manton and Katherine rivers may all be stressed systems.

Discussion

For this assessment, the Council is looking for governments to demonstrate 'substantial progress' against implementation programs on-the-ground. The Tripartite meeting defined substantial progress as including at least allocations in all river systems that are overallocated or deemed to be

stressed. The implementation programs are to be substantially completed by 2005 for all nominated river systems and groundwater.

The Northern Territory advised that it has no stressed or overallocated surface water systems that require action by June 2001 and that the requirement for allocations for groundwater is 2005. This is consistent with the national audit data and the Northern Territory Government's position that the definition of sustainable yield applied in the Northern Territory permits mining of aquifers over a specified planning timeframe. The Northern Territory considers none of its groundwater resources are overallocated.

National principles for the provision of water for ecosystems

The ARMCANZ/ANZECC National Principles of Water for Ecosystems as relevant to the 2001 NCP assessment, are discussed below.

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 Northern Territory in setting the limits on extractions from surface water systems, recognised that consumptive use has the potential to impact 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.

The Environment Centre Northern Territory noted that the only existing water allocation plan (a draft for Ti-Tree Basin) lacks a scientific basis. It was concerned that the Northern Territory should be determining allocations for the environment on the basis of the best available scientific information.

In the second tranche assessment, the Council noted the existence of research projects under development for the Daly River catchment and Darwin rural area. The assessment also noted that the Northern Territory is at an early stage of developing a scientific basis for determining environmental water requirements.

The Northern Territory advised that five research projects in the Daly are ongoing and that there are no findings yet, with the projects to continue for one more year before completion. The Government recently saw a first draft of one of these project. It is the Territory's view that the science in this area is still emerging. Unless the findings of these projects show existing environmental contingency allocations are significantly inadequate, it is unlikely these projects will have an impact on these allocations until at least the five-yearly review of the operation of a plan.

The Environment Centre submission argued that groundwater at Ti-Tree is being depleted extremely rapidly, with only 20 per cent of assessed water

resources set aside as an environmental contingency allocation, and that this clearly contravenes the Government's stated provisional environmental allocation. Ti-Tree is in the arid zone in which the deeper aquifer storage means the Northern Territory's general groundwater extraction policy is to limit extractions to no more than 80 per cent of the recharge rate over one hundred to two hundred years. The Ti-Tree is therefore consistent with the Northern Territory's approach.

The Council considers that the Northern Territory has met minimum commitments for the 2001 NCP assessment, but will continue to monitor developments in this area for subsequent assessments as the science emerges.

Principle 3 Environmental water provisions should be legally recognised.

The Water Act provides that water to a water control district is allocated to beneficial users within the sustainable yield, including an allocation for the environment. While conceding this, the Environment Centre submission argued that the 'beneficial uses' process recognises competing interests and in no way guarantees ecologically sustainable water allocations. The Northern Territory Government explicitly stated that the declaration of aquatic systems as the primary beneficial use will not preclude the possibility of large-scale irrigation developments.

The Council is of the view that the purpose of the Act's provision is to ensure that environmental allocations are legally recognised. While it is true the 'beneficial uses' process recognises other interests as well as the environment, the process requires an allocation to the environment. The adequacy of these environmental allocations is the subject of other criteria. The Council is satisfied the Northern Territory meets this criteria.

*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.*

There appear to be no surface water systems in the Northern Territory where the water regime is inadequate to sustain the ecological value of ecosystems. However, the Council noted in the second tranche NCP report that the outcomes of regional water allocation planning may result in environmental water provisions not always meeting the needs of the environment. As a result, the Council was of the view that maintenance of ecological processes and biodiversity should be given a high priority. The Council considers that the Northern Territory has adopted a conservative approach to the allocation of surface water. The Council will be looking to ensure that the Government uses the research projects being developed as a scientific basis for determining environmental water requirements.

The Environment Centre submission argued the Northern Territory Government's provisional cap does nothing to protect stygofauna and associated groundwater ecosystems. The Northern Territory's water allocation policy requires the needs of groundwater dependent ecosystems to be met, including stygofauna if present. Accordingly, groundwater extraction is limited through licensing to avoid impacts through lowered water tables, reduced groundwater discharges or deterioration of water quality. The draft regional strategy for Ti-Tree allocates 95 per cent of regional surface water resources to environmental use. No groundwater dependent ecosystems have been identified in the region.

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 surface water system in the Northern Territory under existing use levels.

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

With the establishment of water control districts and the proposed formal declaration of water allocation plans for priority regions of water use, the Northern Territory demonstrated that no further allocations will be made without considering water availability, water quality and the needs of the environment. The Council is satisfied that the Government has met this principle.

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

The Department of Lands, Planning and Environment is the sole agency responsible for environmental water provision in the Northern Territory. More specifically, this responsibility is exercised by the controller of water resources through the Water Act, in accordance with regional water allocation plans (such as in place for Ti-Tree) and/or in accordance with the prevailing contingent allocation policy. The Council is satisfied that this principle is met.

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

Under the Water Act, the Minister is required to specify a period of no more than 10 years for a water allocation plan, with a review within five years of establishment.

Current environmental flows research in the Daly/Douglas River is expected to report findings in 2002. Monitoring programs for environmental water provisions will be designed on the basis of research findings. Continuous recordings of streamflow throughout the Northern Territory are automatically assessed whenever surface water extraction licences are granted. The Council is of the view that the Northern Territory continues to meet this principle.

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

Water control districts are established on the basis of existing or potentially significant competition for water resources. Water allocation plans may be declared for surface water and groundwater in conjunction with water control districts. These plans are established through extensive community consultation to ensure water is always allocated to the environment and that all consumptive use is within the estimated sustainable yield after accounting for environmental allocations. The Council considers that the Northern Territory has met this principle for the 2001 NCP assessment.

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

Water resource management, including the trading of entitlements, must accord with a water allocation plan. Water allocation plans are being developed on a priority needs basis for four of the Territory's six water control districts. In the Katherine region, the Power and Water Authority is developing an urban resource strategy, including a re-use water management strategy. This will be broadened to consider the non-urban aspects and then will be incorporated into the Katherine regional strategy.

The discharger meets the cost of complying with discharge standards. The Government considered that a 'beneficiary pays' approach would lead to the Government paying the bulk of natural resource management costs.[5] The Northern Territory indicated that it is considering avenues to include the cost of monitoring in licence requirements for major uses. The Council is satisfied that the Northern Territory has met this principle for this assessment, and will monitor developments in this area in future assessments.

[5] Because there is only a relatively small number of licensees and the cost of administering the licensing regime is only a small proportion of total resource management costs.

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

The Northern Territory has research underway to improve the understanding of environmental water requirements. The Northern Territory has advised that there are five research projects underway in the Daly. There are no findings yet and these projects still have one more year to be completed. The Northern Territory continues to meet this commitment.

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

Water advisory committees oversee the implementation and review of water allocation plans and advise Government on their effectiveness in maximising economic and social benefits within ecological restraints. Advisory committees represent community, industry, environmental and cultural interests in the sustainable management of water resources in the water control district.

The Environment Centre submission and the Council, in the second tranche NCP assessment noted there is no environmental representative on the Ti-Tree Water Advisory Committee. In this assessment, the Northern Territory advised that a hydrogeologist on the committee is providing the relevant expertise on environmental issues. It is the Northern Territory's position that the Minister will appoint representatives to a water advisory committee based on the issues facing a water control district. Where there are environmental issues, the environment will be represented. The Council considers that the Northern Territory meets this principle.

Assessment

The Council has examined the Northern Territory's progress against the implementation program. The Northern Territory has no overallocated surface water systems, so the Council considers that the Northern Territory has complied with commitments for the third tranche NCP assessment. The Northern Territory has until 2005 to roll out its implementation program.

The Council notes that timing of the environmental contingency processes has slipped between six months and one year. However, due to the absence of stress or overallocation, the processes are not required to be in place until 2005 and the Northern Territory is well ahead of this timeframe. Delays in implementing the program have tended to be based on the need for further public consultation. The Council considers that the Northern Territory has met it's 2001 NCP commitments in this area for provision of water to the environment and will monitor further developments in future assessments.

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 5)

The surface water resources of the Northern Territory vary dramatically in their location and volume. Groundwater resources are also important for the Territory, particularly in drier areas where surface water is limited. Compared with surface water, the Territory uses more than twice as much groundwater by volume.

At current levels of development, water supplies in the Territory are plentiful relative to demand. Therefore, although legislative impediments to trade have been removed, the lack of resource scarcity has limited the need for trading within the Territory. However, further developments in the Territory, such as the proposed Ord Stage 2 development, is likely to drive the development of trading in the future.

Northern Territory arrangements

Legislative base

The regulatory framework for water allocations and trade in the Northern Territory is implemented by the Water Act. Amendments passed in May 2000 fully separated water entitlements from land, enabling trading between consumptive beneficial uses.[6]

The transfer of water entitlements is enabled under ss22 and 92 of the Act. These sections provide that the Minister may proclaim a water allocation plan for a water control district and that groundwater or surface water entitlements may be transferred either in part or in full. Section 94 of the Act states that the controller of Water Resources, who is appointed by the Minister, must keep a register of water licences. The Act does not provide for trade between water control districts.

6 Consumptive beneficial uses listed in the amendments to the Act are agriculture, aquaculture, public water supply, manufacturing and riparian use.

Institutions and policies

Intra-Territory trade

There has been no intra-Territory trade. The Northern Territory 2001 NCP annual report noted that the Territory lacks the mix of scarcity and resource demand required for the establishment of efficient water trading markets. This largely reflects that commercial water use in the Territory is comparatively small and dispersed over a large geographic area.

Interstate trade

There are presently no regions in the Northern Territory where interstate trade could take place. However, the development of Stage 2 of the Ord Irrigation project is likely to stimulate the demand for water on the border with Western Australia, necessitating the development of an interstate (as well as intra-territory) trading market in the medium term. No other cross-border water resource development schemes are expected to occur within the next 10 years.

Discussion

The June 2000 supplementary second tranche assessment found that the Northern Territory met its reform requirements with regard to trading. This included the removal of legislative impediments to efficient water trade among beneficial uses.

The High Level Steering Group on Water paper, *A National Approach to Water Trading* (2000), noted that for effective trade, resource availability must be capped or constrained and gaps must exist between buyer and seller situations. Essentially, trade will not occur if water users can still obtain extra water through administrative means at low cost. Further, it will not occur if there is limited demand or difference between buyers and sellers (in efficiency, crop value etc). Given the lack of scarcity, the Council has looked for the Northern Territory to eliminate unnecessary impediments to trade and provide a sound foundation for establishing trading markets as demand increases.

The *Water Act 2000* provides the mechanism for the management and transfer of water entitlements in the Territory. A sustainable basis for allocations and consumptive use is important for the long-term efficacy of trading markets. The Northern Territory allocations framework has been discussed in the previous section on allocations and property rights. In terms of trading, the Act provides for:

- a system of water allocation plans to establish the balance between consumptive and environmental uses;
- trading rules for regions to be developed under each water allocation plan;
- a system of property rights that are well specified;
- a publicly available register, which contains details of licence holders, quantities held and dates for renewal; and
- no provision for compensation, although the conservative basis used for setting allocations and environmental flows in the Territory means that there is little risk of clawback or a reduction in allocations.

The Council notes that the register does not provide scope to register interests in a licence, as this is not an issue for the Territory at this stage given the negligible value of water licences and the lack of trading. The separation of water and land title has not created problems for the banking sector. The Council will look for this matter to be addressed as demand increases.

Currently trade is not permitted between consumptive and non-consumptive water uses. This prevents environmental and cultural water allocations being traded to water irrigators and other water users. The Council considers that this rule does not constrain trade and is consistent with the requirements of clause 5 of the CoAG framework.

The Northern Territory 2001 NCP annual report suggested that water resources are not sufficiently scarce relative to demand to justify the development of a water trading market. The Council recognises this lack of demand and notes that trading will be made possible as a part of the development of water allocation plans. The Council will look for the trading rules provided by these plans to maximise efficient trade within ecological, social and physical constraints.

The Council understands that the joint expansion of the Ord Irrigation scheme with Western Australia is likely to stimulate demand to an extent where a trading market would be justified. The Northern Territory 2001 NCP annual report noted that in-principle agreement has been reached with Western Australia for that jurisdiction's arrangements in water trading to apply throughout the Territory sector of Stage 2 of the Ord Irrigation Project. The Council commends this progress.

Assessment

The Council is satisfied that the Northern Territory has met all requirements with regard to the water trading provisions for the 2001 NCP assessment. As demand for water increases, the Council will expect the Northern Territory to

facilitate the development of trading markets, with particular regard to the following issues:[7]

- 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 affect trade;
- accessible and equitable market information;
- certainty, confidence and timeliness; and
- capital efficiency.

The Council recognises that until demand for trade reaches a base threshold level, the cost of establishing markets according to these factors may outweigh the benefits of such trade.

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. (clause 6a and 6b, 8b and 8c)

The Northern Territory Department of Lands, Planning and Environment is the lead agency for the delivery of regional natural resource management strategies and integrated catchment management throughout the Territory. An interdepartmental Land Resource and Environment Subcommittee provides broader coordination of regional natural resource management planning. Formal statutory declaration under the *Water Act 1992* to initiate and revise water allocation plans establishes public accountability as the

[7] These issues are consistent with the principles identified in the High Level Steering Group on Water (2001) document *A National Approach to Water Trading*, in which further information is available.

primary mechanism to encourage the development of regional natural resource management plans and strategies.

Northern Territory arrangements

Integrated resource management

The Natural Resources Division of the Department of Lands, Planning and Environment has the following functions in relation to the delivery of regional natural resource management strategies and integrated catchment management:

- the administration of water resource beneficial use declarations;
- allocation planning and waste discharge licensing;
- water extraction and diversion licensing;
- land development capability assessment, erosion control, and sustainable grazing and pastoral clearing controls; and
- primary natural resource management input to the determination of land use objectives, land use structure plans and development control plans, which are established by the Department of Lands, Planning and Environment under the Planning Act.

The interdepartmental Land Resource and Environment Subcommittee, which provides broader coordination of regional natural resource management planning consists of the chief executives from the Department of Lands, Planning and Environment (chair), the Parks and Wildlife Commission, the Department of Primary Industry and Fisheries and the Department of Mines and Energy. The subcommittee ensures inter-agency coordination of regional weeds management strategies, bushfire control, mine wastewater management, site rehabilitation and decommissioning, and regional conservation planning for biodiversity conservation. The subcommittee also sets the work program for the Natural Resources Division.

Integrated catchment management

Catchment bodies

Catchment management bodies have been established as water advisory committees under the Water Act, with membership and terms of reference set as relevant to the catchment management issues. The Minister for Lands, Planning and Environment appoints members to the water advisory

committees to provide advice to Government. The committees comprise regional stakeholders with relevant expertise available to assist committee decisions. Wherever possible, the community, landcare groups, environmental and industry groups, associations, local government (if present in the region) and relevant government agencies are invited to provide the Minister with nominations for the committee. Small regional populations ensure transparency of all Ministerial appointments.

Formal statutory declaration under the Water Act, to initiate and revise water allocation plans establishes public accountability as the primary mechanism to encourage the achievement of regional natural resource management plans and strategies. As required, all necessary actions to ensure ecologically sustainable development are applied through the regulatory regimes available within the agencies represented on the Land Resource and Environment Subcommittee. Field advice and extension services to landowners further maximise sustainable land and water use.

Evaluation and review of catchment processes

Declaration of water resource beneficial uses (environmental values) is the primary mechanism for the evaluation and review of catchment processes. The identification of threats to those beneficial uses, the use of licensing to limit water quality impacts, the promotion of consumptive use within sustainable levels and monitoring of the condition of regional water resources provide the overall framework for effective catchment management in the Territory. The catchment management plans are dynamic plans that are being continually revised and updated. The catchment advisory committees for Rapid Creek and Mary River continue to advise on policy and procedures to promote community awareness. These bodies are required to report to the controller of water resources annually and sometimes more frequently when significant milestones are achieved. The controller is accountable to the Minister for Lands, Planning and Environment.

In relation to the Daly Region, the Government has released a subdivision plan for agriculture development, including some limited irrigation, in the Stray Creek catchment. This subdivision plan was developed through close consultation between the Department of Lands, Planning and Environment, the Parks and Wildlife Commission of the Northern Territory and the Department of Primary Industry and Fisheries. The Northern Territory Government claims the plan represents a successful integration of sustainable resource development capability and conservation planning.

Case study: the Mary River catchment

The Mary River catchment is an example of how the beneficial use process works in relation to integrated catchment management.

First, there is a need to reach agreement on the present uses of the groundwater and surface water. Beneficial uses are the values that the

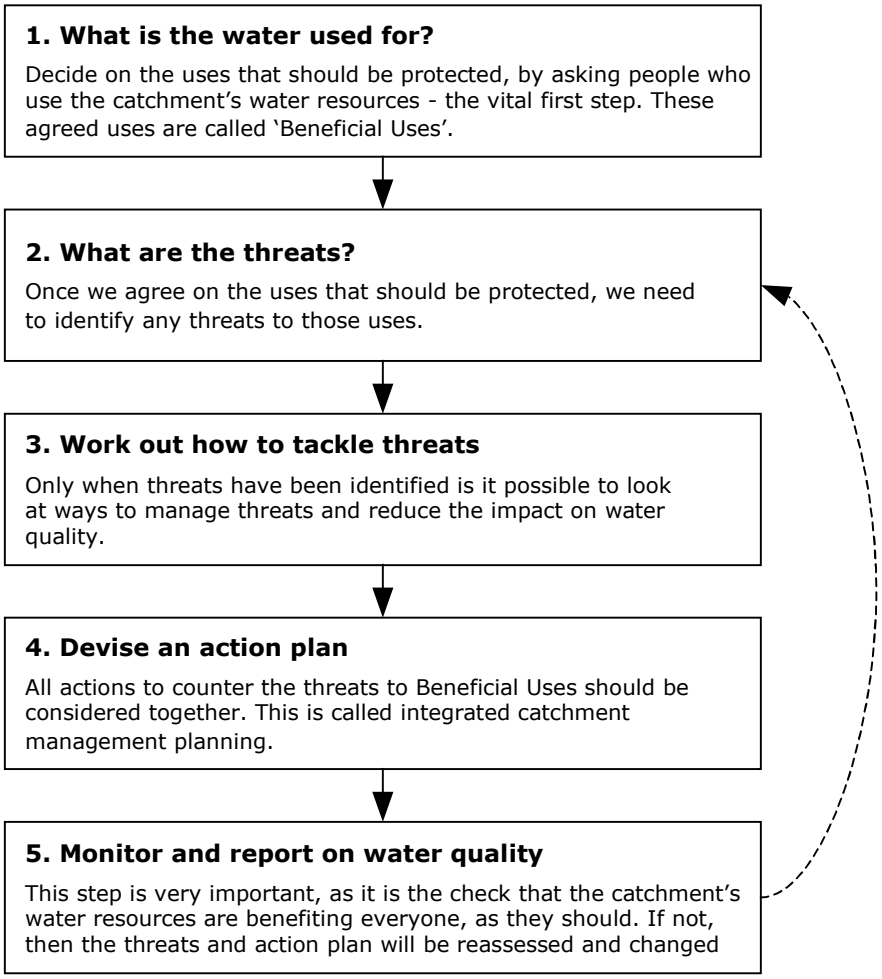
community places on the waters of the Mary River catchment. These values can then be used to set targets for management and protection strategies. The wide range of beneficial uses for the water resources in the catchment could include fishing, hunting, tourism, pastoral uses, horticulture, mining and conservation.

The Mary River Catchment Committee defined three draft beneficial uses for surface water and four for groundwater, and released these for public consultation. For surface water, the beneficial uses are the environment, cultural use and riparian use. For groundwater, the beneficial uses are:

- agriculture — to provide irrigation water for primary production;
- cultural use — to provide water for aesthetic, recreational fishing and cultural needs;
- environment — to provide water to maintain the health of aquatic ecosystems; and
- riparian use — to provide water for rural household and garden use as well as stock watering.

The Committee expected to make the final beneficial use recommendations in mid-2001. After the beneficial uses are determined, the process for refining the integrated catchment plan is shown in figure 3:

Figure 3: Protecting water resources in the Mary River catchment: a five step process



Source: Mary River Catchment Committee

Progress since the second tranche

The Northern Territory reported the following progress since the second tranche assessment in relation to the preparation of catchment management plans:

- revision of the Rapid Creek Catchment Management Plan 1994 in suburban Darwin to include declaration in January 2000 of the beneficial uses of 'aquatic ecosystem protection' and 'recreation and aesthetics' for the freshwater reaches of the creek; and

- revision of the Mary River Integrated Catchment Management Plan 1998 adjacent to Kakadu National Park to include a three year work program, including multiple land use objectives under the Planning Act. A second plan that updated the work program was published in January 2001.

Landcare practices to protect high-value rivers

Landcare groups operate in over 70 per cent of the Territory. These groups are made up of two-third pastoralists as active members. Stock exclusion practices are used to protect the Victoria, Roper and Mary rivers. Landcare groups in the catchments of the Howard River, Rapid Creek and Ludmilla Creek carry out revegetation of riparian corridors, weed eradication, erosion control, bank stabilisation and wildfire management. Waterwatch is also very active, with over 80 groups now monitoring over 150 sites in 12 catchments throughout the Territory.

Other submissions

The Environment Centre argued that the Northern Territory has been slow to introduce integrated resource management practices that inform decision-making. The only example of integrated catchment management to date that takes into account both production and conservation values is the Mary River Integrated Catchment Plan. By contrast no environmental interests are represented on the Ti-Tree Water Advisory Committee and it is claimed the catchment is being managed purely for production values.

Assessment

The Council notes the Northern Territory's progress since the second tranche NCP assessment. In the Council's June 1999 second tranche NCP assessment, the Council advised that for the 2001 assessment it would be looking for information on how the Territory implemented generic approaches to developing a water resource management strategy. The Council would also look for how the Northern Territory achieved best practice through examples such as the Mary River Integrated Catchment Management Plan and the Ti-Tree Regional Water Resource Strategy (considered in the previous section on Allocation and Trading).

The Council has reviewed the updated Mary River plan and has found that the plan identified 12 major issues to be addressed as well as the current status of each issue. A work program is described to address each issue, the status of the work program is documented, along with a budget to support the program. The plan indicates the goals and objectives of the earlier plan remain unchanged. The Council is satisfied with the approach taken in this plan to address resource management issues.

The Environment Centre argued that the generic approaches identified by the Northern Territory in developing water resource strategies and integrated catchment management plans have been somewhat slow to be developed, with only three plans developed in two years.

The Council notes the declaration of water resource beneficial uses to establish environmental values under the Water Act is the primary

mechanism for the evaluation and review of catchment processes. While 22 catchments were declared for beneficial use, only three resulted in integrated catchment plans. The Northern Territory Government advised that the process of declaring beneficial uses for water quality was never intended to mean that all declarations of beneficial uses would result in the development of integrated catchment management plans. Instead, most of the 22 catchments declared for beneficial use for water quality were so declared for the purpose of issuing waste discharge licences, rather than address a wider range of potential issues.

It is the position of the Northern Territory Government that integrated catchment management plans will be created on a needs basis. The Northern Territory has a population of 200 000, of which 100 000 people live in Darwin. The Rapid Creek plan covers integrated catchment issues in Darwin's northern suburbs. The Mary River catchment in the Top End attracts some 100 000 visitors per year.

The Government intends to expand the four water allocation plans that are being developed to include complementary regional water resource strategies that address integrated catchment management issues. The Council will review the adequacy of this approach in future assessments. In relation to ongoing agricultural developments in the Daly Region, the Council sees this as an opportunity for the Government to use the integrated catchment management process to respond to increases in the level of development and avoid any potential future problems.

The Council is satisfied that the Northern Territory has met its reform commitments for this assessment.

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)

The policies and principles of the National Water Quality Management Strategy are being implemented through the Beneficial Use Declarations Program. 'Beneficial use' declarations lead to the development of water discharge licensing, monitoring programs and catchment management strategies. The Northern Territory advised that the guidelines and modules of the national strategy have been used in their own right for water quality management. Therefore, there has not been a need to develop local industry modules or codes of practice.

Salinity is not a major problem in the Northern Territory. The National Land and Water Resources Audit Australian Dryland Salinity Assessment 2000 reported there were no areas classified as a high hazard for salinity and concluded the overall salinity hazard for the Northern Territory was relatively low, with 6 per cent of areas classified as moderate hazard, 34 per cent classified as low hazard and 60 per cent classified as very low hazard. (NLWRA 2001b).

Northern Territory arrangements

Water quality management in the Territory is provided through the Water Act through the statutory declaration of beneficial uses. Under S72 of the Water Act, the Administrator of the Northern Territory, on the recommendation of the Minister for Lands, Planning and Environment, is able to declare beneficial uses for water quality standards. All licence-holders must then reach those standards. The categories of beneficial use defined in the Act are consistent with the framework of environmental values in the National Water Quality Management Strategy, including the 1992 ANZECC *Australian Water Quality Guidelines for Fresh and Marine Waters*. The declarations refer each beneficial use to the relevant water quality guidelines in the national strategy.

The declarations completed and underway cover all regions in which current development has some potential to impact on water quality. Following the second tranche NCP assessment, the Northern Territory reported the following progress in relation to the Beneficial Use Declarations Program.

- There are 22 completed declarations, covering 12 surface water quality management catchments**,** four regional groundwater systems and six coastal areas in the Territory, including the three ports and three areas of major environmental and cultural value. These include declaration of the Rapid Creek in suburban Darwin. An integrated management strategy is nearing completion to ensure the long term maintenance of beneficial uses declared for Darwin Harbour.

- Declarations commenced in four surface water quality management catchments and three regional groundwater systems. The declaration of beneficial uses for water quality recently began for the Mary River Catchment as part of the Mary River Integrated Catchment Management Plan. The Northern Territory is also to commence strategic management planning for Gove Harbour.

- Declaration of water uses for the Ti-Tree Groundwater Basin in central Australia will be part of the water allocation plan to be declared by July 2001.

Two other catchments to be declared in the near future will complete the coverage for planned regional development in the Territory.

The most immediate on-the-ground impact of the declaration of beneficial uses for water quality management was the imposition of licences to control all point source waste discharge. Waste discharge licences require the discharger to monitor and report the quality of receiving waters and to limit water quality impacts beyond the immediate contact zone so that beneficial uses are maintained. The Department of Lands, Planning and Environment and the Department of Mining and Energy conduct independent random auditing of water quality. The former normally conducts two or three checks per year, while the latter conducts continuous monitoring as a check on data supplied by dischargers.

Seventeen licences are in place and control all known point waste discharge sources, including mines, sewage treatment plants and an aquaculture operation and a marina on Darwin Harbour.

Drinking water

The Power and Water Authority is moving to introduce the Drinking Water Quality Management Framework into major and regional water supplies in the Territory. The authority developed a sewerage strategy for Darwin and Alice Springs, including options for wastewater re-use. Public consultation occurred through an open forum and the public environmental report for the Ludmilla wastewater treatment facility. The authority has a draft Territory-wide policy on effluent re-use.

Participation in the development of remaining modules of the National Water Quality Management Strategy

The Power and Water Authority has led the assessment of the National Health and Medical Research Council and ARMCANZ trial of the proposed Drinking Water Quality Management during trials in Katherine. The Power and Water Authority is also a member of the Cooperative Research Centre for Water Quality and Treatment and intends to participate in a number of research programs.

The Territory also actively contributed to the revised Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2001 and to the completion of Guidelines for Water Quality Monitoring and Reporting, Guidelines for Sewerage Systems Sludge (Biosolids) Management and Guidelines for Sewerage Systems Overflows.

Water quality monitoring

The Northern Territory has contributed to the National Land and Water Resource Audit's Assessment of River Condition. This program will provide an overarching view of river condition for river basins containing intensive agriculture across Australia. It provides assessments of biota, hydrology,

water quality, physical habitat and catchment disturbances on a reach and basin scale. The audit group is scheduled to report in late 2001.

The Northern Territory also contributed to the National River Health program, which aims to undertake a comprehensive assessment of the health of inland waters and provide a sound information base on which to establish environmental flows using the AUSRIVAS[8] monitoring protocols.

In the case of water discharge licences, monitoring is a condition of the licence and the costs must be met by the licence-holders.

National Land and Water Resource Audit

The National Land and Water Resources Audit Australian Water Resources Assessment 2000 reported that water quality datasets for the Northern Territory did not meet minimum requirements in terms of sampling frequency and length of monitoring record to enable a comparison of surface water quality against the standards contained in the 1992 ANZECC Australian Water Quality Guidelines for Fresh and Marine Waters.

Assessment

The Administrator declares beneficial uses, on the recommendation of the Minister for Lands, Planning and Environment. The Northern Territory cited this as evidence that the Northern Territory has the highest level of political commitment to the National Water Quality Management Strategy.

The Council continues to find that the Northern Territory's environmental management, where the declaration of beneficial uses is referenced to the modules of the national strategy meets the reform commitments. The Council will monitor further developments in this area in future NCP assessments.

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 7 a to e)

8 Australian River Assessment Scheme, a river health assessment method developed under the National River Health Program

Northern Territory arrangements

Public consultation

A process of public consultation was followed in securing public and customer input to the development of the *Water Supply and Sewerage Services Act 2000*. The new Act requires licensees to establish performance standards and report to customers against these standards. The Government proposed that the Power and Water Authority's annual report to customers include information on current charge levels, the CoAG reform requirements and the implications, if any, for future prices.

Intensive consultation occurred for the Ti-Tree Regional Water Strategy, for which a draft allocation plan was available. Three meetings were held with the Ti-Tree water advisory committee in the latter half of 2000. These meetings (two of which were open to the public) were used to establish wider understanding of the water allocation plan and the practicalities of trading in water entitlements. The Ti-Tree regional water strategy is now with the water advisory committee to manage the final round of public consultation. For the Darwin and Katherine regions, all work progressed to the point that draft allocation plans and regional strategies are expected to be released for public consultation within the next 12 months.

The Power and Water Authority conducted consultation meetings with representatives from Government agencies and industry groups and associations throughout the Territory during the development of the trade waste management program which is to apply from 1 July 2001. The Power and Water Authority also proposes to fund a full-time liaison position within the Northern Territory Chamber of Commerce and Industry during the program's implementation phase.

Public education

The Department of Lands, Planning and Environment delivers a Territory-wide public education program. The introduction of the WaterWise program to the Territory is the current initiative under development. The program aims to educate school children about water issues, generate positive changes in water use and conserve water. Schools that meet the program's aims will be accredited. The program is based on the Western Australian 'WaterWise' model but will take into account environmental and social considerations that are unique to the Territory.

The program is to be piloted in 2001 as a joint venture of the department, the Arid Lands Environment Centre and one of the senior schools in Alice Springs. Alice Springs is the initial target for roll-out of the program because water consumption per person is the highest of all major Territory population

centres. These programs will be progressively introduced to other regional centres.

Waterwatch, a community based program is also very active, with over 80 groups now monitoring over 150 sites in twelve catchments throughout the Territory.

Other submissions

The Environment Centre argued that there is little public consultation about the CoAG water reforms, water resource development, allocation processes or environmental flows in the Northern Territory and that while groups such as industry bodies were informed about the process, other stakeholders such as Aboriginal landholders, environmental interests and the general public were not consulted. It claimed that proposed water allocation plans lack community support and understanding. The only area in which the community was involved in developing a formal water allocation plan is in Ti-Tree, via the Ti-Tree Water Advisory Committee. However, this process is flawed with committee membership lacking any representation from the environment sector.

Assessment

In relation to pricing, the Council notes the Water Supply and Sewerage Services Act requirement for licensees such as the Power and Water Authority to establish performance standards and to report to customers against these standards. The Northern Territory proposed that the Power and Water Authority's annual report to customers include information on current charge levels, the CoAG reform requirements and the implications, if any, for future prices.

In relation to water allocations, water quality and integrated catchment management, the Minister appoints stakeholders to water advisory committees to provide advice to Government. Depending on the regional issues in a district, these representatives are drawn from the community, Landcare groups, environmental and industry groups, associations, local government (if present in the region) and relevant government agencies. Regional reference groups have been established in Alice Springs, Mary River, Rapid Creek and the Northern Territory portion of the Great Artesian Basin.

The Council has reviewed the information provided by the Northern Territory and the Environment Centre. While it is probably true that general understanding of the CoAG requirements in the Northern Territory has been limited, the development and implementation of reforms, including the water allocation plans and catchment water management plans to date, have been subject to considerable consultation.

At the time of the second tranche NCP assessment, the Council noted a potential conflict of interest arising from the Power and Water Authority as the service provider being responsible for educational programs. The Northern Territory Government addressed this issue whereby the Department of Lands, Planning and Environment developed a Territory-wide public education program and employed a full-time staff member to develop public education programs for water conservation. The Northern Territory is beginning the process of providing community materials on the reform process and water issues generally, including introducing a range of materials about water issues for schools.

The Council considers that the Northern Territory has met its 2001 NCP assessment commitments in relation to education and consultation, and will monitor the development of these programs in future assessments.

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;
- clear water trading zones and rules;
- 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.

Appendix C: List of submissions

Environment Centre Northern Territory

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