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## 1. Background

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## 1.1. Introduction

The Department of the Prime Minister and Cabinet, on behalf of the Australian Government, has commissioned PricewaterhouseCoopers to undertake a study examining the effectiveness and efficiency of water markets and trading, with a particular focus on the southern Murray-Darling Basin (MDB).

On 25 June 2004, signatory governments to the Intergovernmental Agreement on a National Water Initiative (NWI) agreed to undertake a range of studies to support actions on trade. This study is to specifically address the requirements detailed under paragraphs 61(i), 61(ii) and 63(iv) of the NWI. Respectively, these studies are to examine:

- effective market and regulatory mechanisms for sharing delivery capacity and extraction rates among water users, where necessary to enhance the operation of water markets and make recommendations to implement efficient ways to manage changes in water usage patterns, channel capacity constraints and water quality issues;
- ways to facilitate cross system compatibility, that analyses the existing product mix, proposes possible choices of product mix, makes recommendations on the desirable model and proposes a transition path for implementation; and
- the legal, commercial and technical mechanisms necessary to enable interstate trade to commence in the Southern Murray-Darling Basin by June 2005.<sup>1</sup>

This Report is structured as follows. Chapters 1 and 2 outline the impetus for recent reforms, and examine the current state of play in Australia's water markets, with a particular focus on trade in the southern interconnected MDB. The frameworks that support trade in each State and Territory are examined in detail and reported in Appendix A.

Chapter 3 outlines the principles for the effective design of water markets. These principles are expanded in Chapters 4 to 8 and provide the basis for a discussion of gaps and inconsistencies that exist within frameworks in each State and Territory with regard to market design. Further, these Chapters describe the actions needed to remedy identified gaps and deficiencies in current frameworks that have the potential to limit the benefits that may be derived from trade.

Chapter 9 outlines the jurisdictional priorities and provides a summary of the recommended actions for each State and Territory.

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<sup>1</sup> As at May 2006, the States and Territories were continuing to develop frameworks to allow this to occur.

Currently, there are significant changes occurring in the water sector in relation to water trade. We have relied upon what we believe to be the most recent and reliable information available to us, including information as provided by the various State governments. However, the rapid pace of change means that it can be difficult to maintain an up-to-date picture of current arrangements.

In undertaking this review we have had regard to a wide range of available reference materials, and have consulted directly with State Governments and other stakeholders. On other matters we have relied on our professional judgement.

We are aware that there are a number of different review processes occurring in parallel to ours. This includes the Productivity Commission's assessment of rural water use efficiency, and various inter-Governmental working groups and others stakeholders looking at issues such as exit fees, water registries and accounting, and exchange rates and tagging. Much of this work is not yet complete, and hence we have not been able to consider the outcomes of such assessments in our review.

The purpose of this report is to guide States and Territories, and the Australian Government, on the future direction for water market design in Australia. This report should not to be relied upon by any other parties or for any other purpose without PricewaterhouseCoopers' prior written consent. Accordingly, neither PricewaterhouseCoopers, nor any member or employee of the firm accepts responsibility in any way whatsoever for the use of this report by any other persons or for any other purposes.

## 1.2. Context to Australia's water reform agenda

The water industry both nationally and internationally is undergoing a period of significant change. The industry's role has expanded from that of service provider to resource manager encompassing aspects of supply, conservation and sustainable development.

Nationally we have seen a reinvigoration of the reform process with States and Territories reconfirming their commitment to the process of water reform by becoming signatories to the NWI. The Agreement builds on the 1994 strategic framework for the reform of the water industry.

Central to the NWI are water markets and trading. Trading is the principal means through which available water resources are able to be (re)allocated amongst users, representing a fundamental shift away from the historic administered allocation arrangements. Trading may involve a reallocation of water within a sector, between sectors, or between communities.

Although the institutions and processes provided for in the NWI are relatively new, water trading itself is not. Various interstate water trading systems have been in place in some areas for more than 20 years, although the robustness, liquidity and efficiency of past market arrangements have been less-than-ideal.

While intrastate water trading has existed for some time, interstate trade has developed at a slower pace, reflecting the complexities associated with trading across jurisdictional borders, such as from differences in entitlement specification and trading rules.

The NWI is critically reliant on trading being effective to achieve outcomes that optimise economic, social and environmental objectives associated with water use and management. The NWI's reliance on trading recognises that past approaches to water allocation – largely administrative systems based on incremental allocation and 'first in' principles – have been inflexible and are ill-equipped to adjust to changing market circumstances, especially emerging supply constraints in many catchments.

### **1.3. Council of Australian Governments’ 1994 strategic framework for the reform of the Australian water industry**

The COAG water reform agenda was shaped by a 1994 report by the COAG Working Group on Water Resources Policy. In recognition that action was required to stop the progress of the degradation of natural resources and to minimise the unsustainable use of water resources, the Working Group developed a reform framework that sought to establish a consistent approach to water resource management throughout Australia (COAG 1994b).

The working group identified a number of key areas to be addressed that relate to the design of the water market including:

- impediments to transferring water from low value to high valued uses;
- a lack of definition of institutional roles and responsibilities;
- service delivery inefficiencies;
- the requirement for the refurbishment of water assets (rural in particular);
- a requirement for approaches to charging that reflect commercial transactions; and
- a need to eliminate cross-subsidies and ensure any subsidies in the industry are transparent (COAG 1994a).

The 1994 strategic framework also sought to clarify property rights over water, ensure sufficient water was allocated to the environment and to reform institutional arrangements in each State and Territory.

Initially, governments were granted five to seven years to implement these reforms, with full implementation required by 2001 (COAG 1994a). Timelines for completing most reforms, including the development of entitlement specification and trading frameworks were subsequently extended to 2005, in recognition of the difficulties associated with designing these frameworks and their implementation.

Following this first tranche of reform, COAG agreed there was a need to refresh the 1994 reform agenda. In particular, COAG recognised that reform in newer, more efficient production systems was being hampered by continuing uncertainty over long-term access to water in some areas. COAG also noted that more broadly current arrangements were preventing the development and expansion of water markets.

Although Annual National Competition Policy Assessments on each State and Territories' progress in implementing these reforms observed that most jurisdictions had made substantial progress in addressing this issue, it was also recognised that further reform could deliver substantial gains. Accordingly on 25 June 2004 most States and Territories agreed to and signed the NWI. Subsequently in early 2006, Tasmania and Western Australia signed the Agreement.

## 1.4. Intergovernmental Agreement on a National Water Initiative

The NWI outlines the guiding principles for reform and specific actions to further improve the efficiency of water use in States and Territories that are signatory to the Agreement. Key elements of the NWI include:

- water access entitlements be defined as open-ended or perpetual access to a share of the water resources that are available for consumption;
- over-allocated water systems to be returned to sustainable levels of use in order to meet environmental outcomes;
- a framework that assigns the risk of future reductions in water availability (ie, between governments and users);
- more efficient administrative arrangements to facilitate water trade in connected systems;
- removal of institutional barriers to trade in water, including the phased removal of barriers to permanent trade out of water irrigation areas in the southern Murray-Darling Basin; and
- national standards for water accounting, reporting and metering.

A key focus of the NWI is the key role of market mechanisms to achieve its targeted objectives. The use of market mechanisms in the water sector to achieve efficiency objectives is not dissimilar to reform approaches adopted in other sectors of the economy. Market reforms in the gas and electricity industries have highlighted the benefits that may accrue from reducing barriers to trade and market expansion.

Importantly, the NWI outlines specific actions for State and Territory Governments to achieve improved market function. Paragraphs 58 to 63 of the NWI detail the actions and outcomes for State and Territory reform, with respect to water markets and trade.

Under the Agreement, State and Territory governments agreed that water market and trading arrangements will be developed to:

- facilitate the operation of efficient water markets and the opportunities for trading, within and between State and Territories, where water systems are physically shared or hydrologic connections and water supply considerations will permit water trading;
- minimise transaction costs on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions;
- enable the appropriate mix of water products to develop based on access entitlements which can be traded either in whole or in part, and either temporarily or permanently, or through lease arrangements or other trading operations that may evolve over time;
- recognise and protect the needs of the environment; and
- provide appropriate protection of third party interests.