



Australian Government
Productivity Commission

Market Mechanisms for Recovering Water in the Murray-Darling Basin

Productivity Commission
Research Report

March 2010

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The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

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Foreword

The water resources of the Murray-Darling Basin are crucially important not only for irrigated agriculture and local communities, but also for the environment. Allocating water across competing uses has long been a difficult policy challenge, particularly given rising demands, climatic variability and multiple jurisdictions within the Basin.

The Australian Government has recently assumed a greater role in managing the Basin's water resources. A Basin-wide plan is under development, while water is being recovered for the environment through multi-billion dollar programs directed at water purchasing and infrastructure.

This study responds to the Governments' request for the Commission to examine various aspects of water purchasing, including mechanisms for diversifying the current approach, synergies with the infrastructure program and identifying how impediments to better outcomes could be overcome. This has required us also to take into account the inter-dependencies between the water purchase program and other key elements of the Government's 'three pronged' strategy.

The Commission was greatly assisted in the conduct of its study by the many individuals, organisations and government agencies who made submissions, participated in public meetings and provided advice. Their input was particularly appreciated in view of the competing demands on their time from the activities of other government agencies related to the Basin.

The study was overseen by Commissioners Neil Byron and Judith Sloan, with a staff research team from the Commission's Melbourne office led by Paul Belin.

Gary Banks AO
Chairman

March 2010

Terms of reference

Productivity Commission Study into Mechanisms to Purchase Water Entitlements

Background

On 13 February 2009 the Australian Government agreed to request that the Productivity Commission conduct a study into alternative market-based mechanisms that could be used to diversify its water purchase program and secure access to the suite of entitlements necessary to restore balance to the use of the Murray-Darling Basin water resources in a timely manner.

The Restoring the Balance in the Murray-Darling Basin program currently uses an open tender process as the principal way of purchasing water entitlements from willing sellers to restore environmental flows and is being implemented over a ten-year time frame. Restoring environmental flows will provide more water for high value environmental assets, as well as protect against algal bloom outbreaks, salinity and other water quality risks that threaten the health of our rivers and the livelihood of our farmers and regional communities.

Scope of the Study

1. Review the mechanisms used nationally and internationally by governments to purchase water entitlements or similar property rights, including reverse tender processes.
2. Identify appropriate, effective and efficient market mechanisms that could be used to diversify the range of options to purchase water entitlements under the Restoring the Balance in the Murray-Darling Basin program to restore environmental flows.
3. The study would consider, but not be limited to, issues such as:
 - the proposed pace of environmental water recovery and the depth of the water markets in the Murray-Darling Basin
 - transaction and compliance costs for applicants and the Government

-
- impact on the water market, particularly where the Government may be the dominant buyer
 - the implications of a developing water market and limited market price information
 - potential to use existing or developing water exchanges, auction houses or on-line water trading platforms
 - potential methods to maximise synergies between water purchase and the Sustainable Rural Water Use and Infrastructure program
 - the capacity to use different mechanisms to purchase a mix of high, general and low security entitlements to meet identified environmental needs
 - the requirements of the Commonwealth Procurement Guidelines and the *Financial Management and Accountability Act 1997*.

4. Identify impediments to new and established water purchase mechanisms and how these could be overcome.

The Commission is to consider the Restoring the Balance in the Murray-Darling Basin program guidelines, which specify the criteria used to assess sell offers and the conveyancing steps required to complete a water entitlement purchase.

In undertaking the study, the Commission is to consult widely with interested parties including Commonwealth and State Government agencies as well as industry and community groups.

The Commission is to produce and publish a draft report, and to complete its final report within six months of receipt of this reference.

Nick Sherry

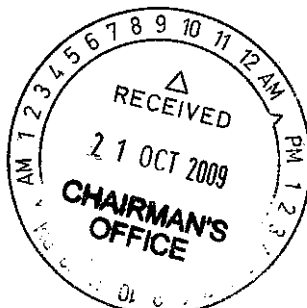
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[Received 24 July 2009]



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Dear Mr Banks, 

**PRODUCTIVITY COMMISSION (THE COMMISSION) STUDY INTO MECHANISMS TO
PURCHASE WATER ENTITLEMENTS (IN THE MURRAY DARLING BASIN)**

Thank you for your letter dated 1 October 2009, seeking an extension for the reporting of the Commission study into mechanisms to purchase water entitlements in the Murray Darling Basin.

I note that further time is needed to allow regionally dispersed stakeholders to engage effectively with the study, and for the Commission to reflect on their evidence. I note too, that the consultation phase following the release of the draft report coincides with the lead up to Christmas, which may create difficulties in accessing many participants.

As such I agree to your request to extend the reporting date for the study from 24 January 2010 to 24 March 2010.

I look forward to seeing the reports in due course.

Yours sincerely


NICK SHERRY

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Abbreviations

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
APSC	Australian Public Service Commission
BOM	Bureau of Meteorology
CEWH	Commonwealth Environmental Water Holder
COAG	Council of Australian Governments
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CWCB	Colorado Water Conservation Board
CWT	Colorado Water Trust
DECCW	NSW Government Department of Climate Change and Water
DERM	Queensland Government Department of Environment and Resource Management
DEW	Queensland Government Department of Environment and Water
DEWHA	Australian Government Department of the Environment, Water, Heritage and the Arts
DRC	Deschutes River Conservancy
DSE	Victorian Government Department of Sustainability and Environment
EMR	Eligible Measures Register
EOI	Expressions of interest
EWA	Environmental Water Account (California)
EWG	Living Murray Environmental Watering Group
EWP	Environmental Watering Plan
EWR	Environmental Water Register

GL	Gigalitre
GS	General security
GVIA	Gwydir Valley Irrigators Association
HR	High reliability
HS	High security
IGA	Intergovernmental agreement
ISFP	Instream Flow Program (Colorado)
LTCE	Long term cap equivalent
MDBA	Murray-Darling Basin Authority
MDBC	Murray-Darling Basin Commission
MDBMC	Murray-Darling Basin Ministerial Council
MIA	Murrumbidgee Irrigation
ML	Megalitre
NCWCD	Northern Colorado Water Conservancy District
NIC	National Irrigators' Council
NSWIC	New South Wales Irrigators Council
NVIRP	Northern Victoria Irrigation Renewal Project
NWC	National Water Commission
NWI	National Water Initiative
NWMS	National Water Market System
PC	Productivity Commission
RERP	Rivers Environmental Restoration Program
RTB	Restoring the Balance
SDL	Sustainable Diversion Limit
SFMP	Stream Flow Management Plan (Victoria)
SKM	Sinclair Knight Merz
SRWUI	Sustainable rural water use and infrastructure
TLM	The Living Murray Initiative
VFF	Victorian Farmers Federation
WAP	Water Acquisition Program (California)

WED	Water Efficiency Division of the Department of the Environment, Water, Heritage and the Arts
WRP	Wetland Recovery Program
WSP	Water Sharing Plan

Glossary

Basin Plan	A plan being developed by the Murray-Darling Basin Authority, for the integrated and sustainable management of water resources across the Murray-Darling Basin, to be adopted by the Minister under the <i>Water Act 2007</i> (Cwlth).
Cap	An upper limit on the volume of water available for consumptive use from a waterway, catchment, basin or aquifer.
Capacity Sharing	An alternative water sharing system, which defines storage access in terms of a share of dam capacity, and inflows and outflows (which include deductions for evaporation and seepage losses).
Carryover	The option to hold in storage a portion of unused seasonal allocations for use at a later date.
Commonwealth Environmental Water Holder	An entity created under the <i>Water Act 2007</i> (Cwlth) to manage the water entitlements acquired by the Australian Government for environmental purposes.
Consumptive use	The use of water for private benefit including irrigation, industry, urban and stock and domestic use.
Conveyance losses	Water evaporation and seepage from surface water sources and man-made water transportation facilities, such as irrigation channels.
Covenant	In the context of water entitlements, a covenant is a condition placed on an entitlement that prevents its use under certain conditions.
Delivery capacity share	A share of an irrigation supply channel capacity (in a regulated system) or a watercourse capacity (in an unregulated system), specified as a percentage share or a volumetric supply rate at a particular time.
Economic efficiency	An activity is economically efficient if it maximises the wellbeing of the community through improving the way resources are allocated and used.

Environmental assets	This includes water-dependent ecosystems, ecosystem services and sites with ecological significance.
Environmental flow	A water regime provided within a river, wetland or estuary to improve or maintain ecosystems, where there are competing water uses and where flows are regulated.
Environmental manager	An agency or individual with managerial responsibility for the achievement of environmental objectives.
Exchange rate	The rate of conversion calculated and applied to water traded from one trading zone and/or jurisdiction to another. Can also be used to account for conveyance losses.
Exit fee	A charge (often per megalitre) imposed on the trade of a water entitlement out of an irrigation district.
Groundwater	Water that occurs below the earth's surface.
Groundwater recharge	The movement of water from the surface into a body of groundwater via percolation through the soil.
Irrigation infrastructure operator	An organisation that operates and/or owns an infrastructure network for the delivery of irrigation water within an irrigation district. Sometimes referred to as water utilities or water authorities.
Lease	In the context of a water entitlement, a transfer of an exclusive right to an entitlement (or a part of an entitlement) for a fixed term. Also referred to as term transfers in New South Wales and limited term transfers in Victoria.
Long-Term (Diversion) Cap Equivalent (LTCE)	Common volumetric measure that corresponds to the long-term average volume of water that will be recovered using a particular water recovery measure.
Market mechanism	A policy instrument that encourages behaviour through market signals, rather than through explicit directives.
Murray-Darling Basin Cap	The water cap established by the Murray–Darling Basin Commission to limit the volume of water that can be diverted from the rivers for consumptive uses.
Options contract	In the context of the water buyback, an options contract gives the right, but not the obligation, to purchase or sell a water entitlement at a specified price within a specified period of time.
Over-allocation	Refers to situations where, with full development of

entitlements in a particular system, the total volume of water able to be extracted by entitlement holders at a given time exceeds the environmentally sustainable level of extraction for that system.