
8 Mechanics of the buyback

Key points

- A key advantage of the tender mechanism is that it allows the buyer to discover the price of water in the absence of an active market. However, where active water markets exist, this benefit is redundant. In those cases, acquiring water directly on-market is likely to involve lower transaction costs and reduced disruption of existing trading systems.
- The current tender mechanism could be improved by:
 - allowing irrigators to submit bids with several combinations of entitlements and prices
 - modifying the conveyancing process to emulate the process adopted for private transactions
 - improving communication between the Australian Government and the vendors.
- There may be a limited role for the Australian Government in facilitating group proposals to sell water. A group tender mechanism could offer an alternative to administrative acquisition in those cases.
- The buyback should not be targeted at achieving objectives that are unrelated to environmental water recovery, or to helping the transition to lower sustainable diversion limits.
- It is likely that the buyback has proceeded at a faster than optimal pace to date.
- Water market participants would benefit from improved information on how the water purchasing targets under the Restoring the Balance program will accommodate other water recovery programs and the sustainable diversion limits under the Basin Plan.

This chapter discusses the issues relevant to the effectiveness and efficiency of the ‘mechanics’ of the Restoring the Balance (RTB) program. In particular, it considers potential improvements to the design of the purchase mechanism, assesses the case for targeting the buybacks to achieve objectives that are not related to the core objectives of the program, and considers the potential implications of the pace of the program.

8.1 Improving the purchase mechanisms

This section discusses ways to improve the effectiveness and efficiency of the purchase mechanisms adopted under the RTB program (described in chapter 1).

Utilising existing market platforms

In many but not all parts of the Basin, the markets for water entitlements and seasonal allocations are fairly well developed. Annual private trade has grown significantly in recent years, there are many market intermediaries (some of whom are large operators) and several water exchanges (chapter 3).

Consequently, there are several reasons why the Department of the Environment, Water, Heritage and the Arts (DEWHA) could stand in those markets and purchase water entitlements directly, rather than through running a tender.

The principal advantage of a tender mechanism is its price discovery property. If a market already exists, this benefit is redundant, and the use of a tender can introduce some costs. These are due to the conflicting operational requirements of open markets and tenders. An open market operates best when full information about the price of the product is available to buyers and sellers. On the other hand, for a tender to be successful in encouraging competition between bidders, the information about the purchaser's reserve price and the submitted bids needs to be kept confidential (Latasz-Lohmann and Schilizzi 2006). Running a large tender with limited or no price disclosure alongside an existing market is likely to introduce uncertainty into the existing market and lead to potential disruption. Several participants (for example, the NSW Irrigators Council, sub. 32; the National Irrigators' Council, sub. 24; the Gwydir Valley Irrigators Association, sub. 29) have commented on the importance of full price disclosure by DEWHA to the operation of the water market (the general need for transparency in the buyback is discussed later).

A second issue is the coexistence of two purchasing mechanisms, one of which does not reveal prices, which, in turn, could lead to speculative trading. Some sellers may submit opportunistic bids into the tender with the aim of subsequently purchasing entitlements in the open market at a lower price. This behaviour would be encouraged by the expression of interest bidding process used in the RTB program.

Third, purchasing water directly on the market is likely to lead to lower transaction costs for all parties. ABARE (2007) argued that where markets exist, acquiring water in the open market and utilising existing market intermediaries, rather than running a tender, is likely to reduce transaction costs and result in more timely

trades. It observed that a tender generally involved several steps for the Australian Government over and above a simple on-market purchase. These include: developing the tender rules; advertising the tender and educating the participants about the tender process; and compiling and comparing the bids. ABARE also suggested that open markets would result in lower information asymmetries between irrigators and the Australian Government, thus limiting opportunities for wasteful strategic behaviour and reducing the risk of paying a premium above the market price of water. Water for Rivers observed that its buying of entitlements directly on the market:

... has assisted in reducing overhead and transaction costs. It also helps to build a more diverse and robust market 'industry' within the private sector. (sub. DR89, p. 17)

Transaction costs of the Restoring the Balance tenders

Data on the administrative costs incurred by DEWHA in running the tenders are not publicly available. DEWHA has also not released any information about the timeliness of the process in the 2008-09 tender round. For the 2007-08 tender round, DEWHA reported that, on average, it settled its contracts within 102 days of accepting the offer to sell (Hyder Consulting 2008). However, this figure is likely to underestimate the length of the process, because a substantial share of transactions had not been completed at the time the report was prepared. Several study participants expressed frustration about the delays, and the lack of flexibility and transparency of the tender process. For example, the SA Government gave an example of a transaction taking at least six months to finalise:

... [the SA Government] received reports that the process has been complex and confusing for irrigators. For example, in one case an applicant received approval for the sale of water rights in April 2009 and was promised payment by July 2009. This did not eventuate. Verbal advice subsequently received indicates that settlement will not take place until at least October 2009. (sub. 52, p. 10)

The National Irrigators' Council noted:

Irrigators have ... reported frustration with the unwieldy nature of the tender process and long delays in processing. This has made it difficult for them to plan their business activity. (sub. 24, p. 7)

The National Farmers Federation (NFF) observed:

NFF understands that currently there is a DEWHA process to determine whether the application is acceptable in terms of the proposition ... then there is a DEWHA senior approval prior to progressing to due diligence, exchange of contracts and settlement. This initial process, while necessary has added to an already substantial time frame from offer to acceptance. (sub. 50, p. 13)

The NFF (sub. DR88, p. 14) further argued that one consequence of the delays was that many financially distressed vendors, who needed to settle their debts urgently, had to withdraw their tender bids. In 2007-08, applications to sell 10 gigalitres (GL) of entitlements were withdrawn after the tender concluded.

Timeliness could be improved by modifying the conveyancing processes within the tender (discussed later), and some delays may be attributed to state approval processes. However, open market purchases are still likely to be more expeditious. For example, Water for Rivers indicated that it settles its on-market purchases of entitlements within 10–14 weeks of the verbal agreement with the seller (appendix B).

One manifestation of the greater transaction costs of a tender process would be if DEWHA paid a premium on its entitlement purchases compared with open market trades. This would indicate that sellers demanded a premium over the market price to reflect their greater transaction costs arising from delays and the uncertainty they faced about the tender outcome, compared with a simple sale on the market.

A review of the 2007-08 pilot round of the RTB tender (Hyder Consulting 2008, p. 28) concluded that a ‘slightly higher price [was] paid than the prevailing market at the time the ... [program] started’. In the case of 2008-09 acquisitions, for locations and entitlement types for which data are available, it appears that DEWHA has paid a small premium above the open market price (table 8.1).

Table 8.1 Comparison of prices paid for entitlements, 2008-09

<i>Location of entitlement</i>	<i>Entitlement type</i>	<i>Average price paid in the open market</i>	<i>Average price paid under Restoring the Balance</i>
		\$/ML	\$/ML
NSW Murray	General security	1 095	1 273 ^a
Victorian Murray	High reliability	2 174	2 166 ^b –2 369 ^a
Victorian Goulburn	High reliability	2 228	2 362
SA Murray	High security	2 380	2 385

^a Price of entitlements located below the Barmah Choke. For NSW Murray entitlements above the Choke, DEWHA adjusted the prices of some entitlements to reflect changes in Murray Irrigation Limited rules on accounting for delivery losses. DEWHA did not report the proportion of entitlements affected by the changes, but the Commission estimated the price under the old rules to be in the range of \$1093–\$1317, compared to the open market average price of \$1095. ^b Price of entitlements located above the Barmah Choke.

Sources: DEWHA (2009j); Waterfind (2009).

DEWHA’s concerns about direct on-market purchasing

DEWHA (sub. DR85) observed that it was considering utilising existing intermediaries, but offered several reasons for its reluctance to follow this path:

-
- No single intermediary offers complete market coverage. Consequently, engaging a particular exchange or broker would not target all potential sellers.
 - The sale contracts offered by existing intermediaries are not standardised across the Basin and sometimes do not leave sufficient time to conduct due diligence checks.
 - The financial cost to DEWHA of executing transactions through intermediaries may be greater than through the tender.

However, the fact that no single exchange or broker represents all potential sellers in the market does not appear to be a significant problem. It should not prevent DEWHA from opportunistically accepting sell offers placed on particular exchanges. DEWHA could also post an offer to buy entitlements on several exchanges.

It is also unclear that the absence of a standard contract across the various exchanges, in and of itself, is a problem. And, as discussed below, the Commission considers that DEWHA's purchasing process should be changed to emulate that of private transactions, with the verification of the seller's title and other checks conducted after the signing of a conditional contract of sale.

As stated earlier, DEWHA has not provided the Commission with data on its administrative costs, so a comparison with the financial cost of engaging an existing intermediary is not possible. However, the administrative costs to DEWHA should not be viewed in isolation from the compliance cost to irrigators participating in the tender. Higher transaction costs to irrigators may have resulted in DEWHA having to pay premiums on the market price of entitlements (thus reducing the budgetary cost effectiveness of the buyback).

DEWHA also suggested that if it acquired entitlements through an existing intermediary it would need to establish that the terms and conditions of the intermediary itself met the Australian Government's procurement standards. While there is no specific regulation governing water market intermediaries, general provisions of the *Trade Practices Act 1974* (Cwlth) apply to brokers and exchanges. It appears that the conduct and general performance of existing intermediaries has so far not been a significant problem. The National Water Commission reported:

ACCC has noted that the number of complaints about intermediaries has been very limited. The ACCC received three complaints concerning water market intermediaries between March 2008 and April 2009. From January 2006 to February 2008, a total of six complaints about water market intermediaries' conduct were received by the ACCC, other state consumer agencies and government departments. (NWC 2009b, p. 151)

To put those numbers into context, in 2008-09, across Australia, there were 5766 trades of entitlements, and 26 285 trades of allocations (NWC 2009a). Nevertheless, to the extent that DEWHA still deems that the conduct of intermediaries is a potential problem, it could allow intermediaries to register to act for DEWHA, subject to passing broad probity checks.

Participants in this study have generally favoured the use of open markets, where such markets are available (box 8.1).

Box 8.1 Participant views on sourcing water from open markets

GVIA recommends that DEWHA should stand in the market with a daily posted price, and report immediately on all acceptances. (Gwydir Valley Irrigators Association, sub. 29, p. 8)

NIC would support the government's involvement as a player in the open market for water, noting its involvement would likely help to bring that market toward greater maturity, and foster the development of innovative water market products. (National Irrigators' Council, sub. 24, p. 8)

We note with great interest that the advice ABARE provided in its recommendations for the RTB program before it commenced have been ignored by DEWHA and wonder why, when they recommended the most cost effective way of purchasing water was by using the open market (High Security Irrigators – Murrumbidgee, sub. 8, p. 2).

QRC recommends that any water purchased for the Murray Darling system should be purchased in the open market. (Queensland Resources Council, sub. 27, p. 6)

NSWIC submits that an open market process would have fared far better ... (NSW Irrigators Council, sub. 32, p. 13)

... there are problems associated with the Governments tender process and ... it would [be] more appropriate for the Government to post specific offers and to respond to specific offers that are made to it. (Coleambally Irrigation Co-operative Limited, sub. DR77, p. 5)

On balance, the Commission considers that where active water markets exist, there is a case for DEWHA to purchase water entitlements directly from those markets, which may include:

- posting an offer to purchase a particular type of entitlement at a specified price on existing exchanges
- opportunistic purchasing of water by accepting the sell offers placed on the exchanges by irrigators
- being open to offers made directly to DEWHA.

In the case of larger acquisitions, the savings in transaction costs (chapter 7) may also justify private negotiation with water sellers.

Where active markets for water entitlements exist, acquiring water entitlements directly from those markets is likely to be more efficient than utilising a tender.

Notwithstanding the above, as argued by ABARE (2007), in the absence of active water markets, a tender will, in many cases, be the most effective and efficient acquisition mechanism. In particular, tenders could be used to acquire water in locations where markets are thin or do not exist, and to acquire water products that are currently not traded in private markets, such as options contracts or contracts for environmental services.

Improving the efficiency of the tender

To date, two tender rounds had been completed, one in 2007-08 and one in 2008-09. For those tenders, DEWHA adopted a rolling tender approach, with each round running for several months and the offers to sell being assessed on a fortnightly basis. However, for its 2009-10 tenders, DEWHA has made substantial changes to the process. The key change is that the latest tender involves short, discrete rounds with the offers to sell assessed at the end of the round (table 8.2).

The Commission considers that the latest tenders are an improvement over the previous rounds and address some of the criticisms that applied to the rolling tender approach. Nevertheless, further improvements could be made, as discussed below.

Allowing bidders to offer several combinations of water volumes and price

Currently, under the RTB, a single bid consists of a proposal to sell a given set of entitlements for a particular price. There may be benefits in introducing some flexibility and allowing the seller to bid several combinations of entitlements and prices as part of a single bid. For example, an irrigator with a 300 ML entitlement holding could offer to sell 100 ML of entitlements at \$1000 per ML, 200 ML at \$1100 per ML and 300 ML at \$1200 per ML (reflecting the increasing cost to the farmer of parting with additional entitlements). This approach could confer several benefits, including:

- The bidding would be less lumpy, and hence, the price would more accurately reflect the true cost of the water (the inefficiencies of lumpy bids were discussed in Tenorio (1993) and Chan et al. (2003)).

- The irrigators can reduce their risk of missing out, which could improve participation in the tender and encourage individual irrigators to offer greater volumes of water for sale as part of their bids.
- There is improved information for the Australian Government on the volumes of water it can obtain before the price of the water begins to rise significantly. This is important in deciding at what pace to proceed with the buyback (discussed later).

Table 8.2 Key features of the Restoring the Balance tenders

	<i>2007-08 and 2008-09 tenders</i>	<i>2009-10 tenders</i>
Duration of the round	2007-08 tender — 5 months 2008-09 tender — 9 months	Around three weeks for each of the three rounds
Budget	No explicit budget constraint	Explicit budget constraint (\$90m for the first round, \$120 million announced for the second round)
Rolling tender or discrete rounds?	Rolling tender — fortnightly assessment of applications received in preceding two weeks	Discrete round — all applications assessed at the conclusion of the round
Types of entitlements accepted	Open to all potential entitlement holders in the southern Basin	Only acquiring entitlements from the New South Wales Murray, Murrumbidgee and Lower-Darling catchments, South Australian Murray, and the Victorian Murray, Kiewa, Goulburn, Campaspe and Loddon catchments A limit of 20 GL of general security entitlements from NSW Generally not accepting low reliability and supplementary entitlements
Status of the application to sell	Non-binding expression of interest	Non-binding expression of interest
Offers combining more than one licence	Accepted	Not accepted
Multiple applications from the same seller	Seller allowed to resubmit a rejected application in the same round	Resubmitting a rejected application is not possible Multiple simultaneous applications not accepted if the sum of sell offers exceeds the total entitlement holding of the seller

Sources: DEWHA (2010; sub. DR85).

There could be an increase in the transaction costs for both the Government and irrigators, due to the increased complexity of the bids. However, it is unlikely that transaction costs would rise significantly. The irrigators would still retain the option of submitting a simple bid if that is less costly to them. And there may be savings for irrigators from not having to repeat bids. The Government's costs are also unlikely to rise significantly. The additional complexity in assessing bids would

require a simple price stacking of all of the received combinations of entitlements and prices and then selecting the most cost-effective combination for each successful bid — a task that could be performed electronically.

DEWHA (sub. DR88) suggested that by allowing bidders to submit multiple applications (subject to their total entitlement holding not being exceeded by the sum of their offers), it already provided for bidding of several combinations of prices and entitlements. However, the process could be further expedited to allow such bidding within a single application.

Another issue that arises from incremental bidding through multiple applications is the risk that with non-binding bids, irrigators will engage in strategic bidding. For example, irrigators wishing to sell only a share of their entitlement, could submit several applications with the aim of selecting the highest priced offer accepted by DEWHA.¹ In effect, instead of using the multiple applications to provide information on the opportunity cost of selling different volumes of their water, irrigators would be using them to discover DEWHA's benchmark prices. This would reduce the budgetary cost effectiveness of the RTB program. Thus, the Commission considers that allowing the bidding of several combinations of entitlements and prices as part of a single bid (rather than having several bids for an increment of the entitlement holding) is a superior option.

FINDING 8.2

Allowing irrigators to bid several combinations of entitlements and prices as part of a single bid, could improve the efficiency of the tender.

Replacing the 'expression of interest' process with binding bids

The RTB program has so far adopted a non-binding expression of interest bidding process. Potential sellers submit an application with an offer to sell, which is assessed by DEWHA against other applications. If DEWHA elects to pursue the application, it conducts a 'due diligence' assessment of the offer, and, if satisfied that the offer meets its requirements, proceeds to draft a contract of sale (DEWHA nd). At any stage until the contract is signed, the irrigator is able to withdraw their offer.

¹ For example, an irrigator with a 300 ML entitlement holding can submit applications to sell 100 ML for \$1000 per ML, a further 100 ML for \$1100, and the last 100 ML for \$1200 per ML. If all applications are successful, the irrigator can elect to only proceed with the highest priced application. This outcome would not occur if the bids were for aggregate rather than incremental volumes and DEWHA selected a single combination of volume and price.

In the context of the rolling tenders utilised in 2007-08 and 2008-09, the costs of non-binding bidding were likely to be significant. First, the Government faced an administrative cost of pursuing offers that were ultimately withdrawn. Second, there was a greater possibility for wasteful strategic behaviour by irrigators, who could make repeated opportunistic offers until they discovered the Government's price ceiling. Third, there was reduced outcome certainty if bidders withdrew their initial offer after the tender concluded — for example there was a risk of the tender not meeting some critical environmental needs due to late withdrawals by vendors.

Nevertheless, the gains from moving to binding bids are smaller in the case of the 2009-10 tenders. In the latest tenders, the bids are assessed at the end of the round and irrigators can not engage in opportunistic rebidding within each round (although some strategic bidding could still take place across rounds). However, if in the future DEWHA reverts to the rolling tender process of previous rounds there would be strong merit in making the offers to sell binding on irrigators.

Improving the efficiency of the conveyancing process

The RTB conveyancing process involves six steps:

- the Australian Government's acceptance of the offer to sell
- a due diligence process conducted by DEWHA's solicitors to validate the information provided by the seller
- issuing of a contract of sale
- exchange and signing of the contracts (conditional on approval from the relevant state water authority)
- obtaining approval from the relevant state water authority
- settlement and registration of the Australian Government as the new owner of the entitlement (DEWHA nd).

Several participants expressed their frustration about the lengthy conveyancing process adopted by DEWHA. In particular, the due diligence assessment of the offers was criticised. The Deniliquin Lawyers Association stated:

... the present procedure which involves a non-transparent due diligence process [is] said, in correspondence when it commences, to take between '3 and 4 weeks' but invariably significantly longer, means that the water owners/vendors and, very significantly, their respective lending institutions, are left longer without the certainty of a contract and with no reasonable idea of when the matter may reach completion. This is totally lacking in commercial reality. (sub. 22, p. 2)

The SA Government (sub. 52, p. 12) suggested that some aspects of the due diligence process followed by DEWHA — such as establishing the seller’s title to the entitlement and searching for any encumbrances on the title — are already performed at the state level as part of the process of approving entitlement transfers.

The Commission has not received any data from DEWHA on the timeliness of its purchases in 2008-09. For the 2007-08 round of the tenders, DEWHA reported that on average, contracts were signed within 42 days of the offer being accepted (table 8.3). However, it is likely that in many cases this period was longer. The tender concluded on 30 June 2008, and, as observed earlier, contracts for at least 10 GL of the 34.3 GL of entitlements initially offered by irrigators were not signed by 13 August — 44 days after the tender concluded.

Table 8.3 Average time taken to exchange contracts in the 2007-08 round of Restoring the Balance^a

<i>Stage</i>	<i>Number of days before next stage</i>
Due diligence report is prepared	15
Contract issued	9
Exchange of contracts	18

^a The table excludes data on state agency approval processes, which occur after the exchange of contracts, and which need to be finalised before final settlement occurs.

Source: Hyder Consulting (2008).

The Commission considers that there is a strong case for DEWHA to consider the extent to which its current due diligence processes duplicate those processes at state level, and to remove any overlap.

The Deniliquin Lawyers’ Association (sub. 22) argued that the process adopted by DEWHA should be similar to private transactions. In particular, the preparation of the contracts could commence immediately after the acceptance of the offer, rather than on completion of the due diligence process. Contracts could be exchanged before any testing of the seller’s title, but be made conditional on verifying the seller’s title. The relevant checks could be undertaken after signing the contract. The approach adopted by the SA Government in purchasing water entitlements appears similar and involves:

Conducting due diligence but with an emphasis on vendor declarations, embedded as vendor warranties in purchase contracts. The key risk mitigation strategy was reliance on the primary obligation of the relevant jurisdiction’s statutory authority responsible for approval of transfers to undertake due diligence on vendor bona fides and registered interests, and not bearing an obligation to pay out any funds until such time as the authority had approved and transferred the entitlement. (sub. 52, p. 12)

DEWHA has justified its decision to conduct due diligence prior to the exchange of contracts on two grounds:

First, complete information on the owners of entitlement is collated as part of the due diligence process so that the contract can be issued to the correct legal entity. Second, the due diligence process encompasses more than a search of the relevant state water register. It also includes other searches which could reveal encumbrances ... In some instances, these additional searches have revealed that the water entitlement was subject to bankruptcy or other legal proceedings. Other due diligence checks include determining if there are any regulatory barriers which could prevent the sale, and confirming that ... appropriate power of attorney, trustee or executor arrangements are in place. (sub. DR85, p. 6)

The first of these grounds appears weak, while the second is not directly relevant to the issue of the timing of the due diligence process. It is unclear what the gains to DEWHA are from conducting due diligence checks before issuing the contract of sale, rather than issuing a contract made conditional on the seller satisfying the same checks. And the latter option would improve certainty for the irrigators participating in the tender and has received wide support from participants (for example, National Farmers Federation, sub. DR88; Water for Rivers, sub. DR89; SA Government, sub. DR90). Thus, the Commission considers that there is a strong case for moving the exchange of contracts forward and making the contract conditional on the seller establishing a clear title to the entitlement.

Several participants have also criticised DEWHA for a lack of transparency and poor communication (for example: NIC, sub. 24; SA Government, sub. 52). The Denilquin Lawyers' Association gave an example of poor communication by DEWHA in relation to its policy on the NSW embargo on sale of entitlements:

... the tender process ... was said to close on 30 June 2009 ... Those who tendered in the last seven days appear not to have been considered, regardless of the price. Those participants who have fallen into this category have at least received the certainty of a letter telling them that they have missed out. Decision based on inference continues for those who have not received a letter, but have also not received a contract ... at this point, the only comfort participants have is an inference that those who have not received letters will ultimately get a contract if the embargo is lifted ... Whatever mechanism is adopted for future use, the communication, particularly when something unexpected arises, must be significantly better than it has been in this phase of the RTB. (sub. 22, pp. 2–3)

There is currently no formal requirement or undertaking by DEWHA to communicate with tender participants other than at the conclusion of each stage of the conveyancing process. The Commission considers that communication with participants could be improved — at a minimum, DEWHA should notify tender participants of any delays in the conveyancing process as well as the reasons for those delays.

The efficiency of the conveyancing process could be improved by:

- *exchanging conditional contracts of sale before the due diligence process commences*
- *assessing the current due diligence process for potential duplication with current state approval processes and removing the sources of duplication*
- *the Department of the Environment, Water, Heritage and the Arts notifying tender participants of any delays in the process and the reasons for the delays.*

The role of group proposals

As discussed in chapter 1, the RTB program allows groups of irrigators to develop a coordinated bid to sell water to DEWHA. This could lead to the decommissioning or reconfiguration of shared off-farm infrastructure that is causing high losses of water.

To the Commission's knowledge, this component of the RTB program has so far not resulted in any purchases of entitlements by the Australian Government. Some participants (for example: NIC, sub. 24; NSWIC, sub. 32) commented that such proposals require cooperation by the infrastructure operator and that the Australian Government has not sufficiently engaged the infrastructure operators. Some (for example, VFF, sub. 31) also suggested that such proposals should attract a price premium for the purchased water.

More generally, there are several potential advantages in dealing with groups of irrigators. However, in most cases irrigators would have sufficient private incentives to organise such proposals without Government involvement.

Group proposals may result in the Australian Government acquiring additional water, due to recovering some of the conveyance losses. These losses can be substantial where delivery is to remote and inefficient parts of the system. However, the irrigators and irrigation infrastructure operators already have a commercial incentive to submit group proposals that include conveyance savings in addition to the sum of the individual entitlement holdings.

Pincus (sub. DR62) observed that even in the presence of such incentives, potentially cost-effective group proposals may still be undermined by the holdout problem. The holdout problem arises when individual irrigators refuse to participate in the group sale or delay their participation, either for non-financial reasons, or with a view to capturing more than their share of the potential profits from

assembling in a group. The potential for holdout is a relevant consideration, however, the risk of such outcomes is likely to be reduced by the potential of some offsetting adverse consequences for the irrigators. Being the last irrigator left in a remote part of the delivery system leads to a risk that the irrigation infrastructure operator will recognise the disproportionately high costs of delivery to that location, and will seek to recover them directly.

In some cases, a minimum volume of water may be needed to address a ‘lumpy’ local environmental demand, necessitating the purchase of entitlements from a group of irrigators in the same delivery system (Pincus, sub. DR62). However, such instances may be rare due to the interconnected nature of much of the southern Basin.

In some cases, dealing with groups of irrigators may be necessary because of third-party effects. For example, shepherding water acquired in unregulated systems is sometimes a significant problem, and requires the cooperation of downstream irrigators (chapter 7).

The Commission considers that the role of the Australian Government in encouraging group proposals is limited. Where such involvement is justified, a market mechanism could have advantages over administrative approaches. Pincus and Shapiro (2008) designed a compulsory group tender to facilitate the purchase of water from groups of irrigators (box 8.2).

Box 8.2 Compulsory group tender mechanism

A compulsory group tender is an intermediate option between voluntary sale and compulsory acquisition of water. Under this mechanism, the seller is a group, such as an irrigation district, which is compelled by the government to engage in the tender. Individual irrigators within the district bid the prices they are willing to accept for the sale of their entitlements. The individual irrigators’ bids are aggregated at district level and the government compares the group bids, selecting those that are the most cost effective (either subject to its budget or a secret reserve price).

If the bid of the group succeeds, the highest priced individual bid in the group determines the payment per unit of water for the entire group. The proceeds of the sale are distributed to individual irrigators, according to fixed and known fractional shares, typically their share of the nominal volume of entitlements accruing to the district.

To ensure participation in the tender and to discourage holdouts or opportunistic bidding, the mechanism needs to be underpinned by the threat of compulsory acquisition.

Source: Pincus and Shapiro (2008).

Under this approach, irrigator participation and cooperation within groups is encouraged by the threat of compulsory acquisition, should the tender fail to recover a sufficient volume of water. In contrast to administrative acquisition of water, this approach would reveal the value of water to particular groups. The Australian Government would then have the ability to minimise the opportunity cost of acquired water by selecting the lowest price bids.

8.2 Targeting

Some participants in this study (for example, Goulburn Valley Environment Group, sub. 21; NVIRP, sub. 38; VFF, sub. 31) have argued that the RTB program should be targeted at specific locations to address various additional objectives. Potential objectives that could be addressed through a targeted buyback include:

- reducing the social impacts of the buyback
- promoting system rationalisation and addressing the issue of stranded irrigation assets
- reducing the salinity impacts of the buyback.

The case for targeting the buyback to address those issues is analysed below.

Targeting the buyback to reduce adverse social impacts

Some participants have argued that the buyback should be targeted at particular regions to minimise the adverse community impacts caused by a reduction in irrigated agriculture.

The Commission does not support such targeting. First, it would compromise the efficiency of the buyback, because the purchasing would no longer be solely guided by the objective of moving the water to a higher value use.

Second, as discussed in chapter 5 and appendix D, the buyback will result in both positive and negative impacts at the regional level, and it should not be presumed that the negative impacts will be large for all irrigators and in all regions.

Third, the links between the buybacks and the distribution of the impacts are often indirect, with various external factors, including secondary trade, potentially playing a significant role (chapter 5). Consequently, the ability to address social impacts through a targeted buyback will be compromised.

Finally, such targeting may lead to inequitable outcomes. Excluding particular regions from the buyback may confer some benefits on those that would otherwise be adversely affected by the acquisitions. However, it would also impose a cost on those who were willing to sell their water to the Australian Government but have been prevented from doing so.

The Commission, therefore, considers that the buyback should not aim to target social objectives. Other more direct instruments should be employed.

Targeting areas for rationalisation

The Commission received a substantial volume of comment from participants arguing that the buybacks should aim to avoid a ‘Swiss cheese’ effect (with geographically dispersed properties moving out of irrigated agriculture) and should be targeted at particular locations to achieve system rationalisation.

The arguments for such targeting include that untargeted buybacks could result in:

- an increased cost of servicing fixed infrastructure for irrigators that remain in the system, and, in an extreme scenario, irrigators exiting the system and leaving assets stranded due to not being able to meet the increased cost
- potential dynamic inefficiency in reducing the incentive for future investment in infrastructure — if the buyback increases the costs for the irrigators remaining in the system including the risk of stranded assets, any future investment would be subject to higher risk
- inefficiency because of inaccurately priced water within irrigation systems — postage stamp pricing that does not take account of transmission losses in delivering water to different locations within the system, could mean that the buyback does not take advantage of the potential water savings available from purchasing water in inefficient parts of the system.

The Commission considers that the case for targeting the buyback to prevent a Swiss cheese effect or to pursue system rationalisation is weak.

First, it is not clear that the current ‘atomistic’ acquisition of entitlements will create a significant risk of stranded assets. Some sellers of entitlements will keep their water delivery right and continue irrigating, while meeting their water needs through acquisitions of seasonal allocations or other entitlements. For example, it appears that, while the Twynam Agricultural Group sold its water entitlements to the Australian Government, it has retained its water access licence and was reportedly purchasing seasonal allocations in the water market (Hunt 2009). And

some infrastructure assets can be decommissioned following a reduction in delivery needs.

Second, targeting the buyback to particular areas is an indirect way of addressing the above objectives. Unless, the acquisition of the entitlement is accompanied by a covenant on the land prohibiting irrigation in the targeted areas, or the irrigation infrastructure is entirely decommissioned in the area, such targeting could be undermined by post-buyback trade.

Third, where an atomistic buyback leads to a ‘Swiss cheese’ of dewatered properties, there may be benefits for remaining irrigators. The National Farmers Federation observed:

Neighbours are seeing opportunities with their neighbours exiting from irrigation ... to expand the area under irrigation using their existing entitlements. The irrigators are seeing an opportunity to acquire an irrigation farm at a much reduced rate – ... 10-20% of the price of acquiring the land and water together. (sub. DR88, p. 5)

In any case, other more direct mechanisms already exist to address the above issues. Termination fees are levied to compensate the infrastructure operators and/or irrigators remaining in the system. As argued in chapter 10, termination fees may be too high in some cases. And moving to a system of long-term supply contracts between irrigators — where such fees are negotiated prior to investment in new infrastructure — would further improve the effectiveness and dynamic efficiency of this mechanism.

Third, any strategy of ‘picking winners’ in irrigated agriculture is likely to suffer from information problems for the Australian Government and may be undermined by absence of community support. The National Irrigators’ Council observed:

In an ideal world, irrigation communities would themselves identify those areas that need rationalisation, upgrading or even closing down. It is better this comes from the ground up than top down. However to achieve community consensus is extremely difficult – some NIC members have tried, but failed to win the level of support necessary for a wholesale re-configuration of certain districts. We are dealing not only with people’s businesses that they have worked on for many years and often many generations, but also family homes, lifestyles and communities. (sub. 24, p. 8)

Finally, targeting supposedly ‘inefficient’ locations for closing down is a blunt approach that disregards the efficiency of individual irrigators in different locations. It is likely to result in inefficient and inequitable outcomes, because there will be irrigators willing to sell their water in locations excluded from the buyback. Equally, there may be efficient irrigators operating in areas targeted for closing down, who should not be pressured to terminate their operations. A buyback relying solely on identifying willing sellers will be more efficient in this regard.

Targeting water that causes environmental externalities

Some participants also argued that the RTB program should acquire water that causes adverse environmental impacts due to the way it is currently used. For example, the buyback could acquire water that currently results in saline return flows. Others (for example, NSWIC, sub. DR72) suggested that while those objectives should not be addressed exclusively by the RTB program, they should still be considered as part of the overall assessment of particular parcels of entitlements.

One example of a targeted approach to addressing additional environmental objectives is the ‘traffic light’ approach developed by the CSIRO and piloted in the Torrumbarry irrigation area in Victoria (box 8.3).

The Commission considers that the problems identified in the previous section would also apply to targeting of the water that causes salinity (and other environmental externalities), and would undermine the effectiveness and efficiency of this approach. And an atomistic purchasing approach may lead to similar acquisitions to those that would be pursued if those objectives were formally targeted.

Young and McColl (sub. 5, att. 4, p. xiii) observed:

... in many if not most cases, there will be a strong correlation between willingness to sell and situations that work against river health objectives. That is, the market place may well be such a powerful targetor that there is little advantage in attempting to develop a formal targeting process. The costs may outweigh the benefits.

Ultimately, however, the salinity impacts of water use are a broader issue than could be dealt with under the RTB program, and should be addressed using more direct instruments that apply to all water use and trade (chapter 10).

To summarise, the Commission considers that the buyback should not be targeted at addressing objectives that are unrelated to helping the transition to lower sustainable diversion limits and environmental water recovery.

FINDING 8.4

Using the buyback to address indirect objectives (such as achieving distributional goals, system rationalisation, and reducing the salinity impacts of water use) is likely to compromise the scheme. Other more direct instruments would generally achieve those objectives at lower cost.

Box 8.3 Pilot study of the ‘traffic light’ approach to buybacks and investment in irrigation infrastructure

CSIRO researchers have recently completed a pilot study in the Torrumbarry irrigation area in Victoria on the potential for using a geographically targeted approach in environmental water recovery. The approach is based on modelling the potential environmental flow, salinity, carbon sequestration and recreational benefits of stopping irrigated agriculture in different locations, and the value of irrigated agriculture in particular areas. The targeting involves classifying the area into three planning zones with differing implications for irrigated agriculture:

- green zone — invest in updating irrigation infrastructure in the area
- red zone — purchase water and convert the area to dryland agriculture to reduce river salinity
- amber zone — purchase water and convert the land to carbon sinks.

The authors concluded that a targeted approach would create significant benefits — for example, a reduction in salinity impacts valued at \$53 million (compared to \$23 million under a non-targeted approach) and an increase in the value of agricultural output of \$185 million (compared to a decline of \$69 million under a non-targeted approach).

The modelling contains several questionable assumptions. First, the targeting approach is aggregated at a ‘pod’ level, constituting 10–50 properties. There is no provision for the relative efficiency or inefficiency of particular irrigators within each pod. Second, the study assumes that soil quality is an accurate proxy for agricultural productivity. Soil is just one of the agricultural inputs and its quality is not necessarily an accurate proxy for the overall efficiency of the irrigator. More generally, it is not clear why a top down planning approach to identifying non-productive agricultural areas would lead to more efficient outcomes in agriculture than could be achieved through private markets. The study does not identify any market failures that would justify such government involvement. Third, the study does not assess the merits of this planning approach to environmental water recovery against the merits of direct mechanisms for targeting the same environmental issues in the broader context of all water use and trade.

Source: Crossman et al. (2009).

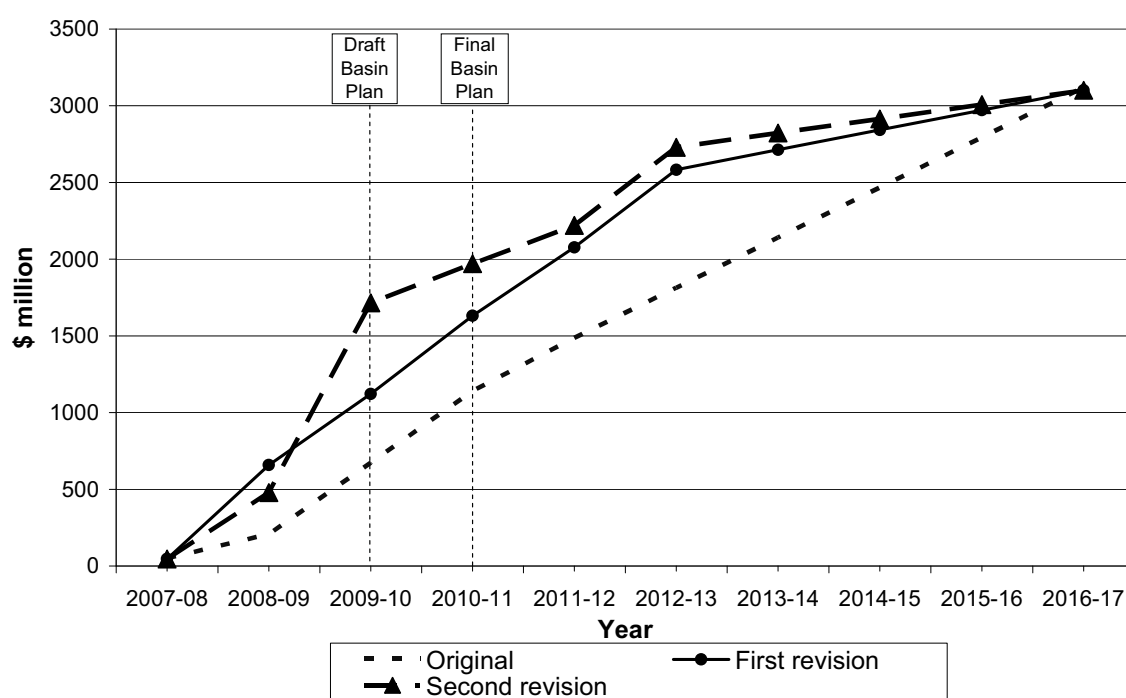
8.3 Pace of the acquisitions

Current pace of the buybacks

The original budgeted expenditure for the RTB program indicates that at the program’s commencement, a relatively constant pace of purchasing over 10 years was planned. However, subsequent revisions to the budget, have substantially

accelerated the pace of the program. As at 30 September 2009, DEWHA had acquired 612 GL of entitlements of varying reliability at a cost of \$947 million (DEWHA, sub. 56), compared to the originally budgeted expenditure of \$673 million by the end of 2009-10. In a move to further accelerate the buyback, the *Appropriation (Water Entitlements) Act 2009-10* (Cwlth) has been passed by Parliament. The Act brings forward to 2009-10 expenditure of a further \$655 million (figure 8.1).

Figure 8.1 Cumulative budgeted expenditure for the Restoring the Balance buybacks, 2007-08 to 2016-17^a



^a Where the available budget figures include amounts for multi-year periods, it is assumed that a constant average rate per year was budgeted.

Sources: DEWHA, sub. DR85; DEWHA, pers. comm., 14 August 2009; Hyder Consulting (2008).

At the current budgeted pace of purchasing, around 55 per cent of the program’s 10 year budget will be spent within three years of its commencement and before the sustainable diversion limits are scheduled to be published by the MDBA.

Another consequence of the accelerated purchasing is that the Australian Government will have a greater presence in the market in the initial years. Waterfind (2009, p. 15) reported that only around 37 per cent of the announced RTB purchases in 2008-09 have so far been recorded in the registers. Even on those figures, Australian Government acquisitions constituted 35 per cent of the trade. In some cases the Australian Government’s share of trades was significantly greater —

in 2008-09, RTB purchases constituted 71 per cent of trades in general security Macquarie entitlements and 62 per cent in general security Gwydir entitlements.

The costs of accelerated purchasing

Accelerating the buyback will increase its cost. Also, acquiring the water earlier than planned will mean that the transaction costs and the opportunity cost of the water are incurred earlier. Due to the fixed nature of some assets in irrigated agriculture, this could increase the cost of shifting the water out of agriculture (box 8.4).

Further, accelerating acquisitions before environmental needs are clearly identified increases the risk of purchasing entitlements in less than ideal locations, or acquiring more water than is ultimately needed, requiring subsequent adjustment of the water holding at additional transaction cost. Acquiring water entitlements before the development of sustainable diversion limits that would determine the future allocations under those entitlements also introduces additional uncertainty into the buyback. Accelerating the buyback before clarifying environmental demands also limits any potential gains from experimentation with the substantial volume of water already held by the Commonwealth Environmental Water Holder and other environmental managers. Such experimentation could improve the environmental targeting of the buyback in the future.

Several participants argued that the pace of the buyback should be slowed. The NSW Irrigators Council observed:

The major impact [of accelerating the buyback] would likely be on price ... Specifically, NSWIC has rejected the 'get in and out fast' theory espoused by noted academics. (sub. 32, p. 9)

Murrumbidgee Irrigation argued:

Speeding up the program ... increases entitlement prices (i.e., costs of acquiring water) and the risks of mismatch between water demands and supply (in terms of timing, location, volume, distribution). MI recommends slowing the pace of water purchase ... (sub. 39, p. 7)

Box 8.4 Asset fixity and its effect on short-term water prices

Buying water in the short run is likely to be more expensive due to asset fixity in agriculture. Some fixed assets (such as permanent plantings, fences and sheds) have limited salvage value.

Sunk investment costs do not influence the irrigator's production decisions, meaning that once production commences, the ongoing cost is generally small. Hence, the total benefit to the irrigator from production (the difference between revenue and non-water costs that can be avoided by stopping production), will often be substantial.

At some point, fixed assets, such as permanent plantings, may physically deteriorate (with reductions in yield and quality), or the demand for the product may decline permanently due to changing consumer tastes. Also, replacing those assets is likely to be expensive. This reduces the total benefit to irrigators in the long run, and means that buying water will tend to be less expensive if acquisitions are spread over time.

The benefits of accelerated purchasing

An accelerated buyback could deliver some benefits by bringing forward the achievement of some environmental outcomes. As noted in chapter 4, there are many competing uses of environmental water, with some environmental assets requiring more urgent watering than others. In cases where an environmental asset is close to reaching an irreversible environmental threshold, watering may save the asset that would otherwise be lost. DEWHA observed:

... the Department considers that it is important that it begins to secure water entitlements for the environment ahead of the Basin Plan, so as to commence rebalancing of the system and provide immediate environmental benefits. (sub. DR85, p. 7)

However, two factors may undermine those benefits. First, purchasing to date has focused on entitlements that will deliver only a limited volume of water in the short term. While the Australian Government's predicted long-term yield on the entitlements it purchased is around 63 per cent of their nominal volume, actual yield for 2008-09 was 17 per cent, and over a third of the purchased entitlements (by nominal volume) had no allocations in the past season (DEWHA 2009j; Waterfind 2009). And due to the RTB program's focus on purchasing entitlements and not seasonal allocations, some of the acquisitions appear to have been of entitlements that had no water in their seasonal accounts. The Gwydir Valley Irrigators Association noted:

... the decision of the Federal Government to buy only entitlements, has meant that in cases where entitlements have included some available allocation in their accounts, this

water has been placed by the original vendor on the market, and sold separately to the entitlement transaction. (sub. 29, p. 7)

Thus, in some cases, the acquired entitlements will only begin accruing water in the following irrigation season. As discussed in chapter 7, purchasing seasonal allocations is likely to be the most effective way of targeting short-term environmental needs.

Second, the environmental effectiveness of accelerated purchasing could be limited by the substantial scientific uncertainty about the ecological responses of particular sites to environmental watering. Coleambally Irrigation Co-operative Limited observed:

CICL ... questions the logic for ... [the accelerated purchasing] given that there is no environmental watering plan to inform how such water should be used, let alone to justify the need for water to be recovered at a faster pace. (sub. DR77, pp. 5–6)

Chapter 4 has identified the limitations of the environmental targeting that has guided the buyback to date. Although it is unlikely that the Basin Plan will fully resolve this uncertainty, it will improve the ability of the RTB program to target the watering needs of particular environmental assets.

Some participants were also concerned that pre-empting the Basin Plan created a risk that the buyback will bias the Basin Plan to the current pattern of purchasing. The Gwydir Valley Irrigators Association argued:

... purchases completed prior to the Basin Plan, will in fact drive the Basin Plan. That is, if water entitlements have been purchased past a level considered necessary by the Plan, the Plan may simply accept their purchase and adjust the particular valley's new extraction limit to the higher, but unnecessary level. (sub. 29, pp. 4–5)

In sum, the Commission has concerns about the accelerated purchasing of water entitlements on a 'no regrets' basis. Acquiring entitlements is unlikely to be the most effective way of targeting short-term environmental watering needs, and there is currently substantial uncertainty about the location, volume and timing of those needs. On the other hand, the costs could be substantial (particularly if significant adjustment to the Australian Government's water holding is required after the finalisation of the Basin Plan).

The pace of the buyback should reflect the tradeoffs between the increasing costs of shifting water out of agriculture (and in particular, asset fixity in agriculture) and the accelerated achievement of environmental outcomes.

FINDING 8.5

Adopting a fast pace in the buyback of water entitlements before environmental needs are clearly identified could reduce the program's effectiveness and increase its cost to the community. It is likely that the buyback has proceeded at a faster than optimal pace to date.

8.4 The need for transparency

As observed earlier, markets operate best when all participants have access to reliable and timely information. In this context, it is important that the buyback accurately informs the expectations of irrigators and does not unduly disrupt markets by introducing uncertainty about the new level of demand for, and the price of water.

Transparency in reserve prices

Several participants argued that the Government should reveal the prices it is willing to pay for particular entitlements.

For example, the NSW Irrigators Council argued:

Without question, the single largest problem has been the lack of information on marginal pricing and volumes In light of that, improvement could clearly be made by providing marginal pricing information. (sub. 32, p. 13)

The National Irrigators' Council observed:

The NIC is uncomfortable with the current tender process given its lack of openness and transparency and the lack of timely information provided about sales, volume and prices. (sub. 24, p. 6)

As discussed above, confidentiality of reserve prices is an inherent feature of a tender mechanism and if DEWHA continues to utilise this mechanism, it is appropriate that it keeps its reserve prices secret. (However, as concluded in section 8.1, engaging in direct on-market purchasing, through, for example, placing offers on existing exchanges to purchase a particular entitlement for a particular price, is likely to be more efficient.)

Transparency in purchasing priorities and recovery targets

In conducting the RTB program to date, DEWHA has been using unpublished water recovery targets in each catchment to guide its purchasing. Publicly, DEWHA has provided a list of ‘high priority’ catchments where environmental water is needed rather than specific environmental goals (chapter 4). The recent tenders reveal the aggregate budget, the information on the catchments where DEWHA will be accepting bids, and the types of entitlements it is seeking. However, this information gives irrigators very little idea about how much is being sought in particular catchments.

The absence of information on DEWHA’s purchasing priorities, coupled with the sharp acceleration of the RTB program, can have detrimental impacts on bidder behaviour and distort the participation in the tenders. It can also impact private trade in the water markets and create uncertainty for irrigators making decisions on future business investment.

However, there may also be costs in publishing specific water recovery targets. For example, it might encourage collusion between bidders and other wasteful strategic behaviour where the number of entitlement holders that could meet the target in a particular catchment is small.

Several participants expressed their concern about the lack of transparency in water recovery targets and environmental objectives of the RTB program. The National Irrigators Council noted:

Irrigators find it hard to understand that the Commonwealth has purchased more than 740 GL of entitlements so far and yet there has not been a list produced of environmental assets and their watering requirements. (sub. DR65, p. 8)

And the Gwydir Valley Irrigators Association observed:

One of the great frustrations of the environmental water recovery programme is the lack of any real information on water requirements, and therefore recovery targets. While GVIA has some sympathy for the government’s ‘no-regrets’ approach, it does believe that government should be prepared to publish its ‘no-regrets’ targets and the reasoning behind their establishment. (sub. DR69, p. 10)

DEWHA, on the other hand, argued:

The Department does not believe it would be appropriate to publicly release the recovery objectives as these are being refined continually. Also, announcement of definitive volumetric targets could be seen as pre-empting the work of the MDBA in establishing the environmental watering plan and sustainable diversion limits under the Basin Plan. (sub. DR85, p. 9)

The Commission considers that while more transparency is desirable, the benefits to potential bidders of DEWHA publishing its targets are likely to be modest. This is because the largest sources of institutional uncertainty in the market are the impact of the Basin Plan on the availability of water (and hence its price) and the application of the risk assignment provisions. Some clarity will be achieved once the proposed Basin Plan is published and draft sustainable diversion limits (SDLs) are released (and the extent of the government's obligations are explained).

However, some uncertainty will still remain even after the Basin Plan is finalised in 2011, because the SDLs may not be expressed as volumetric targets at the catchment level. Therefore, there is a case for DEWHA articulating how it intends to adapt its purchasing strategy to approach the SDLs. This could include whether it intends to approach them proportionately, the types of entitlements it would be seeking, and how it might interpret any formulas the Murray-Darling Basin Authority might apply to setting SDLs. DEWHA could also articulate how the quantities it will be seeking are affected by anticipated water recovery under other programs, including the Sustainable Rural Water Use and Infrastructure program.