



Australian
Competition &
Consumer
Commission

Productivity Commission Inquiry into National Water Reform

ACCC submission to Issues Paper

April 2017

Contents

Summary	2
1. Introduction	3
1.1. The ACCC's water functions	3
1.2. Applicability of lessons learned in the MDB	3
1.3. Structure of this submission	4
2. Water resource management	4
2.1. Property rights	4
2.1.1. Unbundling	5
2.1.2. Achieving clear and secure property rights	6
2.2. Water planning	11
2.2.1. Cost recovery for water planning and management	11
2.2.2. Embedding trading into planning frameworks	15
2.2.3. Managing cross-impacts between water quality, allocation and trading ..	15
2.3. Water markets and trade	16
2.3.1. Markets for water access rights and irrigation rights	16
2.3.2. Improving markets for water delivery rights and other location-related rights	22
2.3.3. Accounting for environmental water in water trading and planning frameworks	25
3. Water services	26
3.1. Rural services	26
3.1.1. Regulatory framework applying to infrastructure charges in the MDB	26
3.1.2. Cost recovery and ongoing viability of irrigation networks	29
3.1.3. Governance arrangements and customer engagement	32
3.1.4. Benchmarking for rural water services	33
3.2. Urban water services	35
4. Key elements for achieving reform	36
References	37

Summary

Water reform in Australia has been a long and incremental process. The National Water Initiative (NWI) is an important milestone in this process, and forms the cornerstone of reform efforts in this century.

The Australian Competition and Consumer Commission (ACCC) has played an active role in water reform efforts in recent years, particularly in the areas of developing robust water markets, and promoting efficient and transparent delivery of rural water infrastructure services.

The PC's inquiry consists of both a 'backward looking' assessment of water reform efforts to date (particularly in terms of meeting NWI commitments), and a 'forward looking' assessment of 'what future reform initiatives Australia may need' (p.6). Our submission follows this approach, noting particularly that the 'lessons learned' in the pursuit of reform in the Murray-Darling Basin have broad relevance throughout Australia.

While we note key progress to date, this submission identifies that future efforts are warranted in the following areas:

- further 'unbundling' and establishment of clear and secure property rights
- establishing more 'holistic' frameworks which:
 - encompass all water sources and water users (to the maximum extent possible)
 - embed water trading as an integral part of water planning
 - appropriately account for water use, trade and use of infrastructure services by environmental water holders
- cost recovery for water planning and management activities
- improving arrangements for recording, approving and reporting on holdings and trade of tradeable water rights
- in relation to rural water services:
 - benchmarking of cost recovery across operators
 - clarification of concepts relating to cost recovery
 - improved standards regarding pricing transparency, price discrimination, termination fees, and charges related to trade (as recommended in ACCC's recent advice on water charge rules).

1. Introduction

The Australian Competition and Consumer Commission (ACCC) welcomes the opportunity to respond to the Productivity Commission's (PC) Issues Paper on national water reform (the Issues Paper).

The ACCC would be happy to provide further information on any of the issues discussed in this submission should it assist the PC.

1.1. The ACCC's water functions

Under the *Water Act 2007* (Cth) (Act), the ACCC has the following functions:

- providing advice to the Commonwealth minister responsible for the Act on the making, amendment and repeal of the water market rules and water charge rules
- enforcing the water market rules and water charge rules
- monitoring regulated water charges, transformation arrangements and compliance with the water market rules and water charge rules in the Murray-Darling Basin (MDB)
- providing advice to the Murray-Darling Basin Authority (MDBA) on Basin Plan water trading rules
- advising the MDBA on the appropriateness of any prescribed fees that it may charge.

The ACCC also enforces competition and consumer laws applicable to all businesses, including those in the water industry, under the *Competition and Consumer Act 2010* (Cth) (CCA).

The ACCC has a long history of engagement with the rural water sector through the performance of these functions, and our submission draws on this experience. In particular, where relevant, this submission makes reference to previous advice given by the ACCC to the Minister responsible for the Act and to the MDBA. It should be noted that the most recent of these advices, the advice on the review of the water charge rules, was provided to the Minister for Agriculture and Water Resources in September 2016 and is still under active consideration by the Minister.

1.2. Applicability of lessons learned in the MDB

In many respects, water governance and development of water resources in Australia are most advanced in the Murray-Darling Basin (MDB). This is particularly the case in relation to water markets, where the 'unique underlying characteristics' of the MDB, especially the southern connected system, make it conducive to water trading (NWC 2011).

Governance structures (including the legal and administrative frameworks, water rights and planning frameworks, trading mechanisms, economic regulation etc.) in the MDB have evolved over a period of more than 100 years, concurrently with water resources development. During this time, substantial technological, scientific, legal and economic advances have been made, which have altered priorities for how to allocate water resources, and broadened the set of available management tools. In many cases, this long incremental process has resulted in arrangements in the MDB that are better-developed and more completely specified compared to other regions.

As such, reform experience in the MDB provides a substantial resource that may be drawn on and applied in other regions. This is not to say that all aspects of MDB governance structures should necessarily be implemented nation-wide; rather, building on this experience could assist jurisdictions to reduce the institutional 'transaction costs' associated

with building up frameworks incrementally over a number of years and allow implementation of 'best practice' frameworks more quickly. For example, in developing arrangements to promote water markets outside the MDB, jurisdictions could draw on the Basin Plan water trading rules—which provide a high level 'principles-based approach' to trade, and are designed to sit 'on top of' relevant elements of Basin State trading rules.

In view of this, while the ACCC's experience is primarily drawn from its work in undertaking its MDB-specific functions, we believe our commentary is relevant to water reform nationwide.

1.3. Structure of this submission

The remainder of this submission is organised as follows:

- **Chapter 2** deals with water resources management issues (Chapter 5 in the Issues Paper). This chapter considers reforms in the areas of property rights (section 2.1), cost recovery for water planning and management (section 2.2) and water markets and trade (section 2.3)
- **Chapter 3** deals with water services (Chapter 6 in the Issues Paper), and mainly considers rural water services (section 3.1) and to a lesser extent urban water services (section 3.2)

Each of these chapters provides a brief summary of progress to date, and identifies key areas where further action is needed and desirable to achieve the NWI objectives. In some cases, directions for further reform beyond the NWI are also identified.

- **Chapter 4** draws on the ACCC's unique experience as the national competition regulator to summarise key elements required to support effective regulatory / enforcement regimes, which are important for achieving reform (Chapter 7 in the Issues Paper).

2. Water resource management

2.1. Property rights

The NWI envisages management of surface and groundwater resources being based on a system of 'clear and nationally-compatible characteristics for secure water access entitlements', where water access entitlements are defined as 'a perpetual or ongoing entitlement to exclusive access to a share of water from a specified consumptive pool as defined in the relevant water plan' and are statutory in nature (NWI clause 23(i), cl.25(i) and Schedule B(i)). Further, it states that the *consumptive* use of water will, in general, require a water access entitlement (NWI cl.28).

The ACCC supports the key elements of the property rights framework set out in the Issues Paper.

2.1.1. Unbundling

Progress to date

The ACCC has noted previously that unbundling could increase trading opportunities and thus provide water users with greater flexibility to manage their water access, use, delivery and land-holding needs.¹ To date, unbundling within regulated systems in the MDB has typically encompassed historical water rights being separated into:

- Water access rights (including water access entitlements and water allocations)
- Water delivery rights—where a user requires the right to have water delivered by an infrastructure operator through an off-river network²
- Water use approvals—where a user requires the right to use water on land
- Works approvals—where a user requires the right to extract water via specified works such as offtakes or pumps.

In certain systems, notably in Queensland, the right to storage ('capacity shares') has also been separately specified.

In groundwater systems and unregulated systems—particularly those in non-MDB areas of Basin States—unbundling has been more basic and has generally been limited to the separation of water rights from land.

As part of its recent work on water charges, the ACCC identified that 'the net effect of unbundling and trade facilitation is to increase the value of a person's holdings of tradeable water rights (their WAEs, water allocations, water delivery rights and irrigation rights), and to allow them to deal more flexibly with the rights they hold.'³ However, the ACCC also acknowledged that 'there were significant and complex changes for irrigators during the unbundling process (primarily between 2003 and 2007)', and noted the need for responsible agencies to 'more clearly explain and improve water users' understanding of the nature of the water rights that they hold, the options to trade those rights and the regulated water charges applicable to them'.⁴

Areas for further reform

In its 2014 submission to the review of the Act, the ACCC recommended that 'Basin States should consider further 'unbundling' their water access rights into their component parts, with separate clearly defined and tradeable rights to storage, carryover and delivery where appropriate.'⁵ Consistent with this, the ACCC believes that consideration should be given to the merits of the following further types of unbundling:

- inflow / capacity rights
- carryover rights
- location-related rights, including:
 - water delivery rights (both in-system and off-river)
 - works approvals
 - water use approvals

¹ ACCC (2010) *Water Trading Rules: Final Advice*, Canberra, p.19.

² In Victoria, the right to have water delivered *on-river* has notionally been unbundled from water access entitlements and is specified as an 'extraction share'; however, the ACCC understands that in practice extraction share is generally still dealt with as being 'tied to' water access entitlement.

³ ACCC (2016) *Review of the water charge rules: Final Advice*, Canberra, p. 315.

⁴ *Ibid.*

⁵ ACCC (2014) *Submission to the Review of the Water Act 2007*, p.9.

The ACCC acknowledges that further unbundling would have costs as well as benefits for both government and water users. The bulk of costs associated with unbundling are likely to be incurred up front, by governments, in separately specifying the rights and establishing the legal and administrative framework to manage them. These costs may be significant; however, to the extent that NWI parties can take (and adapt) existing 'best practice' approaches operating in other parts of the country, these 'start-up' costs could be greatly reduced. Jurisdictions do not have to 'reinvent the wheel' each time.

Further, experience in the MDB has shown that in order for the potential benefits of unbundling to be realised in practice, water users will need to be educated about unbundling. A particular challenge is building stakeholders' understanding of the rights and responsibilities (including liability to pay ongoing charges) and opportunities which attach to different kinds of rights. The ACCC has previously recommended that 'Basin States, infrastructure operators, the MDBA and the ACCC should make it a priority to better inform rights holders of the benefits and obligations on right holders conferred by each type of tradeable water right, particularly in relation to charges payable and trading options'.⁶

Education about unbundling should be explicitly factored into implementation, to ensure that it is delivered efficiently, and should be ongoing, because the benefits of unbundling are also likely to accrue unevenly over time and across water users. The ability to deal separately with unbundled rights is likely to be of most benefit when resources are especially constrained, such as during times of drought.

Unbundling of rights will render the costs and value of holding different components more transparent, but this may lead to users perceiving that unbundling increases costs. However, unbundling need not necessarily result in greater costs to manage the separate components of their unbundled water rights (particularly where jurisdictions and operators continue to allow users to elect to trade unbundled rights together using a single process). Such perceptions can also be managed by educating users and promoting well-developed markets for unbundled rights.

In relation to inflow / capacity rights and carryover rights, the ACCC notes the substantial work undertaken by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES),⁷ and the carryover reviews undertaken by Victoria,⁸ as useful information sources.

2.1.2. Achieving clear and secure property rights

Progress to date

Where unbundling of historical water rights into water access entitlements and separate location-related rights has occurred in the MDB, these water access entitlements generally meet the specifications set out in cl. 31-32⁹ of the NWI. Specifically, the ACCC understands

⁶ ACCC (2016) *Review of the water charge rules: Final Advice*, Canberra, p. 314. Available from the ACCC's [website](#).

⁷ See, for example, ABARES (2013) *Storage rights and water allocation arrangements in the Murray-Darling Basin: Technical report 2013.07*; ABARES (2010) *Defining property rights to surface water in complex regulated river systems: generalising the capacity sharing concept*; ABARES (2009) *Management of irrigation water storages: carryover rights and capacity sharing*; ABARES (2009) *Capacity sharing in the St George and MacIntyre Brook irrigation schemes in southern Queensland: Research Report 09.12*. These publications are available from the ABARES [website](#).

⁸ See for example, information on the 2012 review of carryover, available from the Victorian Water Register [website](#), accessed March 2017.

⁹ NWI, cl. 31 specifies that *water access entitlements will: i) specify the essential characteristics of the water product; ii) be exclusive; iii) be able to be traded, given, bequeathed or leased; iv) be able to be subdivided or amalgamated; v) be mortgageable (and in this respect have similar status as freehold land when used as collateral for accessing finance); vi) be enforceable and enforced; and vii) be recorded in publicly-accessible reliable water registers that foster public confidence and state unambiguously who owns the entitlement, and the nature of any encumbrances on it.* Cl. 32 specifies that *water access entitlements will also: i) clearly indicate the responsibilities and obligations of the entitlement holder consistent with the water plan relevant to the source of the water; ii) only be able to be cancelled at*

that these criteria are generally met for NSW water access licences (however, see section below on ‘special purpose’ entitlements); Victorian water shares; Queensland water allocations, and South Australian water access entitlements in the prescribed River Murray.

Areas for further reform

There are several areas where the clarity and / or security of water property rights could be improved:

Irrigation rights specification and tradeability

‘Irrigation rights’ are specified under the Act as rights against an irrigation infrastructure operator (IIO) to receive water, which are not water access rights or water delivery rights.

Operators retain a large degree of control over the specification of irrigation rights, and the operator’s approval is required to trade these rights.¹⁰

The ACCC’s monitoring of operators’ arrangements in the MDB indicates that some operators place conditions or restrictions on the ability to trade water allocated to irrigation rights. Examples include:

- Some operators (e.g. Jemalong, West Corugan, Moira) levy exit fees on the temporary trade of water allocated under irrigation rights ‘out’ of an IIO’s network.¹¹
- Some operators have placed restrictions on temporary trade ‘out’ of IIO’s network in specific circumstances—for example, in 2016 Murray Irrigation Limited (MIL) negotiated an arrangement with Snowy Hydro Ltd. which allowed for an ‘advance’ of participating users’ allocations in future years for use in the 2016-17 water year. In order to maximise the benefits from this arrangement accruing ‘inside’ MIL’s network, MIL placed a condition on the ‘advanced’ water that it must be used with MIL’s network – i.e. water which would ordinarily be able to be traded within and externally to MIL’s network would, if accessed via the advance, be restricted to being traded or used *within* MIL’s network (or forfeited, if carryover is not available).¹²
- Until recently, Moira Private Irrigation District did not allow any ‘temporary trade’ out of its network.

These restrictions / limitations erode the security and value of irrigation rights and make clear that such allocations are less secure than ‘water allocations’ (i.e. allocations made to statutory water access entitlements).¹³

Beyond this, the NWC identified that ‘[f]inancial institutions have raised some concerns that the revised arrangements for irrigation rights have undermined their ability to properly secure

Ministerial and agency discretion where the responsibilities and obligations of the entitlement holder have clearly been breached; iii) be able to be varied, for example to change extraction conditions, where mutually agreed between the government and the entitlement holder; and iv) be subject to any provisions relating to access of water during emergencies, as specified by legislation in each jurisdiction.

¹⁰ There are now some statutory requirements under the *Irrigation Act 2009* (SA) and the *WMA 2000* (NSW) that the IIO must have regard to when determining a person’s entitlement to water under an irrigation right. Also, Basin Plan water trading rule (BPWTR) 12.34 requires IIOs within the MDB to clearly specify irrigation right holders’ entitlement to water under their irrigation right, and provide notice if this entitlement is changed.

¹¹ See, for example, Table 6.7 in ACCC (2016) *Water Monitoring Report, 2014-15*, p. 147.

¹² MIL (2016) *Snowy advance 2017/17 – Frequently asked questions (Updated Friday 8 July 2016)*, available via MIL’s [website](#).

¹³ Such restrictions / limitations are not currently prevented by the water charge rules or Basin Plan water trading rules (BPWTR). While the ACCC has advised that the water charge rules should be amended to prohibit the application of certain charges on trade of tradeable water rights, this advice is still under consideration by the Minister. See rule advice 5-D in ACCC (2016) *Review of the Water Charge Rules Final Advice*. Similarly, the Basin Plan water trading rules currently do not prevent operators restricting trade of irrigation right, on the assumption that if operators *do* unreasonably restrict such trade, irrigators have the option of transforming their irrigation right into a water access entitlement. The ACCC considers that, in light of operators’ trade restrictions and recent data on transformations, a ‘re-testing’ of this assumption may be warranted if the BPWTR are reviewed in the future,

loans to irrigators who have not chosen to transform their irrigation rights.¹⁴ This issue highlights that irrigation rights are not secure property rights in the same way that water access entitlements are intended to be under the NWI. In 2014, the independent review of the *Personal Property Securities Act 2009* considered these issues further and recommended in its Final Report that governments explore amendments to give effect to the expectations set out in the NWI.¹⁵

We would suggest the PC consider whether, and how, future policy reform should account for the fact that a substantial proportion of irrigators in the SA and NSW MDB (and possibly in non-MDB regions) hold irrigation right rather than water access entitlements¹⁶.

Perpetuity of entitlements

The ACCC notes evidence submitted to the PC's inquiry into regulation in agriculture relating to the non-perpetual nature of water property rights in Western Australia.¹⁷¹⁸ The ACCC acknowledges that the NWI allows for fixed term entitlements only where the need for the limited term is 'demonstrably necessary' (cl.33(i)).

The ACCC considers that where fixed-term entitlements have been specified, it is incumbent on the jurisdiction to periodically reassess the necessity of the limited term, and supports the specification of water access entitlements as ongoing / perpetual wherever possible. Further, jurisdictions should ensure that allocation of fixed term entitlements occur as efficiently as possible, for example, via the use of auctions. Finally, the non-perpetual nature of fixed term entitlements should not, in and of itself, prevent such entitlements from being tradeable.

Special purpose water rights

The ACCC also notes the use of 'special purpose' water access entitlements in a range of circumstances.¹⁹ These entitlements often are restricted in terms of allowed purpose of water use and tradeability and, as such, create fragmentation in water markets and may reduce the ability for water to move to its highest value use. The ACCC encourages the PC to consider further whether, and in what circumstances, special purpose water access entitlements are consistent with the relevant elements of the NWI.

Improving state water registers

The NWI specifies (cl.59) that all States and Territories should have had in place 'compatible, publicly-accessible and reliable water registers of all water access entitlements and trades (both permanent and temporary)' by 2006.

Of the Basin States, only Victoria²⁰ and New South Wales²¹ have in place publicly searchable registers of water access rights which allow users to extract data on all water access rights in a particular area (e.g. trading zone or valley) (free of charge), and also allow

¹⁴ NWC (2013) *Current issues affecting Australian water markets*, Canberra, p. 17.

¹⁵ The report's author saw no compelling reason for irrigation rights not to be subject to the PPS Act, in the same way as any other contractual right. Whittaker, B. *Review of the Personal Property Securities Act 2009 – Final Report*, pp.100-101. (tabled 18 March 2015). Available from the Attorney General's Departmental [website](#), accessed March 2017.

¹⁶ ACCC (2016) *Water Monitoring Report, 2014-15*, Canberra. See Table 5.1 for data on the proportion of water access entitlement held within IIOs, and Chapter 6 for data on the proportion of irrigation rights transformed.

¹⁷ For example, the Pastoralists and Graziers Association of Western Australia submitted that 'Licensing regimes in Western Australia do not follow the provisions of the National Water Initiative as no perpetual licenses have been issued in this state. This water allocation is a property right and the fact that there is no continuity of access affects the owner's ability to forward plan or borrow funds for expansion.' See Productivity Commission (2016) *Regulation of Australian Agriculture, Report no. 79*, Canberra, p.177.

¹⁸ NWC (2013) *Current issues affecting Australian water markets*, Canberra, p. 17.

¹⁹ For example, NSW regulations specify a range of 'specific purpose water access licences', which include licences for stock and domestic use, salinity and water table management and local water utilities. See Water Management (General) Regulation 2011 (NSW), available from <http://www.legislation.nsw.gov.au/#/view/regulation/2011/469/part2/div1/sec5>, accessed March 2017.

²⁰ [Victorian Water Register](#), accessed March 2017.

²¹ [NSW Water Register](#), accessed March 2017.

users to obtain comprehensive information, including ownership details, about water access entitlements (for a fee). The Queensland²² and South Australian²³ water registers allow a user to search for a specific water access right, but do not provide a way to search for the total number / volume of entitlements on issue. The Victorian, NSW and SA registers provide trade data (although the level and format of information provided varies), while trade data does not appear to be at all available via the Queensland register (although aggregate trade statistics are reported via the relevant Queensland government website²⁴).

Basin State registers also do not include information on holdings or trades of irrigation rights. As noted by the NWC²⁵, some operators participate in the National Irrigation Corporation Water Entitlement Register²⁶, while others maintain their own internal registers. While the ACCC collects annual data on irrigation right and water delivery right holdings and trade for medium-sized and large irrigation infrastructure operators in the MDB, in general data on individual holdings / trade is difficult to access, particularly for users other than operators or their existing customers.

Entitlements for alternative water sources

The ACCC's view is that water accounting and trade are best underpinned by the water access entitlement framework envisaged in the NWI. In addition to the benefits of an unbundled framework identified above (in section 2.1.1), having such a framework assists in:

- implementing an overall limit or 'cap' on the volume of water allocated, and monitoring compliance with that cap
- maximising water access right holders' confidence in the water allocation framework, which underpins confidence in market mechanisms
- improving tradeability by minimising artificial distinctions between tradeable water product types that can otherwise occur if water is allocated under competing frameworks
- minimising the set of rules and procedures that market participants need to understand.

It follows from this that any *water sources* which contribute to or impact water available to be allocated to users, should, in principle, be brought inside a water access entitlement framework. Similarly, any water sources for which it is envisaged that trade could occur should also be brought inside the framework. This applies to both new water sources, and existing water sources which have not previously been included. Examples include:

- water made (re-)available through managed aquifer recharge
- 'produced water' from coal-seam gas or other mining activities
- water harvested in on-river storages (where a water access right has not already been specified)
- water produced from desalination facilities.

Extending the scope of the water access entitlement framework to include such water sources will help ensure water resources are managed in a holistic and sustainable manner, and improve confidence in water rights and consequential investments more generally.

²² [Queensland Water Allocations Register](#), accessed March 2017.

²³ [South Australian Water Licence and Permit Register](#), accessed March 2017. Note that, unlike the other registers, the SA water register provides details on ownership free of charge.

²⁴ See <https://www.business.qld.gov.au/industries/mining-energy-water/water/water-markets/market-information>, accessed March 2017.

²⁵ NWC (2013) *Current issues affecting Australian water markets*, Canberra, p. 17.

²⁶ See the National Irrigation Corporation Water Entitlement Register [website](#), accessed March 2017.

Similarly, any *water users* whose use can be characterised as contributing towards any overall ‘cap’ on diversions from a water resource, or who wish to participate in trade, should also be required to hold water access rights which are, to the extent possible, consistent with the NWI. Water use under these rights should be metered, or estimated using the best available methods if direct metering is not feasible.

Users who may currently be able to take or use water without holding an NWI-style water access entitlement include:

- stock and / or domestic water users
- farm dams²⁷
- interception activities (e.g. forestry)
- mining activities.

However, the ACCC recognises that, in the case of basic landholder rights (‘riparian’ rights) for which trade is not envisaged, the costs of specifying an NWI-compliant entitlement may outweigh the benefits. An example is a landholder right allowing take and use of water solely for stock and domestic purposes. In such cases, it nevertheless may be appropriate for jurisdictions to record basic information (e.g. for a stock and domestic farm dam, details such as the location and estimated dam capacity) which helps the jurisdiction to understand the maximum consumptive use from this category of right.

It is also worth noting that in some cases, jurisdictions have previously specified (bundled) water rights in historical frameworks and have not yet fully transitioned these rights to current NWI-compliant frameworks. For example:

- in NSW, where water sharing plans (made under the *NSW Water Management Act 2000*) have not yet commenced, water licencing and trade continues to be governed by the *NSW Water Act 1912*.²⁸
- in Queensland, ‘interim water allocations’ continue to be in place in areas where the water planning process under the *Qld Water Act 2000* is yet to be finalised. These rights remain attached to land.²⁹

In such cases, while water take and use may be fully specified in a property right issued under an ‘old’ framework, there are likely to be benefits from completing the transition to a single and comprehensive ‘new’ framework. In particular, completing this transition will streamline the types of property rights on issue within a jurisdiction, which will simplify the water planning framework. The ACCC understands that jurisdictions do intend to complete these transitions and encourages these future efforts.

In sum, the ACCC encourages NWI parties to review existing frameworks and clearly identify opportunities for harmonising all consumptive use in a particular jurisdiction under a single water access entitlement framework. Where a party forms the view that such a framework is *not* appropriate for a particular water source or water user, the reason(s) for this should be clearly articulated and subject to periodic review.

²⁷ The ACCC recognises that jurisdictions do already regulate farm dams to varying degrees. Also, the ACCC considered requirements for trading water from ‘farm dams’ in its advice on the formation of the Basin Plan water trading rules. It recommended the MDBA consider requiring water resource plans to set minimum conditions which should be met before farm dam trade is permitted. See in particular ACCC (2010) *Water trading rules: Final advice*, pp. 208-215; Sinclair Knight Merz (SKM) (2009) *Water Trade Between Water Sources—Water Trade Involving Farm Dams And Unregulated Catchments*.

²⁸ Further information is available on the NSW DPI [website](#), accessed March 2017.

²⁹ Department of Environment and Resource Management (Qld) (DATE NA), *Water trading: an overview of Queensland water markets*, available via AgForce Qld [website](#), accessed March 2017.

2.2. Water planning

2.2.1. Cost recovery for water planning and management

States and Territories agreed under the NWI to implement water pricing and institutional arrangements which promoted the economically efficient and sustainable use of government resources devoted to water and gave effect to the principles of user pays and achieved pricing transparency in respect of cost recovery for WPM.³⁰

Parties agreed to give effect to these commitments by:

- bringing into effect consistent approaches to pricing and attributing costs of WPM (by 2006), including:
 - identifying all costs associated with WPM activities.
 - identifying the proportion of costs that could be attributed to water access entitlement holders, consistent with the principles of excluding activities undertaken for Government and with charges being linked as closely as possible to the costs of activities or products.
- reporting publicly on cost recovery for WPM as part of annual reporting requirements, including on total WPM costs and on the proportion of the total WPM costs attributed to *water access entitlement* holders, and the basis upon which this proportion was determined.³¹

These commitments were supported by other provisions of the agreement including the separation of roles of resource management, service provision and regulation.³²

Progress to date

Implementation of States and Territories' commitments would have been an ambitious task even without the 2006 timeframe. Some parties made good early progress: for example, NSW had already introduced regulatory oversight of WPM charges by IPART in 2001, and Queensland introduced a new framework for WPM charges in 2006 (however, this Queensland framework was quickly suspended and has not since been reintroduced). In general, States and Territories already had different institutional arrangements, WPM frameworks and some charges in place, and the introduction of new measures to recover WPM costs was not consistently developed and applied.

To help with coordinated progress on WPM commitments, the NWI Pricing Principles were developed.³³ These Pricing Principles included principles on cost recovery for WPM activities.³⁴

After the principles were adopted by the COAG NRM Ministerial Council, the Standing Committee on Environment and Water, which had been the main forum for implementation of the pricing principles, was disbanded. It is unclear whether parties developed a plan for

³⁰ NWI, cl.64.

³¹ NWI, cl.67-68.

³² NWI, cl.74.

³³ The NWI Pricing Principles were developed by the COAG steering group on water charges and then the Standing Council on Environment and Water and, in April 2010, adopted by the Natural Resources Management Ministerial Council

³⁴ The six Principles on Cost Recovery for WPM required that:

- WPM activities were to be reported against a framework consisting of nine separate specified categories of activity
- the costs recovered through WPM charges were to exclude the costs of activities undertaken for government, such as policy development or Ministerial and Parliamentary services.
- there was independent testing of the cost-effectiveness of WPM costs to be recovered from water users
- costs would be allocated between water users and government using an impactor pays approach
- WPM costs would be differentiated by catchment or valley or region or water source, where practicable
- subsidies or Community Service Obligations would be reduced or eliminated where possible, or, if not, transparently reported.

the implementation of the NWI Pricing Principles or to what extent the principles are applied by parties when making decisions with respect to their WPM activities, costs or charges. Further, it is unclear whether any substitute mechanism for monitoring progress was agreed.

Shortly after the principles were adopted, in June 2010, following advice from the ACCC, the Minister for Climate Change and Water made the Water Charge (Planning and Management Information) Rules 2010 (WC(PMI)R) under the *Water Act 2007* (Cth). The WC(PMI)R applied within the MDB and were required to contribute to achieving the Basin Water Charging Objectives and Principles (BWCOP)³⁵—these being the means by which the NWI WPM and other relevant commitments were incorporated into the Water Act.

The ACCC's 2009 advice to the Minister had acknowledged that there were limitations on the ability of water charge rules to give effect to the BWCOP in relation to WPM, but saw value in improving pricing transparency and the availability of information on WPM charges, including the extent to which a charge sought to recover the costs of one or more WPM activities.³⁶

Reflecting this advice, the WC(PMI)R currently require persons determining a WPM charge to publish information on the charge and the costs of activities these charges relate to.³⁷ However, the WC(PMI)R could not require the publication of information about WPM costs or activities where no charge was imposed. The ACCC's 2009 advice also proposed a framework for voluntary reporting that could be employed by Basin States to meet their NWI commitment to annual reporting—an obligation that was and remains in large part unmet—with the framework encompassing information on total costs of WPM activities and the proportion of those total costs that were attributed to water users. This recommendation was not adopted.

Since 2010, implementation of the WC(PMI)R in the MDB has been of limited effectiveness in achieving substantive progress towards the ultimate NWI goal of a user-pays approach to cost recovery for WPM activities. Reasons for this include:

- the limited jurisdiction of the WC(PMI)R:
 - the WC(PMI)R only apply within the MDB, not across Basin States. It can be difficult for Basin States to identify and publish information on WPM activity costs and charges within the Basin, as these may be shared across the entire state and/or may not be differentiated along catchment boundaries.³⁸
 - charges in respect of urban water supply activities beyond the point at which the water has been removed from a Basin water resource are excluded under s.91(3) of the Act, thereby excluding from the application of the WC(PMI)R WPM charges to the extent that they recover the costs of these activities.
 - the requirement for a WPM charge to be imposed means the rules do not apply to bodies not charging water users for WPM activities, such as the MDBA which undertakes significant WPM activities and related expenditure.
- Basin States may not be able to clearly identify a relationship between a charge and the costs of activities.

³⁵ Schedule 2 of the *Water Act 2007* (Cth).

³⁶ In addition to the requirement for the WC(PMI)R that a charge be imposed within the MDB, that does not relate to urban water supply activities, there are also limitations on the extent to which Commonwealth rules can prescribe or determine the level of cost recovery through charges set by a state government.

³⁷ The WC(PMI)R require (among other matters) descriptions of: the process applied in determining the regulated charge, including cost allocation principles (rules 5(1), 5(2)(c)-(d)); water planning and water management activity or activities to which the regulated charge relates, including information on the cost of those activities; whether the costs had been subject to review or audit; and a description of the relationship between the costs of the activities and the regulated charge (i.e. whether the charge was cost-reflective) (rules 5(1), (2)(a), 2(d)(ii) and (2)(j)). See Water Charge (Planning Management Information) Rules 2010, available at <https://www.legislation.gov.au/Details/F2010L02133>, accessed March 2017.

³⁸ In its guidance material, the ACCC took the view that Basin States could publish information related to whole-of-state activities and charges where identifying MDB-related components was impracticable.

- the WC(PMI)R do not compel changes in approach where an existing charge is not structured to be cost-reflective or to implement user pays principles.
- Basin States took a wide variety of approaches to charging for and recovering the costs of the WPM activities—ranging from individual transaction charges and levies set by Ministerial discretion to an independently determined omnibus charge recovering the costs of a wide range of activities undertaken by a single agency—making it difficult to propose a regulatory framework relevant to all existing approaches.

Noting these limitations, the 2016 ACCC review of the Water Charge Rules recommended changes to repeal the requirement to publish information on the nature and cost of water planning and management activities (i.e. to repeal requirements currently specified in WC(PMI)R 5(2)(d) and 5(2)(j)). The Minister is currently considering this advice. It remains open to jurisdictions to implement the ACCC's *original* recommendation proposing a voluntary reporting framework (rather than attempting to require limited reporting via the water charge rules).

More broadly, progress by Basin States towards achieving their NWI WPM commitments since 2004 has varied. Detailed information on approaches to cost-recovery for WPM activities by Basin States is available in the ACCC's water monitoring reports.³⁹

While recognising that the NWI attributes responsibility to States and Territories, it is important to recognise that the Commonwealth (and, indirectly, Basin States) undertake significant WPM activities in the MDB through the Murray-Darling Basin Authority (MDBA).

Funding for MDBA joint activities (WPM and infrastructure activities) is through Commonwealth and Basin State Government contributions, rather than via the imposition of charges. Basin States either recover this funding through general taxation and / or through levies and charges on water users, which has led to concern about the prudence, efficiency and transparency of the MDBA's activities and costs because it is difficult for water users to understand the relationship between the charges/taxes they pay to Basin States and the WPM (or other) activities undertaken by the MDBA. To address these concerns, in 2014 the MDBA engaged consultants to review its expenditure⁴⁰ but further consideration could be given to how Commonwealth agencies could report on funding arrangements and cost-recovery.

Areas for further reform

Noting parties' varied approaches to cost-recovery for WPM, there has been limited progress on adopting consistent approaches which give effect to the elements specified in the NWI, with no significant progress on implementing the NWI commitments since 2006, or on the associated NWI Pricing Principles since 2010. The ACCC considers that it would be appropriate for NWI parties to review their commitments in cl. 64, 67 & 68, and the associated NWI Pricing Principles, to determine the extent to which they remain committed to implementing them.

The NWI implicitly recognised that different approaches by Basin State governments to cost recovery for WPM could, if significant, distort water markets, and that under-recovery of costs could result in inefficient decisions regarding the use of water, water infrastructure and government resources allocated to managing water. Further, in eliciting from parties a commitment to report on the proportion of total WPM costs attributed to water access entitlement (WAE) holders (and the basis upon which this proportion is determined), the NWI implicitly recognised the potential for inappropriate cross-subsidies to exist (in this case, between WAE holders and other users / the general public).

³⁹ These reports are available on the ACCC's [website](#).

⁴⁰ The report resulting from this review is available on the MDBA's [website](#).

Improving consistency and transparency in these areas may promote interstate trade of water by removing distortions caused by the difference in the manner and extent of WPM cost recovery between jurisdictions. It could also increase support for the system of setting WPM charges in the MDB by giving some assurance to water users that the level of WPM charges is set to reflect no more than their contribution to the costs of the WPM activities and does not entail inappropriate cross-subsidies, and also provide a more stable basis for investment.

However, in considering whether to adopt a consistent approach for setting WPM charges and expenditure, the following should be considered:

- the extent to which differences in the level of charges across Basin States are currently distorting (or have historically distorted) trade. If the difference in the manner and extent of WPM cost recovery between Basin States is not distorting (interstate) trade, there may be little benefit in moving towards greater consistency in terms of improved water market outcomes.
- whether WPM revenue raised and expenditure are material enough to warrant the expenditure necessary to achieve consistent approaches between NWI parties, given the potential costs that some parties would face to reform their approach. The ACCC has previously noted that '[p]lanning and management charges generally represent a small proportion of an irrigators' total regulated water bill—less than five per cent for most irrigators'⁴¹. However, the proportion of a water access entitlement holder's water bill attributable to WPM will vary over time, depending on the transactions undertaken and the volume of water used in any given year. Further, with the use of broad-based levies which apply more broadly than to water access entitlement holders, it is difficult to know the level of costs recovered from water users.

If NWI parties decide to reaffirm or revise the current NWI commitments and principles, a revised set of actions for implementation of these commitments is warranted. Under the current NWI, implementation has been left to the discretion of each State and this appears to have led to a situation where the NWI has not been fully implemented.

One particular issue that should be addressed in future consideration of objectives and actions for WPM cost-recovery is the role of the WC(PMI)R. As noted above, the WC(PMI)R cannot compel entities:

- to report on their revenue or funding for WPM activities from sources other than charges
- to report on their WPM costs and activities where they do not relate to a WPM charge.

Under these circumstances, the ACCC considers that 'the water charge rules are not an effective policy tool to ensure the objectives of the NWI relating to planning and management cost recovery are met'.⁴² The ACCC considers that the NWI may be a more appropriate mechanism to deal with issues around cost recovery for WPM activities. However, the actions specified to achieve the NWI's WPM commitments should be examined and revised to ensure that they are able to be implemented.

⁴¹ ACCC (2016) *Review of the Water Charge Rules Final Advice*, p.299. This finding resulted from the ACCC's hypothetical bill analysis, which aims to show the total amount of regulated water charges a 'typical' irrigator would face for holding and using a water access entitlement / irrigation in a given water year. This analysis is undertaken on an annual basis and is reported in the ACCC's water monitoring reports, available on the ACCC's [website](#).

⁴² ACCC (2016) *Review of the Water Charge Rules Final Advice*, p.303.

2.2.2. Embedding trading into planning frameworks

The NWI currently lists trading objectives (NWI cl.23(v)) separately from property rights objectives (cl.23(i)) and planning / environmental objectives (cl.23(ii-iv)). This separation is continued in the 'actions' and 'outcome' sections of the NWI; cl.25-57 provide the water access entitlements and planning framework, while cl.58-63 set out the framework for water markets and trading.

This separation may reflect the history of water governance; in particular that water allocation and planning frameworks have often been initiated prior to the introduction of water markets. One effect of this history is that mechanisms to enable water trade have often been 'bolted on' to existing water allocation frameworks.

In some cases, trading restrictions have been introduced because water allocation frameworks which were not initially designed to allow for trade are unable to cope seamlessly with a large volume of trade. Inter-Valley Transfer (IVT)-related restrictions on trade in the southern connected basin are examples of where this currently occurs (see also section 2.3.2).

Future water reform should consider whether closer integration of water allocation / planning and trading objectives could promote more holistic frameworks, in which trade is treated as a fundamental mechanism to allow water to move between users and between locations.

Implications of this more holistic approach could include:

- initial specification of new entitlements (e.g. in areas where entitlements are not yet fully allocated, such as northern Australia) would be made in a manner which is conducive to trade (e.g. water access rights unbundled from land and separately specified from location-related rights).
- jurisdictions' IT systems used to administer water allocation accounting would holistically account for water allocation, trade and use (and carryover or other intertemporal mechanisms, as appropriate), rather than systems being created separately / incrementally and then needing to be integrated.
- education to improve confidence among water users, particularly among those who rely on trading to meet their water needs.

2.2.3. Managing cross-impacts between water quality, allocation and trading

The ACCC supports detailed consideration of water quality and water allocation and trading frameworks to identify 'cross-impacts' – that is, where aspects of water quality frameworks affect water allocation or water trading frameworks (or decisions taken within those frameworks), and vice versa. Particular examples of such cross-impacts could include:

- downstream impact of cold water pollution when releasing water from large on-river storages may affect downstream users' trade and use decisions, particularly if services allowing 'call-out' of allocated water from specific storages within multi-storage systems are developed.
- environmental water users make water trading and use decisions in part for the purpose of improving water quality (e.g. to mitigate negative effects of blackwater events, to 'flush' salt from systems to address salinity issues, to manage algal blooms, etc.)
- water quality standards may be an element by which different classes of water delivery rights within operators' networks are distinguished (see also section 3.1.3)

- water quality impacts may form the basis for a necessary restriction on trade (of a kind referred to in s12.18 of the BPWTR).
- water quality standards may be a key element of new mechanisms which allow accounting for return flows (whether from environmental sites or from consumptive users such as operators' networks).

Where such cross-impacts exist, detailed consideration of the mechanisms to account for and address these impacts is needed to ensure they do not unduly limit beneficial trade or water use.

2.3. Water markets and trade

Water markets enable the trade of tradeable water access rights, including water allocation, between users and between locations. Well-functioning water markets are the primary mechanism through which water moves to higher value uses. Where trade is well-developed, water markets are an efficient and effective means of allocating scarce water resources between competing uses.⁴³

2.3.1. Markets for water access rights and irrigation rights

Progress to date

Concurrent water reforms undertaken by Commonwealth and Basin States, including the performance of the ACCC's functions under the Act, have facilitated the development of world-leading water markets in the MDB. The water market rules and water charge rules⁴⁴ enforced by the ACCC and the water trading rules enforced by the MDBA have been, in our view, important mechanisms through which the Water Act has influenced this outcome in the MDB.

The ACCC's water monitoring reports⁴⁵ and water markets reports by ABARES / NWC⁴⁶ have documented the positive impact of the water charge rules and water market rules on the development of water markets in the MDB. In particular, the ACCC's water monitoring reports have found that:

- reforms have played a significant role in reducing irrigation infrastructure operator (IIO) barriers to trade, while the impact on the IIOs has been manageable to date.⁴⁷
- water allocation markets have grown considerably in the Murray-Darling Basin, particularly in the southern connected system (see chart 2.1).

⁴³ ACCC (2016) *Water Monitoring Report, 2014-15*, p.3.

⁴⁴ These rules, made under the *Water Act 2007* (Cth) are:

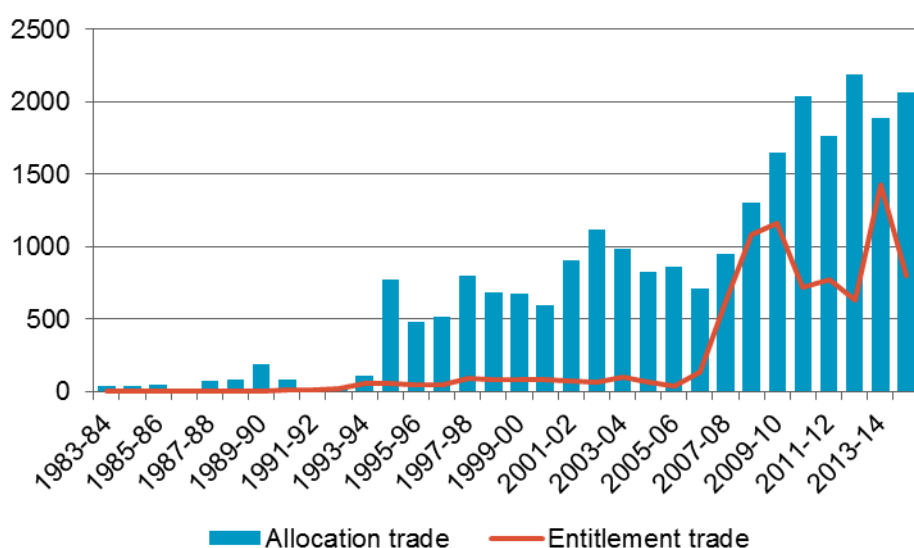
- Water Charge (Infrastructure) Rules 2010 (WC(I)R)
- Water Charge (Planning and Management Information) Rules 2010 (WCPMIR)
- Water Charge (Termination Fees) Rules 2009 (WC(TF)R)
- Water Market Rules 2009 (WMR)

⁴⁵ The ACCC's annual water monitoring reports are available from the ACCC's [website](#).

⁴⁶ ABARES annual water market reports are available from the ABARES' [website](#). ABARES took over the role of producing these reports from the former NWC after its abolition in 2015. NWC water markets reports are currently archived on the Australian Government's [archive website](#).

⁴⁷ The ACCC's monitoring reports indicate that most transforming irrigators are maintaining their access to the IIO's irrigation network. See Chapter 6 in ACCC *Water Monitoring Report, 2014-15*, Canberra.

Chart 2.1: Annual volume of water trade in the Southern MDB, 1983-85 to 2014-15



Source: ABARES (2016) *Lessons from the water market: The southern Murray-Darling Basin water allocation market 2001-01 to 2015-16*⁴⁸. Note: this dataset does not capture 'temporary' trade of irrigation right within IIO networks.

- significant proportions of irrigators are accessing water markets:
 - In the southern connected basin, the estimated proportion of irrigators who have undertaken a water allocation trade ranges from 74 per cent in SA Murray, to 91 per cent in NSW Murray⁴⁹.
 - In the southern connected basin, the estimated proportion of irrigators who have undertaken a water entitlement trade ranges from 36 per cent in Victoria, to 53 per cent in Murrumbidgee⁵⁰.
- the water market rules (WMR) and water charge (termination fees) rules (WC(TF)R) have facilitated well-functioning water markets by reducing transactions costs associated with transforming irrigation rights into water access entitlements, and terminating water delivery rights.⁵¹
- the Basin Plan Water Trading Rules (BPWTR), which commenced on 1 July 2014, generally take a 'free trade' approach to trade in surface water systems in the MDB. The introduction of these rules has resulted in the removal of volumetric limits on trade out of irrigation areas within regulated systems that were previously in place.
- the BPWTR rules also require clear specification of IIO customers' irrigation rights and water delivery rights, which is a necessary precondition for trade to take place (although, as identified in section 2.1.2, operators retain discretion over how these rights are specified, and the BPWTR do not in general prohibit IIOs from imposing restrictions on trade of irrigation rights).

⁴⁸ This report is available on the ABARES [website](#), accessed March 2017.

⁴⁹ Source: Zuo, Wheeler and Loch (2015) Short survey of southern Murray-Darling Basin irrigators' views on the review of the water charge rules, Appendix B.

⁵⁰ *ibid.* The ACCC understands that this data set captures both (permanent) trade of water access entitlement and permanent trade of irrigation right.

⁵¹ The WC(TF)R act to cap the maximum amount of termination fees at 10x the relevant 'total network access charge' (TNAC). The WMR require transformation processing to not be unreasonably delayed, and that processing fees must not exceed the reasonable and efficient costs incurred. The ACCC has, in its role as the enforcement agency for the WMR, taken formal and administrative action against operators for imposing termination fees in excess of the maximum allowed under the WC(TF)R, for unreasonable delay in processing transformation applications and for imposing excessive transformation application fees. See, for example, ACCC (2014), *Water Monitoring Report 2012-13*, Canberra, pp41-42; ACCC (2016) *Water Monitoring Report 2014-15*, Canberra, pp154-156.

- the BPWTR also include rules which help support market transparency (e.g. rules requiring trade prices to be reported, Basin State and IIO trading rules to be documented and made available, ‘insider trading’ rules etc.).

To build the understanding and transparency of, and confidence in, water markets, Basin States and Commonwealth water agencies report water market outcomes in a variety of ways, including:

- Victoria produces annual reports covering trades of water allocation, water shares (water access entitlements) and take and use licences (bundled rights), and allows users to access aggregated price and volume data via the water register free of charge⁵²
- NSW produces monthly trade approval statistics, allows users to search for individual or aggregated trade statistics, and maintains a register of environmental entitlements⁵³
- South Australia provides data on individual trades and annual statistics via its website⁵⁴
- Queensland aggregate trade statistics are reported via the relevant Queensland government website⁵⁵
- the Victorian and Commonwealth Environmental Water Holders (VEWH and CEWH) publish forward-looking trading strategies and report on trading activity⁵⁶
- Commonwealth water agencies, including the ACCC, ABARES, BoM and MDBA report annually on various aspects of markets for tradeable water rights.⁵⁷

⁵² Victorian water trading annual reports (and related documents) are available on the Victorian water register [website](#), accessed March 2017. Victorian water allocation trading statistics are available on the Victorian water register [website](#), accessed March 2017.

⁵³ NSW current trade approval statistics are available via WaterNSW’s [website](#), accessed March 2017. NSW water allocation and water access licence trade statistics (volume and price) are available on the NSW water register [website](#), accessed March 2017. The NSW Environmental water register is available via the NSW DPI [website](#), accessed March 2017.

⁵⁴ See SA’s WaterConnect [website](#), accessed March 2017.

⁵⁵ See <https://www.business.qld.gov.au/industries/mining-energy-water/water/water-markets/market-information>, accessed March 2017.

⁵⁶ Information on the CEWH’s trade reporting is available via the Department of Environment and Energy [website](#), accessed March 2017; Information on the VEWH’s trade reporting is available via the VEWH’s [website](#), accessed March 2017

⁵⁷ See, for example, ACCC [water monitoring reports](#), ABARES [Australian water markets reports](#), BoM [National water accounts](#) and [water market dashboard](#), MDBA [weekly Murray River operations reports](#).

Areas for further reform

Trading restrictions

Inter-valley trade restrictions in the southern connected MDB

While noting the progress that has occurred in developing efficient water markets, the ACCC identified in its submission to the review of the Water Act that '[a] number of significant trading restrictions remain in place throughout the southern connected system of the MDB, frustrating the 'effective and efficient' operation of water markets and preventing water from reaching higher value uses. These restrictions will not be resolved by the Basin Plan water trading rules, as they are a product of deficiencies in State water sharing arrangements under the Murray-Darling Basin Agreement.'⁵⁸

Key examples of such trading restrictions are:

- restriction on trading water allocation in/out of the ACT
- Inter-Valley Trade (IVT) account-related trade limits, such as:
 - the 100 GL limit on trade out of the Murrumbidgee⁵⁹
 - the limit on trade from NSW Murray to Vic Murray⁶⁰
 - limits on trade and back-trade between Goulburn and Vic Murray trading zones⁶¹
 - restrictions on trade through the Barmah Choke.⁶²

These limits are not based solely on physical hydrological reasons. Rather, they are a product of existing water planning and trading frameworks, particularly in terms of how current and future movement of water between valleys is accounted for.

It is worth noting that these restrictions are assessed *at the time of the trade*, even though traded water may not be used at the new location until some future date (or even not at all, if the water is traded again or ultimately forfeited). As such, these restrictions may lead to the rejection of an application to change the extraction location of a water access right, even though at the time extraction occurs there may be no hydrological constraints between the original and destination locations. As identified in section 2.2.2, reform which better embeds trading into water planning frameworks may alleviate the need for such restrictions.

Operator restrictions on trade

As identified in section 2.1.2, some operators also place restrictions on trade of water available under irrigation rights, such as levying exit fees or restrictions on 'temporary' trade 'out' of an area (i.e. customer trades which result in water allocation being traded from the operators' water access entitlement). These restrictions are not consistent with the NWI⁶³, and can have a significant detrimental effect on irrigators and other water users affected by them.

⁵⁸ ACCC (2014) Submission to the Review of the Water Act 2007, p. 9.

⁵⁹ <http://www.watnsw.com.au/customer-service/trading/murrumbidgee/background>, accessed March 2017.

⁶⁰ 'Allocation trade from New South Wales to Victoria is limited to a net annual volume of 200 GL, or the volume that keeps the risk of spill in the Murray system below 50%, whichever is the lesser.' Victorian Water Register, <https://waterregister.vic.gov.au/water-trading/allocation-trading>, accessed March 2017.

⁶¹ <https://waterregister.vic.gov.au/about/news/171-understanding-the-goulburn-to-murray-trade-limit>, accessed March 2017.

⁶² <https://www.mdba.gov.au/managing-water/water-markets-trade/barmah-choke-trade-restriction>, accessed March 2017.

⁶³ E.g. NWI cl.60(v), which states that 'subject to [cl.60(i)], no imposition of new barriers to trade, *including in the form of arrangements for addressing stranded assets*' (emphasis added).

Rural-urban trade

Basin Plan Water trading rule (BPWTR) 12.08 largely prohibit restrictions on trade which relate to the purpose for which water is used, and BPWTR 12.10 prohibits trade restrictions arising from the fact that water may be transported or used outside the MDB. Together, these rules address certain legislative barriers to rural-urban trade.

However, BPWTR 12.08 does not apply to trade of urban water access entitlements (12.08(3)). Beyond this, in practice trade between rural and urban water users may be prevented or deterred due to factors such as:

- a lack of physical infrastructure to give effect to such trade
- tacit agreement or political direction that urban water suppliers should not seek to purchase water allocated to 'rural' water access entitlements
- differential charges applying to different classes of water users for the same infrastructure services (e.g. differential charges for water delivery depending on whether a water user is an irrigator or an urban water supplier⁶⁴).

Such institutional and practical barriers to rural-urban trade should be reviewed and trade enabled where physically possible. The ACCC has previously identified⁶⁵ that allowing rural-urban trade can provide the following benefits:

- allow urban distributors / retailers to increase supply more cheaply than alternative augmentation options
- provide a competitive constraint on the price of existing bulk water supply options
- provide rural water holders with an additional source of funds and access to expanded markets.

Trade accounting, approval processes and reporting frameworks

One of the NWI water markets and trading outcomes relates to 'minimi[sing] transaction costs on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions' (cl.58(ii)).

While significant improvements to trade approval processes in the MDB have occurred since the NWI was agreed, there are still areas where trade approval and reporting processes could be more streamlined, and associated transaction costs lowered. Key examples are:

- water allocation trade in the SA MDB still requires physical signatures, meaning that trade approvals are still 'paper-based' and trades cannot be wholly completed via online trading
- while BPWTR 12.48 requires persons disposing of water access rights to report trading prices to an approval authority, there are currently no complementary obligations on trade approval authorities to report on trade pricing / activity in a timely or standardised manner
- trading protocols made under Schedule D of the Murray Darling Basin Agreement specify that processing of interstate allocation trades should occur "promptly"⁶⁶, and approval authorities have voluntarily agreed to be subject to COAG and Natural

⁶⁴ The ACCC has previously identified that one example of where such differential charges occur is in the Queensland MDB, where urban water utilities face different charges compared to irrigators. For further information, see ACCC (2016) *Review of the water charge rules: Final Advice*, Canberra, pp57-60.

⁶⁵ ACCC (2014) *Submission to the Competition Policy Review*, p.56.

⁶⁶ Murray-Darling Basin Agreement (Schedule D — Processing Interstate Transfers of Water Allocations) Protocol 2010, accessible via <https://www.legislation.gov.au/Details/F2010L02473>. Accessed March 2017.

Resource Management Ministerial Council (NRMMC) service standards for water allocation and water access entitlement trades respectively. However, there are no binding trade approval service standards, or requirements for reporting on trade approval times.

Issues such as these increase the transaction costs (in terms of time and trade approval costs) of trade, directly reducing the gains from trade and possibly even deterring water users from trading altogether in some instances.

The ACCC notes that reliable and timely information on trading volume and prices is essential to the development of efficient markets. Water access rights are often traded concurrently with the trade of water delivery rights or land holdings, or as part of a government-funded infrastructure upgrade. Alternatively, a water trade may be between related parties, or involve no change of ownership at all. In such cases, the price of the 'water' component of a trade will typically be estimated, or set to \$0. In some cases, this estimate may even be influenced by taxation considerations.

The ACCC considers a nationally consistent approach to trade volume and price reporting should be pursued as a means to ensure that market participants can make more fully informed decisions. This process should include adopting agreed trade approval processing service standards (e.g. based on the existing COAG / NRMMC timeframes), which should be subject to periodic review.⁶⁷

As noted in section 2.1.2, Basin States generally already have online, publicly accessible registers of water access rights. While the ability to access aggregate and individual records (and the cost of doing so) varies, a considerable amount of information is available via these registers. Moreover, as noted above both Basin States and Commonwealth water agencies produce a range of outputs which report on aggregate market outcomes. Despite these efforts, during its consultation for the review of the water charge rules, the ACCC heard concerns from some stakeholders that water markets lacked adequate transparency.⁶⁸

Given this situation, the ACCC considers there would be merit in NWI jurisdictions considering how best to improve water users' awareness of the information that is available, and to review whether the water market reporting mechanisms are adequate to meet users' needs. Any such consideration should cover aspects such as the form of reporting, the level of data aggregation, the timeliness of reporting and the merits of providing public access to information (including detailed registry data) free of charge versus cost-recovering. This could occur in conjunction with considering how best to educate water users about the nature of unbundled water rights (and their associated costs and benefits), as suggested in section 2.1.1.

The ACCC acknowledges the recent 'Water Market Innovation challenge' being undertaken by the Department of Agriculture and Water Resources, via the Business Research and Innovation Initiative, to improve the transparency and reliability of water market information through the development of innovative solutions.⁶⁹

Trade in unregulated systems

In its 2010 advice on the Basin Plan Water Trading Rules, the ACCC noted that:

'Rules for trade within unregulated systems are generally not as clearly stipulated as rules for regulated systems, or in some cases are not in place at all. Although there has been an increase in water trading within and between regulated systems, there is

⁶⁷ The ACCC has previously made several recommendations relevant to trade approvals – see recommendations 5-A to 5-D in ACCC (2010) *Water trading rules: Final advice*, pp. 121-122.

⁶⁸ ACCC (2016) Review of the water charge rules: Final Advice, Canberra, section 8.1.3.

⁶⁹ Information on this initiative is available via <https://www.business.gov.au/Assistance/Business-Research-and-Innovation-Initiative/Improve-transparency-and-reliability-of-water-market-information>. Accessed March 2017.

*comparatively little trade in unregulated systems... For successful markets to develop in unregulated systems, clearly defined property rights are required. The ACCC considers that property rights in unregulated systems are currently not generally clearly defined or excludable, and this will continue to limit trade options. Administrative processes for trade are likely to be simpler once property rights are more clearly defined and the ACCC's position paper set out a proposed framework for doing so.*⁷⁰

With this in mind, the ACCC made recommendations⁷¹ which together provided a framework for developing opportunities for trade in unregulated systems. Only limited progress on implementing these recommendations has occurred. Given that the Basin Plan is now in place, these recommendations may possibly need to be adapted / updated, but could nevertheless still provide a coherent framework for improving the specification of property rights and broadening trading opportunities in unregulated systems.

2.3.2. Improving markets for water delivery rights and other location-related rights

As discussed in section 2.1.1, unbundling to date has encompassed separation of historical water rights into constituent components which allow a water user to deal with their right to take/hold water separately from their rights to have water delivered and the right to use water on land. A corollary of this unbundling is that, for each constituent component to be a completely specified property right, each must be excludable, enforceable, divisible, and transferable.

Allowing location-related rights to be tradeable (separately from water access rights) can provide water users with additional benefits, such as lowering costs associated with holding such rights, and allowing more flexibility. These benefits are particularly likely to occur where:

- location-related rights are relatively homogenous / compatible (which supports trade between users and / or locations)
- supply of the location-related right is constrained—e.g. the total amount of water use (on land) is capped in a particular area due to environmental constraints such as salinity; the total volume of water delivery right that can be issued in a network is constrained by the network's capacity
- cancellation / surrender of the right is costly—e.g. termination of a water delivery right may attract a termination fee.

The NWI does not currently require property rights other than water access entitlements to be completely specified, which perhaps reflects that, at the time of the NWI's development, parties were primarily concentrated on developing a robust system for governing access to water (as opposed to subsequent delivery / use). The NWI did recognise, however, that work on 'effective market and regulatory mechanisms for *sharing delivery capacity* and *extraction rates* among water users...' (cl.61(i)⁷²) would support agreed actions relating to trade of water access rights.

⁷⁰ ACCC (2010) *Water trading rules: Final advice*, pp.180-181.

⁷¹ Recommendations 6-I to 6-M, *ibid*, pp.186-187.

⁷² The NWI defines:

Sharing delivery capacity—'an approach to sharing of an irrigation supply channel capacity (supplemented systems) or a water course capacity (unsupplemented) held by an entitlement holder and specified as a percentage share or volumetric supply rate at a particular time';

Extraction rate—'the rate in terms of unit volume per unit time that water can be drawn from a surface or groundwater system. Used in the NWI in the context of a constraint that might exist due to the impact of exceeding a particular extraction rate at a particular point or within a specified system'.

Progress to date

Given the primary focus of the NWI is on water access entitlements rather than location-related rights, it is perhaps unsurprising that markets for the latter have been much slower to develop than markets for water access rights (and irrigation rights).

Beyond this, other factors may contribute to lower demand for trade of location-related rights, such as:

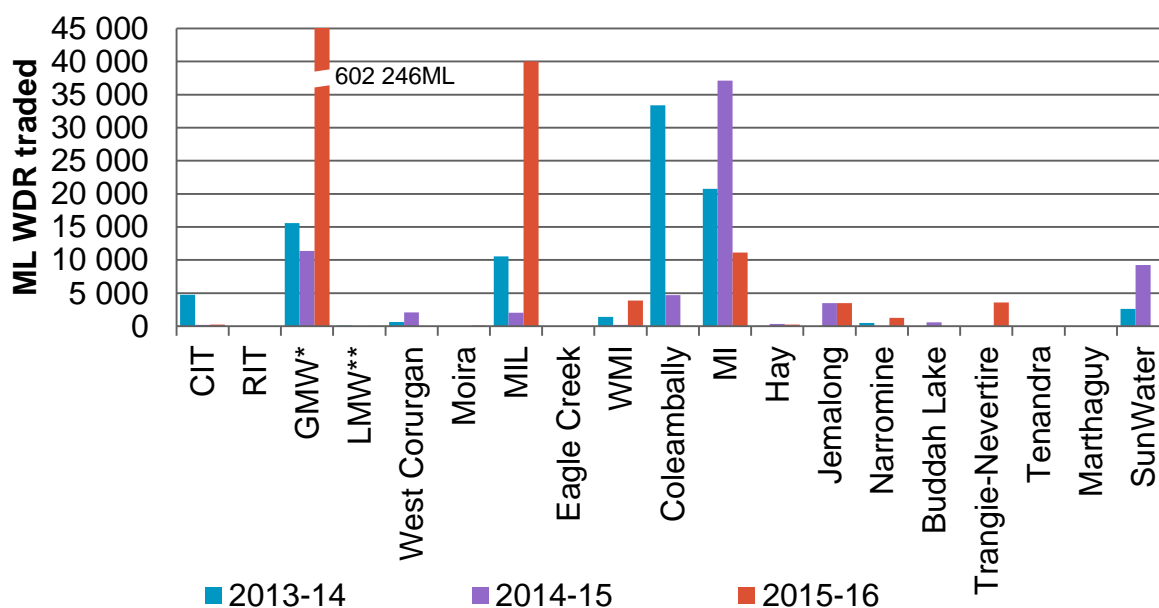
- lower water availability (due to drought and changing climate), and trade of water out of infrastructure operator areas (e.g. due to purchases of water for the environment, trade to 'private diverters', etc.) may reduce the demand for water delivery rights
- Basin States may not have 'capped' the availability of location-related rights, such that users may be able to apply for a new right rather than acquire an existing right via trade
- location-related rights (particularly water delivery rights) may attract ongoing charges (or liability to pay termination fees when the right is extinguished), which may dampen demand for these rights
- location-related rights may be characterised in a manner that is highly specific to particular areas, which may limit opportunities for trade.

Nevertheless, available data indicates that trade of location-related rights is becoming more common:

- in the southern connected basin, an estimated 43 per cent of irrigation network users in Murrumbidgee, 44 per cent in NSW Murray, and 30 per cent in Vic Murray and Goulburn have ever traded water delivery right.⁷³
- GMW, Coleambally, Murray Irrigation Ltd (MIL) and Murrumbidgee Irrigation Limited (MI) have reported significant volumes of annual WDR trade (chart 2.2).

⁷³ Zuo, Wheeler and Loch (2015) *Short survey of southern Murray-Darling Basin irrigators' views on the review of the water charge rules*, Table 12.

Chart 2.2: Total volume of water delivery right traded (ML), 2013-14 to 2015-16



Source: ACCC data from reporting operators. Notes: *GMW: Converted to ML from ML/day by multiplying by 270 (i.e. all trade assumed to occur in gravity-fed districts). **LMW: Converted to ML from ML/14 days.

The Basin Plan water trading rules (BPWTR) support further development of water delivery right trading within IIOs in the MDB by:

- requiring operators to specify WDR (rule 12.32)
- requiring operators to not unreasonably restrict the trade of WDR (within their networks) (Rules 12.28-29).

The Victorian water register now provides for trading of ‘annual use limit’ (which regulates the application of water on land) in salinity management zones.⁷⁴

Areas for further reform

As discussed in section 2.2.1, the ACCC considers that NWI parties should assess the merits of further unbundling. One important aspect of this consideration is the tradeability of unbundled property rights.

Building trading frameworks for location-related rights (assuming tradeability is possible)⁷⁵ is likely to be a complex endeavour, requiring consideration of many inter-related aspects, such as:

- setting appropriate limits (‘caps’) on the total availability of the right
- consideration of the impacts of trade on third parties
- consideration of necessary limitations on trade (e.g. trade may only be able to occur within a specific geographic area)
- consideration of the availability and costs of mechanisms needed to quantify the relevant rights and account for the trade (e.g. metering, ability to adequately characterise location-specific aspects of the right)

⁷⁴ See the Victorian Water Register [website](#), accessed March 2017.

⁷⁵ The ACCC acknowledges that some location-related rights may be so specifically characterised that they are not able to be traded. An example could be a works approval.

- trade approval processes, and the need to integrate these with frameworks for trade of water access rights
- implementation costs.

It will also be important to recognise that some of these property rights are / will be held against the NWI parties themselves, whereas others will be held against individual infrastructure operators within parties' jurisdictions. Off-river water delivery rights (WDR) are a key example of the latter.

In addition to the BPWTR relating to trade of WDR identified above, the ACCC's final advice for the review of the water charge rules also makes several rules advices / recommendations which will help promote trade of water delivery rights by improving customers' access to information about trading opportunities.⁷⁶ Beyond these efforts, jurisdictions should consider further how best to encourage operators to allow such trade, noting that operators have an incentive *not* to allow trade where they are able to cancel one right (and collect a termination fee) and (re-)issue a new right.

2.3.3. Accounting for environmental water in water trading and planning frameworks

As environmental water holders seek to fulfil their watering objectives, they may require infrastructure services which differ from those which have typically been required by consumptive water users. Examples of such services include:

- 'call-out' of water allocated to environmental water access entitlements from a specific storage
- accounting frameworks that allow for 'multiple use' of water at several different locations
- accounting for 'return flows' from environmental watering sites (which may be difficult or prohibitively costly to measure via conventional metering)
- delivery of water to a specific site via a specific route
- delivery of water through natural water courses where flow rates and / or transmission losses would result in a very high proportion of water being 'lost' to the environment (e.g. via 'water shepherding' mechanisms which allow trade of water through unregulated systems).

The ACCC fully supports the policy intent that water access entitlements transferred to environmental water holders from consumptive users should maintain the same characteristics as before the trade. To ensure this equivalence, trading opportunities and infrastructure services should not be contingent on the intended use of the water.

Further reform efforts which seek to improve the availability of services required by environmental water holders (including changes to storage and river operations, new accounting methodologies to account for 'return flows') should neither give preference to, nor disadvantage, environmental water users compared to consumptive users. As new infrastructure services and / or environmental watering plans are developed, careful consideration should be given to the extent to which these are delivered via mechanisms *within* trading frameworks, versus alternative mechanisms such as directly specifying measures in water sharing plans. One particularly important area is the question of how best to adapt the allocation of water to 'rules based' environmental water, held environmental water, and consumptive users' entitlements to 'deal with long-term shifts in climate affecting resource availability' (PC Issues Paper, p. 14).

⁷⁶ Rule advice 6-F, ACCC (2016) *Review of the water charge rules: Final Advice*, Canberra.

One recent example of an existing measure which alters the standard water allocation process in dry periods to better allocate water between competing uses is the rules for 'borrowing' water from the Barmah-Millewa Forest Environmental Water Account. This process is set out in the NSW Water Sharing Plan for the New South Wales Murray and Lower Darling Regulated Rivers Water Sources⁷⁷ but appears to be poorly understood by users. This process is undertaken outside of the trading framework, but impacts water markets because it alters the allocation of water to consumptive users versus the environment during a water year.

Further development of such mechanisms should be required to explicitly assess and address likely impacts on water markets, and should if possible be undertaken via standard trading frameworks rather than via alternative processes. This will help ensure that water users fully understand how these mechanisms operate, so that they can make decisions based on full information.

3. Water services

3.1. Rural services

3.1.1. Regulatory framework applying to infrastructure charges in the MDB

Major aspects of the arrangements sought by the NWI to achieve pricing reform for rural water service providers were:

- using independent bodies to set or review prices for water storage and delivery by government water service providers (cl.77(i)).
- full cost recovery in price setting including lower-bound pricing mechanisms as a baseline and upper-bound pricing which includes the opportunity cost of capital in price (cl.66(v)).

Progress to date

The key mechanisms for achieving the NWI objectives and outcomes for pricing of rural water services in the MDB are:

- the Water Charge (Infrastructure) Rules 2010 (WC(I)R)
- Basin State regulatory frameworks which support the WC(I)R.

Under the WC(I)R, the NWI rural pricing goals have been implemented to a greater extent for larger non-member owned operators, while other operators are subject to more limited provisions, such as pricing transparency and non-discrimination requirements.

Independent price setting for government water service providers for efficient pricing and cost recovery occurs through the application of economic regulation (charge / revenue approvals by independent regulators) under Part 6 of the WC(I)R, which currently applies to non-member owned operators over a certain size limit (although recently the ACCC has recommended amendments to how Part 6 should apply—see below).

Provisions for price transparency, mainly regarding provision or publication of schedules of charges, apply to operators of all sizes and membership structures in the MDB.

⁷⁷ See in particular ss.26-27, [Water Sharing Plan for the New South Wales Murray and Lower Darling Regulated Rivers Water Sources 2016](https://www.mdba.gov.au/basin-plan-roll-out/sustainable-diversion-limits/sdl-adjustment-proposals/victoria-nsw#Barmah-Millewa), accessed March 2017. The ACCC understands that further changes to this mechanism are under active consideration via the NSW / Vic proposed pre-requisite policy measures ('PPM measures') under the Basin Plan - see <https://www.mdba.gov.au/basin-plan-roll-out/sustainable-diversion-limits/sdl-adjustment-proposals/victoria-nsw#Barmah-Millewa>, accessed March 2017.

The ACCC considers that the arrangements in the MDB have worked reasonably well, recognising that lighter handed regulation is appropriate for the smaller operators. In its recent advice to the Minister on the water charge rules, the ACCC has maintained support for this approach, but proposed a number of changes that would apply regulation independently of ownership status, reduce the regulatory burden for some rules, while increasing customer protections and / or standards in others.⁷⁸

Price determination for large, non-member-owned operators (WC(I)R Part 6)

Large non-member-owned operators (servicing more than 250 ML of water entitlement) are subject to Part 6 of the WC(I)R which provides for approval or determination of prices by the ACCC or a State regulator accredited by the ACCC. We consider that this approach has been successful and the operators (WaterNSW, GMW and LMW) have been subject to adequate price regulation which largely fulfils the NWI objectives for best practice water pricing and institutional arrangements, through:

- price determination and monitoring by an independent regulator
- full cost recovery through upper-bound pricing.

This regime has facilitated efficient water use, trade and investment in water infrastructure assets, by constraining market power, ensuring water charges are efficient, and improving pricing transparency.

Under this framework, infrastructure charges have been set for full recovery of forecast prudent and efficient costs, while allowing incentives to further reduce costs by setting price or revenue caps for a three or four year period. Recovery of capital costs is based on the regulatory asset base (RAB) approach for assets currently in use, with regulators moving away from earlier use of annuities for future asset renewals. The current RAB approach seeks 'upper bound' cost recovery, although this may involve valuations of legacy assets well below cost, and exclusion of gifted assets from the base.

The movement to full cost recovery has led to large price increases in some areas—over 50 per cent in real terms in a number of areas since 2009-10—but the larger increases, particularly in NSW, have been phased in over a number of years.

The ACCC's recent advice on the water charge rules proposes some amendments to the criteria for Part 6 regulation.⁷⁹ The ACCC's advice to the Minister was to remove Part 6 regulation for those operators in cases where an independent State regulator has powers to determine their prices in a way meets the high-level criterion that revenue should meet prudent and efficient costs. This was largely aimed at reducing duplication and administrative burden from both State and Commonwealth agencies.

The ACCC also advised amending the criteria for Part 6 regulation in a way that removed the size threshold and requirement to be non-member owned, potentially widened the range of operators subject to it. This was in recognition of the fact that even smaller or member-owned operators have monopoly power which they may exercise to the detriment of some customers.

However, at the same time, our advice was to limit Part 6 to situations where there is the least meaningful competitive pressure, namely where operators provide bulk water services to water access right holders or provide infrastructure services to give effect to water sharing arrangements between Basin States. This effectively removed infrastructure operators who only provide off-river infrastructure services (in particular, irrigation networks) from Part 6.

⁷⁸ ACCC (2016) *Review of the Water Charge Rules: Final Advice*, Chapters 5 and 6.

⁷⁹ *Ibid*, section 5.6.

Determination of charges under Part 6 would still apply to any cross-jurisdictional operators such as the MDBA if they began to levy charges.

The ACCC considers that its advice on Part 6 will ensure that the NWI objectives will be advanced by applying rigorous price regulation to operators based on more appropriate criteria, while minimising the administrative costs.

WC(I)R requirements for all operators

Pricing requirements

The medium-sized and smaller operators (primarily irrigation infrastructure operators) do not have their prices determined like Part 6 operators, and are subject only to lighter-handed regulation, consisting of price transparency requirements and certain non-discrimination requirements.⁸⁰

This is not inconsistent with the NWI, which specified independent price setting only for government-owned operators (clause 77). These 'other' operators are generally member-owned (private corporations, cooperatives, and joint water supply schemes), and operate as on-going businesses. Their financial performance is critical to their members' own farm businesses. To maintain their viability, the operators have an incentive to ensure that charges are sufficient to provide revenue to cover operating and maintenance costs and foreseen renewal costs. For further discussion of cost-recovery for rural service providers, in particular the varying approaches to capital renewals, see section 3.1.4 concerning benchmarking.

Areas for further reform

Regulatory oversight of rural infrastructure charges

The ACCC supports continuing implementation of the NWI Actions for water storage and delivery pricing (cl.65-66 and relevant sections of NWI Pricing Principles), but considers that these should be achieved via direct economic regulation of operators' revenues / charges only for (generally large) infrastructure operators providing on-river ('bulk') infrastructure services. The ACCC considers that lighter handed regulation, along the lines recommended in its final advice for the review of the water charge rules, is appropriate for the off-river infrastructure operators.

The ACCC's Final Advice also recommended several amendments to the charge rules on issues that are not explicitly referred to in the NWI, but which provide scope to advance the goals of 'user pays' and efficient price setting. These include advice on:

- wider measures to prevent unreasonable differences in charges (price discrimination) or service provision
- limiting permissible charges levied on trade of tradeable water rights
- clarifying the charges that can be included in calculating termination fees.

The ACCC considers that, by promoting more efficient charge structures, these proposed amendments should also make an important contribution to the NWI objectives by removing artificial barriers or disincentives for customers to participate in water markets.

⁸⁰ Part 6 operators are also subject to these general WC(I)R requirements. The Water Charge (Infrastructure) Rules 2010 also contained provisions in Part 5 requiring off-river operators in a certain medium-sized bracket to prepare Network Service Plans every five years. While these were originally intended to provide greater transparency and customer input into network planning and pricing, the ACCC concluded in its recent advice to the Minister that the compliance costs outweighed the benefits obtained. The Minister subsequently amended the rules to repeal Part 5, effective from 1 July 2017.

A further part of the ACCC's advice is aimed at improving the transparency of information on infrastructure charges – in particular, clearly setting out the details of each charge, how regulated charges incurred by the operator are 'passed through' to customers, and how customers can participate in the process of deciding charges or resolving disputes.

The proposed amendments are explained further in the ACCC's Final Advice, and are currently being considered by the Minister.⁸¹

3.1.2. Cost recovery and ongoing viability of irrigation networks

The viability of irrigation networks can be affected by a range of natural factors such as weather and market prices, and also by government and NWI policies. Government policies and other factors can have both positive and negative effects on industries and communities.

Moves to increase prices to full cost recovery levels may affect user profitability and, depending on their ability to pay, could impact the viability of some users or even the network. Regulators have often managed such consequences by phasing in the price increases.

One of the concerns about trading of water rights (including Commonwealth buy-backs) has been that some irrigation districts experience a net outflow of rights and consequently a reduced amount of water deliveries through their network.

Because operators generally recover their costs through a combination of charges on the volumes of water actually delivered through its network (variable charges), and charges levied on customers' water delivery rights (fixed charges), the effect of net water trade 'out' on the operator and its customers depends on several factors, including:

- the extent to which users who trade water 'out' of the network also terminate water delivery rights as a result of that trade
- the level of termination fees levied in respect of any such termination
- the reliance of the operator on variable charges compared to fixed charges.

This concern is essentially replicated in concerns about climate variability resulting in decreased volumes of water being available to allocate to entitlements (i.e. a decline in the average reliability of entitlements).⁸²

Given largely fixed costs of maintaining the networks, decreases over time in the number of charging units (i.e. volume of water delivered and volume of water delivery right held) reduced revenue can in the long run lead to higher unit costs and then charges for remaining customers.

Where pursuit of NWI objectives entails unavoidable net negative effects, these need to be considered in implementing policy and any measures to address these effects should be transparent and cost-effective.

Cost recovery and infrastructure upgrades

Another important dimension of cost-recovery relates to whether operators' recovery of capital costs is adequate to provide for longer term renewals and major maintenance, particularly because these may be lumpy expenditures which are not clearly foreseen or budgeted for. Beyond assessment of the prudence and efficiency of expenditure when

⁸¹ ACCC (2016) *Review of the Water Charge Rules: Final Advice*, see in particular sections 5.3, 5.7, and 7.

⁸² The OECD has highlighted the need for flexible policies to meet both water shortages and excesses due to climate change – see OECD (2016) *Work on water 2015-16*, pp.8-9. Available at <http://www.oecd.org/env/resources/OECD-work-on-Water-2015-16.pdf>, accessed March 2017.

economic regulators directly set operators' charges, infrastructure investments decisions are not regulated. While this is not necessarily problematic, it remains up to the parties involved to assess the merits of the proposed investment.⁸³ Just as historic investments continue to have implications for infrastructure charges, decisions on future investment will affect the ability of operators to achieve full cost recovery.

If the capital costs associated with renewal or upgrades of legacy assets have not been provided for, the operator's charges will not attain lower bound pricing. In that case, if sudden needs for capital expenditure arise which have not been budgeted for, operators may find it necessary to call for external assistance. This observation is consistent with previous findings of the PC which suggest that government-funded infrastructure upgrades have been substituted in some cases for necessary upgrades which the operators had been reluctant or unable to fund.⁸⁴

The dynamic effects of subsidised infrastructure upgrades, in terms of effects on costs and charges, must be taken into account when undertaking cost-benefit analyses of such projects. Such effects may include, in some cases:

- 'rationalisation' reducing the number of charging units
- higher costs due to recovery of capital costs for upgrades, and higher operating costs (e.g. for pumping)
- lower demand resulting from the higher charges.

If these effects are not accounted for, progress towards full cost recovery may be unduly delayed or hampered where infrastructure upgrades have been undertaken that effectively subsidise irrigation networks through government funding.

The irrigation industry is largely served by legacy assets on which recovery of capital costs has not been possible, or even originally intended. If new tranches of investment proceed without satisfactory cost-benefit indicators (including where such assessments are based on over-optimistic analyses), setting prices for full cost recovery will continue to be difficult.

Cost recovery targets

The NWI calls for charges to be set at least at 'lower bound' level, and move to 'upper bound' where practicable.⁸⁵ The approach to recovery of capital costs is outlined further in a subsidiary document, the NWI Pricing Principles.⁸⁶ The description of these concepts still leaves some uncertainty about, for example:

- the time horizon for future expenditure in the lower bound annuity, and the methodology accounting for future capital.

⁸³ Commonwealth funding of infrastructure programs has been subject to Departmental assessment of the economic and social merits of the proposal. Subsequent review of one Commonwealth-funded program by the Australian National Audit Office found low scores for economic/social and environmental/technical criteria (generally less than five out of ten) and for the benefit-cost analyses. It also found that applications provided insufficient information on the impact on operators' charging arrangements.

Australian National Audit Office (2012) *Audit Report No.38, 2011–12, Performance Audit: Administration of the Private Irrigation Infrastructure Operators Program in New South Wales*, p.28; chapter 3.

<https://www.anao.gov.au/work/performance-audit/administration-private-irrigation-infrastructure-operators-program-new-south>, accessed March 2017.

⁸⁴ Productivity Commission (2010) *Market Mechanisms for Recovering Water in the Murray-Darling Basin, Final Report*, pp.131-132.

⁸⁵ *Upper bound pricing*: To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or 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].

Lower bound pricing: 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 assets refurbishment/ replacement (by way of a renewals annuity).

⁸⁶ The NWI Pricing Principles are available at: <http://www.agriculture.gov.au/water/policy/nwi/pricing-principles>, accessed March 2017.

- the circumstances in which it is not practicable to move to upper bound pricing.
- the valuation of legacy assets, or those installed before a given date (the ‘line in the sand’).

In relation to stakeholder concerns about charge increases which may result from further movement towards upper bound pricing, it should be noted that such moves do not necessarily involve large price increases, given the provision in the NWI Pricing Principles to value legacy assets below historic or replacement cost (which has historically been the main approach for the government-owned water service providers). However, for new or replacement assets the NWI Pricing Principles require charges to be set to achieve full cost recovery. As major renewals are rolled in, charges may therefore increase over the longer term.⁸⁷

The effects of large increases in charges required to achieve cost recovery have caused considerable concern in some affected local communities, for example, in the Peel valley in northern NSW. In its 2014 review of State Water charges, the ACCC approached this issue by phasing in the increases for Peel valley, at a maximum of 10 per cent in real terms per annum, recognising that subsidies for community service obligations may be needed where full cost recovery is unlikely to be achieved. The ACCC considered that this was consistent with another of the NWI aims:

“to avoid perverse and unintended pricing outcomes”.⁸⁸

This principle has been criticised by some stakeholders, however, as being too vague or open to misinterpretation. The ACCC recommended that it be clarified in new guidelines for the water charge rules, for application within the MDB, based on further consultation with Basin State regulators and other industry stakeholders.⁸⁹

Areas for further reform

There is scope to review the NWI, and its subsidiary pricing principles, to clarify some of the concepts and requirements open to interpretation, such as:

- full cost recovery
- lower and upper bound pricing
- legacy assets
- reporting of Community Service Obligation subsidies
- circumstances in which it is practicable to progress to the upper bound (or, alternatively, appropriate to provide a CSO)
- perverse and unintended pricing outcomes

and to develop revised guidance, in consultation with regulators and other stakeholders. At the very least, the ACCC’s planned review of the WC(I)R pricing principles⁹⁰ should help promote more consistent application of the principles within the MDB and could form a basis for guidance that could be more widely applied.

⁸⁷ See Abbott and Cohen (March 2017) “Drawing a line in the sand: valuing regulated assets of the Australian water industry”, *Economic Papers*, vol. 36, no. 1, p.32-48 for relevant discussion covering rural and urban water services

⁸⁸ ACCC (June 2014) *Final Decision on State Water Pricing Application: 2014–15 — 2016–17*, pp.12.

The ACCC has also interpreted ‘perverse outcomes’ as including situations where a high ratio of fixed to variable charges would shift excessive risk from variability in water availability onto customers. See ACCC (June 2014) *Final Decision on State Water Pricing Application: 2014–15 — 2016–17*, p.20.

⁸⁹ ACCC (2016) *Review of the Water Charge Rules: Final Advice*, section 4.2.

⁹⁰ ACCC (2011) *Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010*, Canberra.

3.1.3. Governance arrangements and customer engagement

Governance arrangements

In NSW and SA, a range of privately-owned entities currently deliver irrigation services. Queensland is in the process of adopting arrangements that would devolve the management of some water infrastructure to privately-owned, locally-managed bodies. In Victoria, there may now be some small-scale local cooperatives managing infrastructure on spur channels as a consequence of the NVIRP.

The legal structures of the entities delivering these services include companies limited by guarantee, co-operatives, statutory trusts and other forms of body corporate. Accordingly, depending on their incorporation status, privately-owned service providers are subject to different governance requirements and levels of regulatory oversight and accountability to customers, and their customers have differing recourse to legal rights and protections.

In monitoring and enforcing compliance with the water charge and market rules under the *Water Act 2007* since 2009, the ACCC has received a considerable number of 'out-of-scope' complaints relating to broader governance issues within IIOs, for example: customer concerns about voting rights, the conduct of elections, the appointment of board members; conflicts of interest; access to dispute resolution procedures; consultation with customers on the adoption of charges, policies, internal rules and procedures; the quality of services provided and of the water delivered through the operator's network. Complainants commonly note the high cost of seeking legal assistance to resolve their concerns.

In recommendation 8-C of its Final Advice on the Review of the Water Charge Rules, the ACCC recommended that 'governments consider the merits of:

- expanding the jurisdiction of existing ombudsmen schemes or small business commissioners to resolve disputes between infrastructure operators and their customers; or
- the creation of a new scheme to perform these roles.⁹¹

The recommendation was based on feedback the ACCC received throughout the water charge rule review consultation process, with submissions from Waterfind and South Australian Murray Irrigators specifically supporting the draft recommendation.

Having regard to these submissions and to complaints received by the ACCC, we also consider that there would be merit in DPI Water (NSW) reinvigorating consultation on the proposed modernisation of the legal structures of, and obligations on, joint private works (private irrigation districts and private water trusts) that it commenced with the passage of the *Water Management Amendment Act 2010* (NSW).⁹²

Customer engagement

The NWI does not explicitly include a principle for customer consultation in price setting for rural water services, although the NWI Pricing Principles include the following:

Urban water tariffs should be set using a transparent methodology, through a process which seeks and takes into account public comment, or which is subject to public scrutiny. (Principle 5)

Customer input enhances the transparency of price setting and can also assist operators to understand:

⁹¹ Ibid, p. 321.

⁹² NSW Office of Water (2010) *Water Management Act 2000: Reform of joint private works*, Discussion paper. Available from <http://www.water.nsw.gov.au/water-management/law-and-policy/legal-reform>, accessed March 2017.

- customers' willingness to pay for new projects and different levels of service, including reliability and quality
- how to divide price categories, to promote choice and minimise cross-subsidisation.

A recent report by the OECD highlights the importance of stakeholder engagement and cites it as a decisive factor in the ability of governments to successfully address and overcome challenges in the supply and management of water.⁹³ Victoria's Essential Services Commission has adopted a new framework approach for water pricing that gives customers a more central role in decision making by their water service provider.⁹⁴

Energy regulators in Australia have focused increasingly on consumer engagement in recent years. A guideline produced by the Australian Energy Regulator (AER) sets out a framework for electricity and gas providers to integrate consumer engagement into their operations. The AER expects that stronger consumer engagement can help test service providers' expenditure proposals, and can raise alternative views on matters such as service priorities, capital expenditure proposals and price structures.⁹⁵

The ACCC considers that NWI parties should consider explicitly including into the NWI principles for consultation with customers and other stakeholders before setting charges. That said, there are already established procedures for stakeholder engagement with operators subject to price regulation, and member-owned operators have their own forms of consultation. The ACCC does not consider it appropriate to mandate the specific form of consultation, but considers that useful consultation should be at a meaningful stage where customers can consider and comment on a proposal before it has been finalised.⁹⁶ Although it may not be possible to please all stakeholders at once, there is likely to be wider acceptance of the price structure and more efficient provision of services if there are effective processes for including customers' input.

Any reform efforts seeking to improve customer engagement should take into account operator governance arrangements, as well as any need for reforming these arrangements (such as those identified in the previous section).

3.1.4. Benchmarking for rural water services

The NWI (cl.75-76) includes commitments to provide benchmarking of performance efficiency for rural and other water service providers. These principles include:

- that the States and Territories will be required to report independently, publicly, and on an annual basis, benchmarking of pricing and service quality for metropolitan, non-metropolitan and rural water delivery agencies, based on a nationally consistent framework.
- that the costs of operating these benchmarking and efficiency review systems are to be met by jurisdictions through recovery of regulated water charges.

Progress to date

There has been little recent progress on the NWI goal of regular or annual benchmarking reports on efficiency of performance. The NWC's National Performance Reports ceased after the 2012-13 report. Within the MDB, the ACCC's annual monitoring report covers

⁹³ OECD (2015) *Stakeholder Engagement for Inclusive Water Governance*.

⁹⁴ ESC (October 2016) *Water Pricing Framework and Approach: Implementing PREMO from 2018*.

⁹⁵ AER (November 2013) *Better Regulation: Consumer Engagement Guideline for Network Service Providers*.

⁹⁶ For example, two of the larger operators, WaterNSW and GMW, have procedures for engagement with customers in the preparation of a plan or pricing proposal, although there has still been dissatisfaction among some groups after the operator's decision.

charges for each operator managing greater than 10GL of water, but we do not collect information on operators' costs or assess / report on their economic efficiency.

NWC

The National Water Commission (NWC) conducted seven annual national performance reports of rural water service providers, but these were discontinued after 2012-13. The last report covered eleven providers both within and outside the MDB, comparing performance on water supplies, delivery efficiency, revenue, costs and profit.⁹⁷

The NWC found that bulk water suppliers and most of the distribution schemes in the MDB were recovering their operating costs along with an allowance for future infrastructure refurbishment and/or replacement. The available information on cost recovery across the rest of rural Australia was mostly poor.⁹⁸

Further (annual) benchmarking surveys like the NWC's were not supported by rural stakeholders due to the regulatory burden.

ACCC

The ACCC's annual water monitoring reports include information on charges for each operator, but no information on costs or economic efficiency. Operators voluntarily provide information towards these reports, but the ACCC has reduced the information demands in recent years. While data compiled by the ACCC shows levels and movements in water infrastructure charges levied by rural on-river and off-river operators (as well as WPM charges) since 2009-10, this work currently has no ability to assess the extent to which NWI aims of cost recovery are being met.

MJA

Another recent contribution to benchmarking was undertaken in 2015 by consultants Marsden Jacob Associates (MJA) for Lower Murray Water.⁹⁹ This was limited in that it only compared LMW with similar operators in the vicinity of the Victoria-NSW-SA border (GMW, WMI and CIT). However, its findings about relative charges and the underlying factors are likely to be relevant to the situations experienced by operators in other areas.

The study found that LMW's low and high pressure systems have considerably higher tariffs than the other systems, with a key factor being the different approaches to recovery of capital costs. This reflected LMW's regulatory framework because past capital costs had been partially funded by LMW rather than fully gifted by government. LMW (and GMW) also pay more for government levies and bulk water charges, and have a greater reporting load to government than CIT.

MJA noted that it was beyond the scope of its review 'to assess whether the renewal annuity cost for CIT and WMI is adequate to maintain and replace capital assets, but this cost comparison does raise questions about the adequacy of their renewal annuity charges. That said, it may be that gifting of assets and other historical funding contributions by governments mean that the renewals annuity can be low' (p.45).

⁹⁷ NWC (2014) *National Performance Report 2012-13: rural water service providers*, <http://webarchive.nla.gov.au/gov/20160615063946/http://www.nwc.gov.au/publications/topic/nprs/npr-rural>, accessed March 2017.

⁹⁸ NWC (2014) *Australia's water blueprint: national reform assessment 2014*, Canberra, p. 45. <http://content.webarchive.nla.gov.au/gov/wayback/20160615060744/http://www.nwc.gov.au/publications/topic/assessments/australias-water-blueprint-national-reform-assessment-2014>, accessed March 2017.

⁹⁹ Marsden Jacob Associates (June 2015) *Independent benchmarking study of rural irrigation services for Lower Murray Water, Final Report*. Available via the [MJA website](#), accessed March 2017.

The work suggests that cost-recovery is an area where the principle of consistency in pricing policies across sectors and jurisdictions where entitlements are able to be traded has not been fully attained.

Areas for further reform

The NWC found in 2014 that the move to lower-bound pricing was largely complete in the MDB. However, in the absence of further monitoring, it will be difficult to assess the extent of implementation of the goals of lower or upper bound pricing.

The ACCC considers that the annual collection of information for an annual report on costs and efficiency of all operators may be too burdensome. Nevertheless, we consider that a more infrequent report, such as every three to five years, would be a reasonable compromise to monitor progress and, through greater transparency, encourage further action. Such information on costs incurred by operators would aid understanding of the pricing practices of the operators, in addition to enabling assessment of economic efficiency. However, any such approach should carefully consider the relative costs and benefits, particularly in terms of minimising regulatory burden placed on operators, and be subject to consultation with operators and stakeholders to obtain the most useful results at least cost.

3.2. Urban water services

The ACCC has had no ongoing direct role in urban water services so cannot report on its own experience. However, broad comments can be made on the basis of the similarities in infrastructure for urban and rural water, and given that both rural and urban water users may compete for the same water resources.

The ACCC's submission to the review of the Water Act noted that:

The [Water] Act excludes from the operation of the water charge rules those charges in respect of urban water supply activities beyond the point at which the water has been removed from a Basin water resource (section 91(3)).

The ACCC has provided advice and enforced rules based on this provision in its current form, but notes that the current exclusion limits the ability of the water charge rules made under the Act to contribute to the achievement of key Basin water charging objectives. In particular, the Act and its water charge rules cannot contribute to the objective of promoting the economically efficient and sustainable use of water resources and water infrastructure assets in urban settings, nor the objective of facilitating the efficient functioning of water markets in urban settings.¹⁰⁰

The ACCC has further proposed¹⁰¹ that gains in the efficiency of urban water supply could be pursued through the following reforms:

- the separation of bulk water supply activities from the distribution / retail functions of urban water businesses in circumstances where these functions are currently combined, and promotion of competitive provision of bulk services to urban customers.
- removal of remaining institutional or legislative impediments to rural-urban trade (see also section 2.3.1 above).

¹⁰⁰ ACCC (2014) *Submission to Review of the Water Act 2007*, p.8.

¹⁰¹ ACCC (2014) *Submission to the Competition Policy Review*, Canberra, pp.55-56.

4. Key elements for achieving reform

The ACCC supports the PC's intention to consider how policy changes to 'deliver ongoing benefits to the community' could best be achieved, including considering 'whether a national approach is needed for such a policy endeavour' (p26). As noted in section 1.2, the ACCC considers that many aspects of arrangements in the Murray-Darling Basin could be easily adapted for use in other regions. Adopting such arrangements more broadly could have advantages of lessening 'start-up' costs (by implementing arrangements that have already been shown to be working well, and which are well-understood in the MDB) and promoting a consistent national approach. However, national consistency should not necessarily be pursued for consistency's sake alone.

Beyond considering whether national, regional or state-based approaches would be more successful in achieving reform, the ACCC also notes that policy changes will only successfully deliver community benefits if implemented well and properly resourced. The ACCC's unique position as the national competition regulator gives us a good perspective on elements which contribute to successful implementation of regulation.

We consider that the following aspects should be addressed in any future water reform framework:

- clear delineation of roles, responsibilities, implementation pathways and timeframes
- active consideration of how entities involved in designing and implementing water reform can best co-ordinate their activities to minimise duplication, maximise agreement on shared goals and strategies, and share information where needed
- accountability and incentive mechanisms
- commitment to best practice consultation
- a transparent process for monitoring and publicly reporting on the outcomes and impacts of reform and the effectiveness of implementation activities
- support for policy change through adequate resourcing of:
 - building and maintaining relevant knowledge
 - stakeholder education and engagement activities
 - an effective discharge of monitoring and enforcement activities.

The ACCC notes the broad similarities between the above elements and both the characterisation of 'elements of an effective [water] market', contained in the recent 'Water for Victoria' plan¹⁰² and recommendation 5.2 in the PC's recent final report on 'Regulation in Agriculture'¹⁰³.

¹⁰² Victorian Department of Environment, Land, Water and Planning (2016) [Water for Victoria](#), accessed March 2017, Figure 9.3.

¹⁰³ Productivity Commission (2016) *Regulation of Australian Agriculture*, Report no. 79, Canberra, p.38.

References

Abbott and Cohen (March 2017) “Drawing a line in the sand: valuing regulated assets of the Australian water industry”, *Economic Papers*, vol. 36, no. 1.

Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES):

- (2016) *Lessons from the water market: The southern Murray-Darling Basin water allocation market 2001-01 to 2015-16*, Canberra.
- (2016) *Australian Water Markets Report 2014-15*, Canberra.
- (2013) *Storage rights and water allocation arrangements in the Murray-Darling Basin: Technical report 2013.07*, Canberra.
- (2010) *Defining property rights to surface water in complex regulated river systems: generalising the capacity sharing concept*, Canberra.
- (2009) *Management of irrigation water storages: carryover rights and capacity sharing*, Canberra.
- (2009) *Capacity sharing in the St George and MacIntyre Brook irrigation schemes in southern Queensland: Research Report 09.12*, Canberra.

These publications are available from the ABARES [website](#), accessed March 2017.

Australian Competition and Consumer Commission (ACCC):

- (2016) *Review of the water charge rules: Final Advice*, Canberra. Available from the ACCC's [website](#).
- (2016) *Water Monitoring Report, 2014-15*, Canberra. Available from the ACCC's [website](#).
- (2014) *Water Monitoring Report 2012-13*, Canberra. Available from the ACCC's [website](#).
- (2014) *Submission to the Review of the Water Act 2007*, Canberra. Available from the ACCC's [website](#)
- (2014) *Submission to the Competition Policy Review*, Canberra. Available from the ACCC's [website](#).
- (2011) ACCC enforcement guide water market & water charge rules, Canberra. Available from the ACCC's [website](#).
- ACCC (2011) *Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010*, Canberra. Available from the ACCC's [website](#).
- (2010) *Water Trading Rules: Final Advice*, Canberra. Available from the ACCC's [website](#).

Australian National Audit Office (2012) *Audit Report No.38, 2011–12, Performance Audit: Administration of the Private Irrigation Infrastructure Operators Program in New South Wales*, p.28; chapter 3). <https://www.anao.gov.au/work/performance-audit/administration-private-irrigation-infrastructure-operators-program-new-south>, accessed March 2017.

Council of Australian Governments (COAG) (2004) *Intergovernmental Agreement on a National Water Initiative*, Canberra, Available from the Department of Agriculture and Water Resources' [website](#), accessed March 2017.

Department of Environment, Land, Water and Planning (2017) *Water for Victoria*, Available from the Department's [website](#), accessed March 2017.

Department of Environment and Resource Management (Qld) (DATE NA), Water trading: an overview of Queensland water markets, available via AgForce Qld [website](#), accessed March 2017.

DPI Water (2017) *Legal Reform*, Sydney, Available at DPI Water's [website](#), accessed March 2017.

Marsden Jacob Associates (2015) *Independent benchmarking study of rural irrigation services for Lower Murray Water Final Report*, Available from the Marsden Jacobs Associates [website](#), accessed March 2017.

Murray-Darling Basin Authority:

- (2017) *Barmah Choke trade restriction*, Canberra. Available from the Murray-Darling Basin Authority's [website](#), accessed March 2017.
- (2017) *SDL adjustment proposals – Victoria/New South Wales*, Available from the Murray-Darling Basin Authority's [website](#), accessed March 2017.

National Water Commission (NWC):

- (2014) *Australia's water blueprint: national reform assessment 2014 – Part One*, NWC, Canberra. Available at the NWC archive [website](#), accessed March 2017.
- (2014) *National Performance Report 2012-13: rural water service providers*, Canberra. Available at the NWC archive [website](#), accessed March 2017.
- (2013) *Current issues affecting Australian water markets*, Canberra.
- (2011) *Water markets in Australia: a short history*, Canberra. Available at the NWC archive [website](#), accessed March 2017.

Natural Resources Ministerial Council (Australia) (2010) *National Water Initiative Pricing Principles*, Canberra. Available from the Department of Agriculture and Water Resources' [website](#), accessed March 2017.

OECD (2016) *Work on water 2015-16*. Available at <http://www.oecd.org/env/resources/OECD-work-on-Water-2015-16.pdf>, accessed March 2017.

Productivity Commission:

- (2016) *Regulation of Australian Agriculture, Report no. 79*, Canberra. Available from the Productivity Commission's [website](#), accessed March 2017.
- (2010) *Market Mechanisms for Recovering Water in the Murray-Darling Basin Final Report*, Canberra. Available from the Productivity Commission's [website](#), accessed March 2017.

Sinclair Knight Merz (SKM) (2009) *Water Trade Between Water Sources—Water Trade Involving Farm Dams And Unregulated Catchments*, available upon request from the ACCC.

WaterNSW (2016) *Background to Murrumbidgee inter-valley transfer*, Available from the WaterNSW [website](#), accessed March 2017.

Whittaker, B. (2015) *Review of the Personal Property Securities Act 2009 – Final Report*, pp.100-101 (tabled 18 March 2015). Available from the Attorney General's Departmental [website](#), accessed March 2017.

Zuo, Wheeler and Loch (2015) *Short survey of southern Murray-Darling Basin irrigators' views on the review of the water charge rules*. Available from the ACCC's [website](#).