



Independent Pricing and Regulatory Tribunal

Review of prices for Water Administration Ministerial Corporation

From July 2010

Water — Issues Paper
July 2009



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Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

Submissions are due from the Water Administration Ministerial Corporation by 11 September 2009 and from stakeholders and members of the public by 23 October 2009.

We would prefer to receive them by email <ipart@ipart.nsw.gov.au>.

You can also send comments by fax to (02) 9290 2061, or by mail to:

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Our normal practice is to make submissions publicly available on our website <www.ipart.nsw.gov.au>. If you wish to view copies of submissions but do not have access to the website, you can make alternative arrangements by telephoning one of the staff members listed on the previous page.

We may choose not to publish a submission—for example, if it contains confidential or commercially sensitive information. If your submission contains information that you do not wish to be publicly disclosed, please indicate this clearly at the time of making the submission. IPART will then make every effort to protect that information, but it could be subject to appeal under freedom of information legislation.

If you would like further information on making a submission, IPART's submission policy is available on our website.

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1 Introduction

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is conducting a review of the Water Administration Ministerial Corporation's (WAMC) water management (WM)¹ charges. WAMC is the legal entity that is responsible for WM in NSW. However, the NSW Department of Water and Energy (DWE) currently undertakes WM activities on behalf of WAMC.

This review will set prices to enable DWE to recover water users' share of the efficient costs of its WM activities. This includes:

- ▼ prices for holding entitlements and extracting water from regulated rivers², unregulated rivers and groundwater sources³
- ▼ administration fees and charges for the issue and administration of water access licences and works approvals under the *Water Management Act 2000* (WMA).⁴

These charges will apply for a period commencing 1 July 2010 (the upcoming determination period).

IPART last set prices for WAMC in 2006 (the 2006 determination).⁵ The 2006 determination applies from 1 October 2006 to 30 June 2010 (the 2006 determination period). In 2006, IPART also set prices for State Water Corporation (State Water), which is primarily responsible for managing dams and releasing bulk water to entitlement holders on regulated rivers. This review is occurring at the same time as (but separate from) IPART's review of prices for State Water.⁶

¹ Water management is also sometimes referred to as 'water planning and management' (WPM) or 'water resource management' (WRM). These terms refer to the same activities. For simplicity, this paper refers to 'water management' (WM).

² Regulated rivers are where the natural flow of water is regulated by dams or weirs. Regulated rivers are proclaimed by the New South Wales Government.

³ These prices are listed in Schedules 1 to 3 of IPART's 2006 determination of prices for WAMC (IPART, Determination No 5, The Water Administration Ministerial Corporation, September 2006).

⁴ These fees and charges are listed in Schedule 4 of IPART's 2006 determination of prices for WAMC (IPART, Determination No 5, The Water Administration Ministerial Corporation, September 2006).

⁵ See: IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, Report and Determination No 5 (the 2006 Determination).

⁶ See IPART's recently released Issues Paper on its *Review of prices for State Water Corporation*, July 2009, available at: www.ipart.nsw.gov.au.

At the time of IPART's 2006 review of bulk water prices, the Department of Natural Resources (DNR) undertook WM activities on behalf of WAMC.⁷ However, departments were subsequently reorganised and DWE has been undertaking WAMC's WM activities since April 2007. The NSW Government has recently announced further restructuring of Government departments, with the WM section of DWE to be incorporated into the new Department of Environment, Climate Change and Water.⁸ Nevertheless, for the sake of simplicity, this issues paper refers to organisational titles prior to this most recent restructure – that is, it refers to DWE when discussing WM activities and charges.

All figures in this paper are in 2009/10 dollars, unless stated otherwise.

1.1 The 2006 Determination

IPART's 2006 determination set bulk water prices to recover a share of DWE's⁹ efficient WM costs from users. DWE's remaining WM costs were then expected to be borne by the NSW Government on behalf of the community.

In 2006, IPART determined that DWE's revenue requirement over the 2006 determination period was \$204.6 million.¹⁰ This represents IPART's assessment of the efficient costs of DWE undertaking its WM activities. Of this, \$133.6 million (or 65 per cent) was attributed to users and the remaining \$71.1 million (or 35 per cent) was attributed to the Government. IPART determined these notional shares by using the 'impactor pays' approach to cost allocation (as outlined in Chapter 4).

However, after considering potential impacts on users and other matters under section 15 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act), IPART set prices so that DWE's 'target' (or expected) revenue from users over the 2006 determination period was \$105.4 million. The difference between revenue that would be recovered from users if prices were set to fully recover efficient costs (the notional revenue requirement) and revenue that was actually expected to be recovered from users given IPART's decisions on prices (target revenue) is shown in Figure 1.1.

Figure 1.1 also shows that DWE's actual revenue from users was significantly less than expected in 2006/07 and 2007/08. It was 18 per cent less than expected in 2006/07 and 12 per cent less than expected in 2007/08. These differences are due to lower than expected water availability (and hence usage) as a result of the severe

⁷ Prior to DNR, the Department of Infrastructure, Planning and Natural Resources (DIPNR) undertook WM activities on behalf of WAMC.

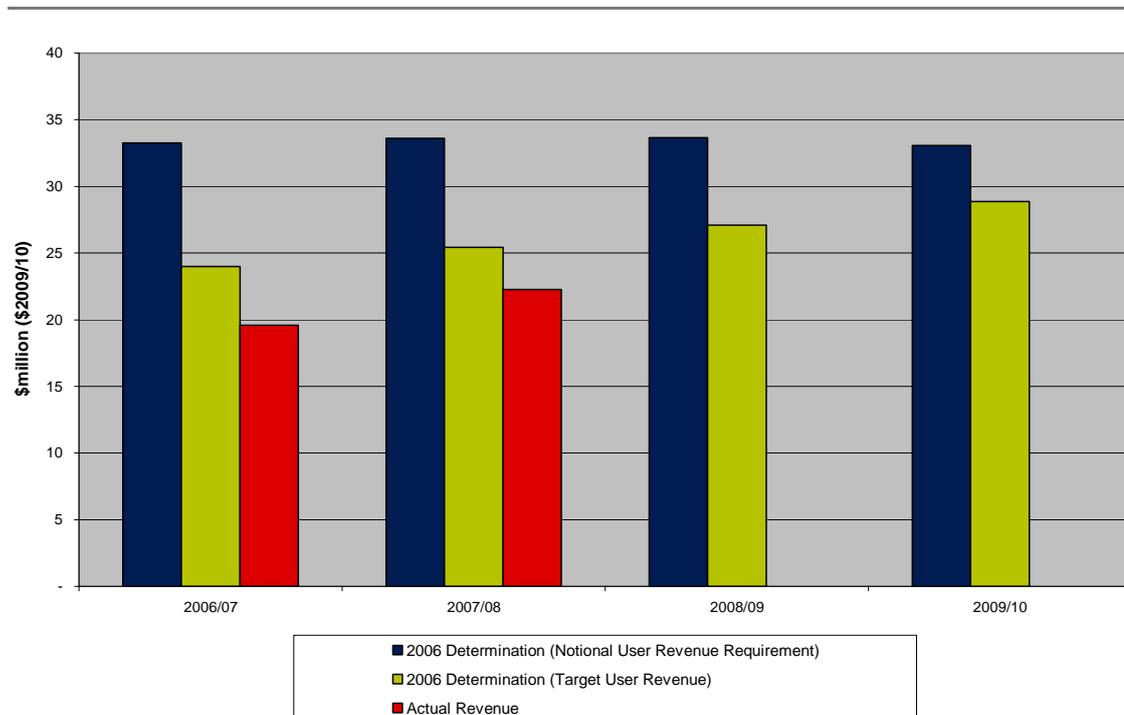
⁸ See Administrative Changes Order, 27 July 2009.

⁹ Then DNR.

¹⁰ This figure excludes IPART's assessment of the efficient costs associated with the issue and administration of water access licences and works approvals under the WMA. The revenue requirement for these activities was determined separately. IPART then set administration fees and charges to recover these costs.

drought that has affected much of NSW and the NSW Government's decision to waive some fixed charges (eg, in the Lachlan regulated river valley in 2006/07).

Figure 1.1 DWE's actual (accrued) revenue from users compared to notional revenue requirement and target revenue of the 2006 Determination (\$2009/10)



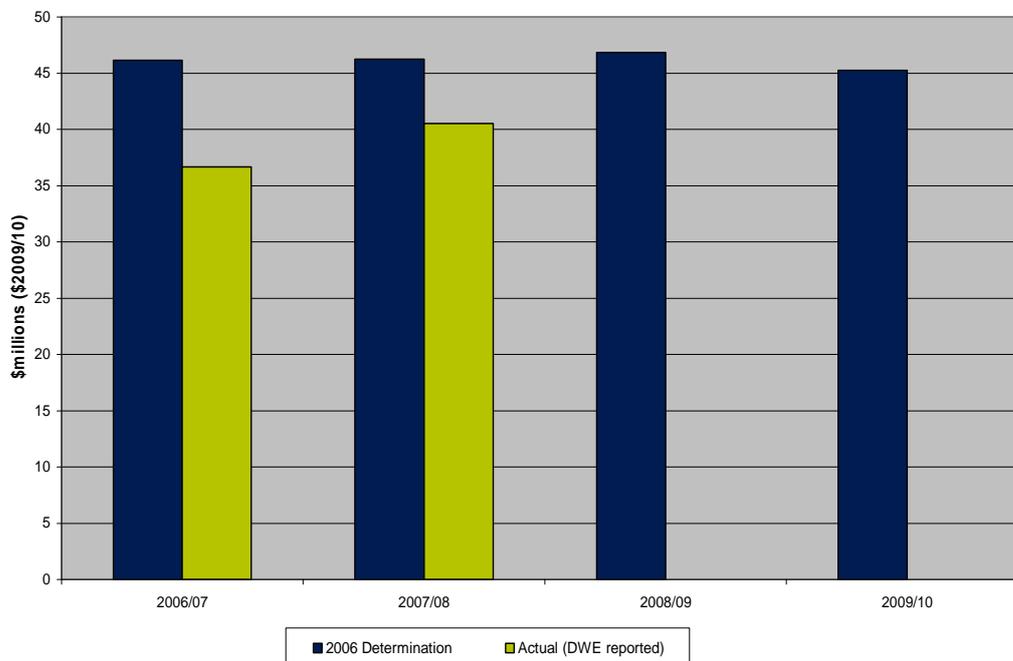
Note: 'Actual' revenue is revenue entitlement, as this represents the amount that could be billed in a particular year and not what revenue was actually received in that year.

Data source: IPART 2006 determination and data from State Water, 11 June 2009.

As shown in Figure 1.2 below, DWE's actual operating expenditure was also significantly less than determined by IPART. It was approximately 21 per cent lower in 2006/07 and 12 per cent lower in 2007/08.¹¹ IPART notes that it is possible that DWE may have chosen to not undertake WM expenditure on some activities or services because it has received lower than expected revenue in 2006/07 and 2007/08. During this review, IPART will be investigating the reasons for, and implications of, variations between DWE's actual level of operating expenditure and the level of expenditure allowed for by IPART when setting prices in 2006.

¹¹ Figure 1.2 excludes DWE's WMA licence transaction processing costs, its MDBC/BRC pass through costs and depreciation charges on its WM assets. According to DWE, actual MDBC and BRC pass through costs are currently not available, but are expected to be close to IPART projections (about \$4.1 million per annum). Depreciation allowances/expenses are also as per IPART projections (approximately \$0.9 million per annum). However, DWE reports that its licence transaction costs have been significantly greater than allowed for by IPART at the 2006 determination. In 2006, IPART allowed \$3 million per annum for the incremental (or marginal) costs of DWE's WMA licence transaction activities, whereas DWE's annual reports to IPART indicate that the actual costs of these activities are approximately \$7.5 million per annum. This difference reduces DWE's overall level of under-expenditure, relative to the 2006 determination.

Figure 1.2 IPART determined WM operating expenditure compared to DWE's actual WM operating expenditure (\$2009/10)



Note: These figures (both IPART's determination and DWE's actual expenditure) exclude DWE's: costs associated with the issue and administration of water access licences and works approvals under the WMA; Murray Darling Basin Commission (MDBC) and Dumaresq-Barwon Border Rivers Commission (BRC) pass through costs; and depreciation charges on water management assets.

Data source: IPART 2006 determination and data from DWE.

Other elements of the 2006 determination, including decisions relating to price structure, are discussed at relevant sections throughout this paper.

1.2 IPART's considerations

This review will be conducted under section 11 of the IPART Act. Specific matters for IPART to examine include:

- ▼ DWE's roles and functions in relation to WM, including legislative requirements and objectives for WM
- ▼ the efficiency of DWE's proposed expenditure program, the outcomes that will be achieved by this level of expenditure (relative to DWE's legislative responsibilities), and the scope for further efficiency gains over the upcoming determination period
- ▼ whether DWE should earn a rate of return on its WM assets and, if so, the appropriate rate of return
- ▼ the appropriate sharing of DWE's costs between water users and the community

- ▼ forecast volumes of water extracted from regulated rivers, unregulated rivers and groundwater sources over the upcoming determination period
- ▼ the structure of bulk water prices, including the ratio of fixed to usage charges, and the extent to which prices for WM activities should vary by valley and water source
- ▼ the implications of IPART's pricing decisions, including the impact on DWE, extractive users and the community.

IPART will consider information obtained through its public consultation process. It will also have regard to the requirements of section 15 of the IPART Act, intergovernmental agreements and the principles developed in previous price reviews (as outlined below).

1.2.1 IPART ACT

Section 15 of the IPART Act (see Appendix A) requires IPART to consider a range of matters related to:

- ▼ **consumer protection**—protecting consumers from abuses of monopoly power; standards of quality, reliability and safety of the services concerned; social impact of decisions; effect on inflation
- ▼ **economic efficiency**—the cost of providing the services; greater efficiency in the supply of services; the need to promote competition
- ▼ **financial viability**—rate of return on public sector assets, including dividend requirements; impact on pricing of borrowing, capital and dividend requirements of agencies
- ▼ **environmental protection**—promotion of ecologically sustainable development via appropriate pricing policies; considerations of demand management and least-cost planning.

In considering these matters, IPART will need to balance the diverse needs and interests of stakeholders - such as customer affordability, environmental impact and the maintenance of the overall quality of services provided - as well as ensuring that DWE is adequately recompensed for the services it provides.

1.2.2 Intergovernmental agreements and cost recovery

IPART will also take into account guidelines issued by the Council of Australian Governments (COAG). In 2004, COAG issued its National Water Initiative (NWI), which built on the principles established in the 1994 COAG Water Reform Framework. A key theme in both these documents is that water prices should be set to achieve full cost recovery.

In the 2006 determination, IPART set prices to significantly increase the level of cost recovery over the determination period, with most valleys expected to be at or near full cost recovery by the end of the determination period. As illustrated in Figure 1.1 above, target revenue from users gradually increases over the determination period to be close to full cost recovery (notional user revenue requirement) by 2009/10.¹²

1.2.3 Principles for bulk water pricing

IPART

In 1996, IPART undertook a major review of prices for bulk water services, which set the overall framework and underlying principles for its regulation of bulk water prices. As a result of that review, the following principles were developed to encourage the efficient allocation and use of bulk water services:

- ▼ water charges should be based on the efficient economic costs of providing water services
- ▼ the administrator of water resources should receive sufficient funds to achieve financial stability and deliver an appropriate level of water services
- ▼ pricing policy should encourage the best overall outcome for the community from the use of water and the other resources used to store, manage and deliver that water
- ▼ the cost of water services should be paid by those who use the services. Those who cause more services to be required should pay more
- ▼ pricing policy should promote the ecologically sustainable use of water and of the resources used to store, manage and deliver that water.¹³

Since the 1996 review, IPART has made a number of price determinations and has further developed and refined its regulatory approach.

The Water Act 2007 (Cth)

The *Water Act 2007 (Cth)* (the Commonwealth Water Act) sets out principles that are to apply to cost recovery for water planning and management activities in the Murray-Darling Basin. These principles (which are listed Appendix B) are based on commitments made by the states under the NWI and are consistent with those adopted by IPART in previous reviews.

¹² However, as noted above, DWE's actual revenue from users was significantly below target revenue in 2006/07 and 2007/08. This is primarily because actual water availability (and hence usage) has been significantly below the forecasts used to set prices in 2006.

¹³ Adapted from IPART, *Bulk Water Prices – An Interim Report*, October 1996.

1.3 IPART's determination process

In conducting this review, IPART will rely on its own research and analysis, drawing on selected consultant investigations, as well as information provided by DWE and other stakeholders through IPART's public consultation process.

1.3.1 Stakeholder input and consultation

This issues paper has been prepared to assist in identifying and understanding the key issues for review and to encourage stakeholder comment. The paper raises a range of issues and questions on which IPART seeks comment. IPART also seeks stakeholder comment on DWE's submission, which is due by 11 September 2009 (prior to other stakeholders' submissions). Stakeholders are also free to raise and discuss any other issues that they believe are relevant to the review. Details on how to make submissions are provided at the front of the paper (on the page prior to the Table of Contents). Submissions will be made available on IPART's website (www.ipart.nsw.gov.au).

IPART plans to hold public hearings to provide further opportunity for stakeholders to present their views. It will also release a draft report, and invite stakeholders to make further submissions on that report. After IPART has considered these submissions it will release its final determination and report.

An indicative timetable for the review is provided below.

Table 1.1 Indicative review timetable

Task	Timeframe
Release issues paper	31 July 2009
Submission from DWE due	11 September 2009
Public submissions due	23 October 2009
Release of consultant's draft review of DWE's expenditure	1 November 2009
Public hearing – Griffith	24 November 2009
Public hearing – Dubbo	25 November 2009
Release of consultant's final review of DWE's expenditure	1 December 2009
Public hearing – Moree	2 December 2009
Public hearing – Sydney (if required)	4 December 2009
Release draft report and determination	March 2010
Receive submissions on draft determination	April 2010
Release final report and determination	June 2010

Note: These dates are indicative and may be subject to change.

1.3.2 IPART's expectations of DWE

A comprehensive and timely submission from DWE is required to allow IPART to effectively carry out this review. It also allows stakeholders to have a clear understanding of DWE's proposals, and to effectively participate in the review.

To assist DWE in its provision of information, this paper outlines IPART's information requirements (throughout the paper and in Appendix F). Unless there is a strong case otherwise, DWE should (where applicable) provide this information by:

- ▼ valley or region
- ▼ water source (regulated river, unregulated river and groundwater)
- ▼ activity code (or sub-activity code where relevant)
- ▼ licence, customer or entitlement type, as relevant to the 2006 determination
- ▼ year – ie, 2006/07 to 2014/15.

IPART has provided DWE with advance warning of these information requirements. IPART has also outlined expectations regarding:

- ▼ the timely provision of information (discussed below)
- ▼ the completeness and accuracy of information provided
- ▼ the adequacy of justifications provided for past and forecast expenditure
- ▼ the clarity of connection between expenditure and WM activities and outcomes.

'Stop the clock' provisions

DWE is required to provide its submission to IPART by **11 September 2009**.

In the past, IPART has had difficulties completing its reviews on time because of delays in the provision of necessary information by regulated entities. Delays and new information not only add to the work of IPART, its staff and consultants, but also limit the ability of stakeholders to participate and provide input into IPART's processes and decisions.

To enable IPART to better manage delays in the provision of information, it intends to put in place mechanisms that will 'stop the clock' when necessary information is not received from DWE on time. Under this arrangement, the review timetable will be automatically extended by a period equal to the length of the delay. If IPART 'stops the clock' it will make a statement to this effect and publish a revised timetable on its website. Where new information is provided by DWE, IPART reserves the right to 'reset the clock' to reflect the need to rework and reconsider matters in light of this new information.

1.4 Structure of this paper

This paper explains how the review will be undertaken, provides background information, and outlines the issues on which IPART particularly seeks comments. The paper is organised as follows:

- ▼ Chapter 2 provides an overview of DWE’s role in regard to WM
- ▼ Chapter 3 provides a summary of IPART’s approach to determining DWE’s revenue requirement, including its review of historical and proposed future operating and capital expenditure, its calculation of an allowance for depreciation, its consideration of a return on assets and the use of output measures
- ▼ Chapter 4 summarises the approach to allocating DWE’s efficient costs between water users and the community
- ▼ Chapter 5 outlines the price-setting process, including forecasting of water sales and entitlement volumes, determining appropriate prices and price structures, considering potential mechanisms to deal with risk, determining the appropriate length of the upcoming determination period, and considering the potential impacts on customers of any price changes.

1.5 List of issues for stakeholder comment

To assist IPART in identifying and understanding the key issues for this review, this paper seeks comment on the following issues, which are explained and discussed throughout the report (see page numbers listed below). However, stakeholders are free to raise and discuss any other issues that they believe are relevant to the review. In writing their submissions, stakeholders may wish to review and comment on aspects of DWE’s submission.

IPART seeks stakeholder comment on:

- | | | |
|---|--|----|
| 1 | The efficiency of DWE’s operating costs over the 2006 determination period and the efficiency of its proposed operating costs over 2010/11 to 2014/15. | 24 |
| 2 | Whether there is scope for DWE to achieve efficiency gains over the upcoming determination period. | 24 |
| 3 | DWE’s capital expenditure over the 2006 determination period, taking into account drivers of this expenditure and WM outcomes achieved. | 25 |
| 4 | DWE’s forecast capital expenditure program, including its expenditure drivers, scope for efficiency gains and proposed WM outcomes (as outlined in its submission). | 25 |
| 5 | The appropriateness of DWE’s proposed depreciation allowance, including the assumptions (eg, asset values and asset lives) underpinning the calculation of this allowance. | 26 |

6	Whether DWE should earn a rate of return and, if so, the appropriate rate of return to apply on DWE's assets and the means of determining this rate.	28
7	Appropriate WM output measures, performance indicators and/or reporting obligations for DWE.	29
8	Whether the cost sharing approach and ratios used in the 2006 determination remain appropriate. If not, the adjustments that are required.	33
9	The robustness of DWE's water usage (extraction) forecasts, as outlined in its submission.	37
10	The appropriate balance between DWE's fixed and usage charges.	42
11	The merits of having regulated river, unregulated river and groundwater entitlement and extraction charges that are valley specific, as opposed to being uniform throughout the State or regions.	42
12	Mechanisms to address risk associated with variations between forecasts used in setting prices and actual levels of water availability and extractions.	43
13	Potential regulatory mechanisms to link DWE's performance to its prices over the upcoming determination period.	44
14	The appropriate length of DWE's upcoming determination period.	45
15	The impact of DWE's proposed prices (as set out in its submission) on water users.	46

2 Water management in NSW

In general terms, the aim of water management (WM) is to ensure the long-term sustainability of water resources to allow continued water extraction and maintain the health of the natural ecosystem.

This chapter provides an overview of WM in NSW, including the agencies that are responsible for WM and the WM activities that they carry out. It also provides a brief explanation of the role of State Water (which is currently the subject of a separate but related IPART review), and an overview of the Australian Competition and Consumer Commission's (ACCC) emerging role in relation to WM charges in the Murray-Darling Basin.

2.1 The Water Administration Ministerial Corporation (WAMC)

The Water Administration Ministerial Corporation (WAMC) is the legal entity that is responsible for WM in NSW. WAMC's functions under the *Water Management Act 2000* (WMA) are set out in Box 2.1 below. This shows that one of its objectives relates to enabling the objects of the WMA. The objectives of the WMA are therefore also listed below (Box 2.2).

Box 2.1 WAMC's functions under the WMA (section 372)

1. to construct, maintain and operate water management works
 2. to construct, maintain and operate gauging stations and other monitoring equipment
 3. to conduct research, collect information and develop technology in relation to water management
 4. to acquire rights to water, whether within or beyond NSW
 5. to do anything for the purpose of enabling the objects of the WMA to be attained.
-

Box 2.2 The Objects of the Water Management Act 2000 (WMA) (section 3)

The objects of the WMA are to provide for the sustainable and integrated management of water sources of the State for the benefit of present and future generations, in particular:

- a) to apply the principles of ecologically sustainable development
 - b) to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality
 - c) to recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including benefits to the environment, urban communities, agriculture, fisheries, industry, recreation, culture and heritage, and the Aboriginal people
 - d) to recognise the role of the community in resolving issues relating to the management of water sources
 - e) to provide for the orderly, efficient and equitable sharing of water from water sources
 - f) to integrate the management of water sources with the management of other aspects of the environment
 - g) to encourage the sharing of responsibility for the sustainable and efficient use of water between Government and water users, and
 - h) to encourage best practice in the management and use of water.
-

Under clause 3 of the *Independent Pricing and Regulatory Tribunal (Water Services) Order 2004*, services that involve the following are government monopoly services for the purposes of the IPART Act:

- ▼ the making available of water, or
- ▼ the making available of WAMC's water supply facilities, or
- ▼ the supplying of water, whether by means of WAMC's supply facilities or otherwise.

Accordingly, IPART may determine prices for these monopoly services.

2.2 The NSW Department of Water and Energy (DWE)

Although WAMC is the legal entity that is responsible for WM in NSW, DWE has been responsible for undertaking WM activities on behalf of WAMC and charging customers for its WM activities or services. Consequently, this paper primarily refers to DWE when discussing WM activities and charges.¹⁴

DWE undertakes a range of activities, many of which are not related to WM and are outside the scope of this review. Its primary role in regard to WM is to administer and implement WM legislation to ensure that water resources are managed in the most optimal way for the community as a whole. According to DWE, its overriding WM objective is to achieve “secure and sustainable allocation of water between communities, industry, farmers and the environment.”¹⁵ As outlined in Chapter 4, IPART allocates a portion of DWE’s WM costs to water users based on the ‘impactor pays’ approach.¹⁶

In general terms, DWE’s WM activities involve:

- ▼ negotiating with other States and the Commonwealth on interstate water sharing arrangements
- ▼ developing and implementing water sharing plans under the WMA, which specify the rules for each river system for sharing water between the environment and extractive users
- ▼ administering water licences and approvals, assessing resource availability, allocating available water to licensees, monitoring compliance and, where necessary, taking appropriate enforcement action
- ▼ developing and implementing water trading rules and systems to support effective market operation
- ▼ advising on plans and strategies for the protection and enhancement of water courses, riparian corridors and groundwater dependent ecosystems.¹⁷

Appendix C provides a diagrammatic overview of WM activities. A detailed list of DWE’s WM activities is contained in Appendix E (which lists DWE’s WM activity codes over the 2006 determination period).

¹⁴ At the time of IPART’s 2006 review of bulk water prices, the Department of Natural Resources (DNR) undertook WM activities on behalf of WAMC. However, since that time departments have been reorganised and DWE has been undertaking WAMC’s WM activities. The NSW Government has recently announced further departmental restructuring, with the WM section of DWE to be incorporated into the new Department of Environment, Climate Change and Water. Nevertheless, for simplicity, this issues paper refers to DWE when discussing WM activities and charges.

¹⁵ DWE, *Corporate Plan 2007-2010*, November 2007, p 10.

¹⁶ The remaining costs are allocated to the NSW Government, on behalf of the community.

¹⁷ DWE, *Annual Report 2007-2008*, October 2008, p 2.

2.2.1 Legislation governing DWE's WM activities

WM in NSW is currently governed by two separate Acts:

- ▼ where a water sharing plan has commenced, licences and approvals are managed under the *Water Management Act 2000* (WMA)
- ▼ where a water sharing plan is not yet in place, licences to extract water are still managed under the *Water Act 1912* (WA).¹⁸

While many licences are still currently administered under the WA, licences under the WMA now cover the major areas of extraction and therefore the majority of water extracted.¹⁹ Table 2.1 lists the status of water sharing plans up to 2007/08. This table shows that at least 87 per cent of water extraction was managed under the WMA in 2007/08.

Table 2.1 Status of water sharing plans in NSW

	2004/05	2005/06	2006/07	2007/08
Number of WSPs commenced	31	31	36	38
Proportion of WSPs commenced (%)	39	39	45	41 ^a
Proportion of water extraction covered by WSPs (%)	80	80	85	87

^a The final number of water sharing plans to be completed has increased, as it has been decided to split some plan areas.

Source: DWE, *Annual Report 2007-2008*, October 2008, p 20.

2.3 Murray-Darling Basin Authority and Dumaresq-Barwon Border Rivers Commission

The Murray-Darling Basin Authority (MDBA) and the Dumaresq-Barwon Border Rivers Commission (BRC) are cross jurisdictional bodies that have responsibility for coordinating and managing WM activities from a 'whole of system' perspective, where a river system is in more than one state.

¹⁸ In water sources where water sharing plans have commenced, the WMA takes over from the WA and WA licences are converted to access licences and water management approvals, which are managed under the WMA. Access licences are then listed on the Water Access Licence (WAL) Register administered by the Land and Property Information Division of the Department of Lands (DWE, *Annual Report 2007/2008*, October 2008, p 23).

¹⁹ DWE, *Annual Report 2007-2008*, October 2008, p 22.

2.3.1 The Murray-Darling Basin Authority (MDBA)

The MDBA is responsible for planning the integrated management of water resources in the Murray-Darling Basin (the Basin). In December 2008, the MDBA assumed responsibility for all functions of the former Murray-Darling Basin Commission (MDBC). Key functions of the MDBA include:

- ▼ preparing the Basin Plan, which will set limits on water that can be taken from surface and groundwater systems across the Basin²⁰
- ▼ advising the Federal Minister for Climate Change and Water on the accreditation of state water resource plans
- ▼ developing a water rights information service to facilitate water trading across the Basin
- ▼ measuring and monitoring water resources in the Basin
- ▼ gathering information and undertaking research
- ▼ engaging the community in the management of the Basin's resources.²¹

Along with other states in the Murray-Darling Basin, the NSW Government pays a share of the MDBA's WM costs. DWE then recovers a portion of these costs (determined by IPART to be water users' share) through WM charges.

2.3.2 The Dumaresq-Barwon Border Rivers Commission (BRC)

The BRC was created as the result of an agreement between the NSW and Queensland Governments to control and coordinate the water available from the rivers around the border of the two states. Its main functions are to:

- ▼ determine the anticipated quantity of water available from the system and notify the states of the amount of water they may divert and use
- ▼ control the construction, operation and maintenance of works under its remit.

The BRC is funded equally by the NSW and Queensland Governments. In 2007/08, the BRC's total expenditure was approximately \$3.0 million (\$2007/08) and it received \$2.1 million (\$2007/08) from the states.²²

²⁰ The first Basin Plan is expected to commence in 2011.

²¹ Source: http://www.mdba.gov.au/about_the_authority, accessed 18 June 2009.

²² BRC, *Annual Report 2007/08*.

2.4 The Australian Competition and Consumer Commission (ACCC)²³

Under the Commonwealth Water Act, the Federal Minister for Climate Change and Water (the Minister) has new powers to regulate charges for water planning and management activities in the Murray-Darling Basin, where such charges already exist. The Minister has asked the Australian Competition and Consumer Commission (ACCC) to provide advice on the development of rules for these charges.

To date, the ACCC has published its draft advice to the Minister.²⁴ This advice does not recommend that the Minister make rules that would specify how charges for water planning and management should be determined, nor does it recommend that the ACCC determines these charges. Rather, it recommends that the agencies determining charges (such as IPART) should be required to publish information listing the water planning and management charges that they set and explaining how they determine these charges (including the relationship between charges and costs). The ACCC considers that this approach would advance the Basin water charging objective of achieving pricing transparency with respect to the degree of cost recovery achieved through water planning and management charges.

To supplement this information, the ACCC's draft advice also proposes that a voluntary reporting framework be adopted by Australian governments. This framework would require jurisdictions undertaking water planning and management to provide information annually to the ACCC on water planning and management activities, costs and revenue collected through charges. The ACCC would then prepare an annual report, which would seek to:

- ▼ provide water users and policymakers with better information about water planning and management activities being undertaken, the costs incurred, any charges levied and the extent of cost recovery, and
- ▼ facilitate comparability of activities, costs and charges across jurisdictions, where appropriate.

2.5 State Water Corporation

State Water Corporation (State Water) is a statutory State-owned corporation. Under the *State Water Corporation Act 2004* (State Water Act), State Water's principal functions are to:

- ▼ capture, store and release water
- ▼ construct, maintain and operate water management works.

²³ This section is sourced from: ACCC, *Water charge rules for water planning and management – Draft advice*, May 2009.

²⁴ The ACCC was scheduled to provide its final advice to the Minister in June 2009. However, at the time of writing this issues paper the advice had not been made public.

State Water's area of operation is defined in the State Water Act as the whole of NSW, other than the area of operations of Sydney Water Corporation, Sydney Catchment Authority, Hunter Water Corporation and any other water supply authority.²⁵

State Water operates 20 dams and more than 280 weirs and associated assets on regulated rivers. State Water releases available water to those with entitlements – including irrigators, town water supply authorities, industry and other bulk water users. It also provides water for stock and domestic users, as well as releasing water to the environment (as per requirements of water sharing plans). State Water delivers about 5,500GL of water per annum to bulk water users and about 9,000GL per annum for environmental flows.²⁶

DWE's bills for its WM activities on regulated rivers are sent out with State Water's bills (DWE pays State Water a charge for this billing service).

IPART seeks information from DWE on:

- 1 A clear and detailed description of its WM activities carried out over the 2006 determination period, including the quantity, quality and scope of activities.
- 2 A description of the number and type of administration fees and charges levied over the 2006 determination period (ie, the number of transactions, by type).
- 3 Identification of variations between WM activity/service levels forecast in the 2006 determination and actual activities carried out by DWE over the 2006 determination period, including an explanation of the reasons for any variations and the implications of any variations for WM outcomes.
- 4 Identification of variations between the number and type of administration fees and charges forecast in the 2006 determination and the actual number and type of administration fees and charges levied over the 2006 determination period, including an explanation of the reasons for any variations.
- 5 The impact on its WM activities/services over:
 - the 2006 determination period as a result of lower than expected revenue (due to lower than expected water availability/usage), and
 - the upcoming determination period if revenue is again lower than forecast.
- 6 Its assessment of its performance against the requirements of the 2006 determination.
- 7 The number and type of complaints that DWE has received in relation to its WM services and IPART regulated charges over the 2006 determination period, as well as any plans or programs DWE has in place or that it will implement in response to these complaints.

²⁵ *State Water Corporation Act 2004*, section 15.

²⁶ *State Water, Annual Report 2007/08*, October 2008, p 4.

- 8 A clear and detailed description of DWE's forecast WM activities and service levels from 2010/11 to 2014/15, including:
 - any forecast changes to service levels and the reasons for these changes, and
 - how DWE has ascertained the appropriateness of service levels.

Where service levels are determined by legislative requirement or government policy, specific references should be provided. DWE should also include details of any input by water users (and other beneficiaries of its services) into service level decisions.

3 Establishing efficient costs to determine revenue requirement

To determine DWE's revenue requirement for its WM activities, IPART seeks detailed information on DWE's operating and capital expenditure to date, projections of future expenditure and the drivers of this expenditure. IPART will also consider what the proposed expenditure will imply for overall WM performance.

This chapter outlines IPART's approach to determining DWE's capital and operating expenditure requirements and the key issues that will need to be considered in doing this.

3.1 The building block approach to determining revenue requirement

In defining an agency's revenue requirement, IPART assesses the future financial needs of the organisation. For utilities regulated by IPART, the revenue requirement must usually be sufficient to cover the efficiently incurred operating, maintenance and administration expenses of the utility, plus any return of and on capital. This is represented by the following formula, commonly described as the 'building block' approach:

$$R = O + M + A + C + D$$

Where R = revenue requirement

Non-capital costs O = operating expenses

M = maintenance expenses

A = administration expenses

Capital costs C = return on capital

D = return of capital (depreciation)

As shown in the formula above, the revenue requirement does not explicitly include capital expenditure. Rather, capital expenditure to maintain or augment the asset base is funded from the return of capital, injections of equity, and borrowings (or other financing approaches).

Return of capital, commonly termed 'depreciation', may be more appropriately described as 'maintenance of capital'. This recognises that through the provision of services to customers, a utility's capital infrastructure will wear out, and that the cost of maintaining the capital base is a legitimate business expense. The return on capital represents IPART's assessment of the opportunity cost of the capital invested in a utility by its owner. It also ensures that efficient investment in capital will continue into the future for the maintenance and growth of the infrastructure system.

Both return on capital and return of capital are usually calculated with reference to the Regulatory Asset Base (RAB). Ultimately, only capital expenditure deemed by IPART to be prudent, efficient and funded by the utility is included in the RAB. Similarly, only operating expenditure assessed by IPART to be efficient is included in its assessment of a utility's revenue requirement. In past reviews, IPART has not been required to establish a RAB for DWE, due primarily to its relatively small levels of WM capital expenditure and because it has not received an allowance for a return on its assets (see below).

3.1.1 Application of the building block approach to DWE/WM

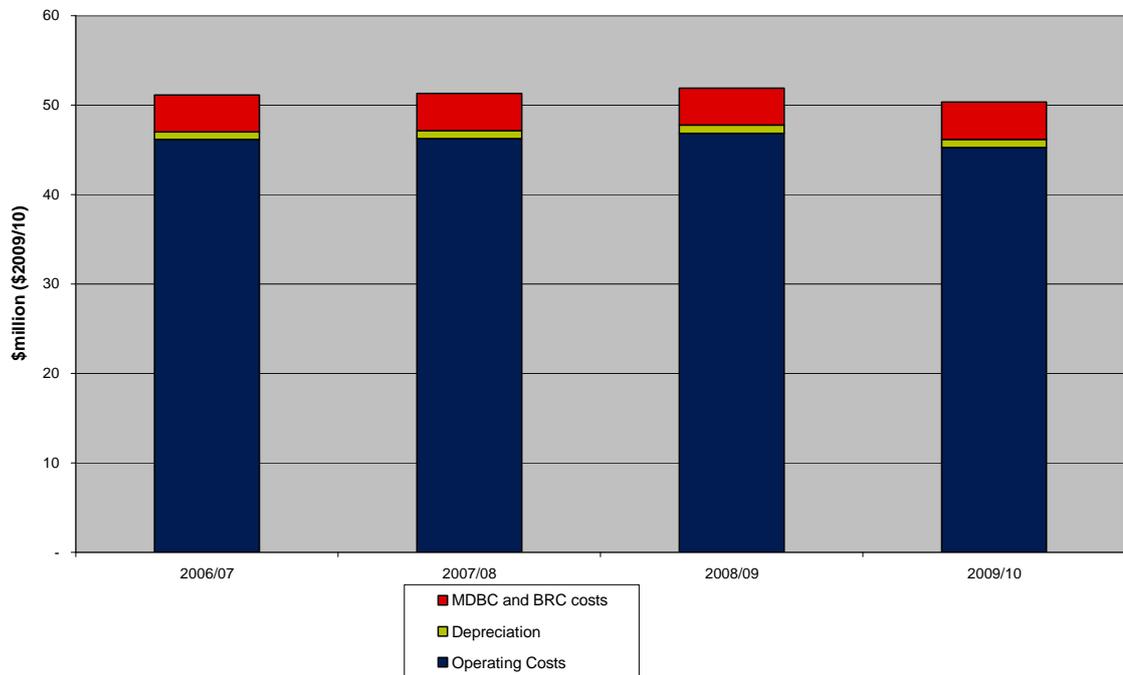
IPART's 2006 findings on elements of DWE's revenue requirement over the 2006 determination period are shown in Figure 3.1 below. This shows that DWE's revenue requirement was primarily driven by its operating expenditure, which comprised approximately 90 per cent of its revenue requirement. Other elements of DWE's revenue requirement over the 2006 determination period are its contribution to MDBC and BRC costs (accounting for approximately 8 per cent of its revenue requirement) and its depreciation allowance (accounting for about 2 per cent of its revenue requirement).

Figure 3.1 shows that while DWE receives a depreciation allowance, it does not receive an allowance for a return on its assets. IPART's 2006 report stated that:

...although DNR's submission included an indicative return on its assets, it specifically did not include an allowance for this return in its total costs to be recovered through bulk water charges. As this approach is consistent with its previous determinations and lower bound pricing, the Tribunal accepts DNR's proposal not to include an allowance for return on assets in its total costs.²⁷

²⁷ IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p 83.

Figure 3.1 DWE’s Revenue Requirement -2006 Determination (\$2009/10)



Data source: IPART 2006 determination.

For this review, IPART seeks information from DWE as to whether it proposes to earn an allowance for a return on its WM assets. If so, DWE will need to provide information on these assets, including their purpose, valuation and the means and basis of any allocation of shared assets between DWE’s WM activities and its other functions (see section 3.5).

Other issues relating to aspects of DWE’s revenue requirement that IPART will need to consider are discussed below.

3.2 Historical and forecast operating expenditure

In setting prices, IPART will need to determine the efficient operating costs that DWE will incur in carrying out its WM functions. These costs are expected to primarily relate to labour, but may also include costs of materials, energy, leasing of buildings and equipment, and contracting of services. DWE’s operating expenditure will also include NSW’s share of WM costs incurred by the MDBA and BRC.

In the 2006 review, a key concern of IPART and stakeholders was the transparency and efficiency of costs. PB Associates (IPART’s expenditure consultant) identified the following concerns with DWE’s expenditure proposal:

- ▼ There was insufficient linking of its operating expenditure to the planned activities listed in its submission and to its WM obligations.

- ▼ There was insufficient explanation of how efficiency and productivity gains were factored into its forecast expenditure.
- ▼ There was an absence of demonstrated options analysis for delivery of services, including testing of contestability of tasks and services provided.
- ▼ There was inadequate risk-based analysis, including negotiations with stakeholders to determine their willingness to pay for specified levels of service and timing of the provision of these services.²⁸

IPART also expressed concern that there was no independent examination of the efficiency of MDBC (now MDBA) costs. It noted that governments should consider initiating a study of the efficiency of the MDBC's operations before agreeing to fund expenditures that are then passed on to irrigators.²⁹ During this review, IPART intends to engage the MDBA and seek further information on the portion of WM costs that it recovers from DWE.

For this review, DWE will need to provide information on its past and future operating expenditures. This should include:

- ▼ actual operating expenditure during the 2006 determination period and proposed operating expenditure for 2010/11 to 2014/15
- ▼ the drivers behind actual and forecast operating expenditure
- ▼ the WM outcomes arising or expected to arise from this expenditure
- ▼ the potential for future efficiency gains
- ▼ details of how it ring-fences its WM costs and allocates shared or common costs between its WM activities and its other activities.

This information should be included in DWE's submission to IPART and will therefore be available to other stakeholders to comment on when preparing their own submissions.

3.2.1 Review of historical and proposed future operating expenditure

As in previous determinations, IPART intends to engage a consultant to review the efficiency of DWE's actual and proposed expenditure. This will involve an examination by the consultant of:

- ▼ the drivers of DWE's expenditure - including its legislative roles, functions and objectives
- ▼ DWE's planning or decision-making tools or processes (eg, business cases to support expenditure proposals)

²⁸ IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p 10 and p 59.

²⁹ *Ibid*, p 10.

- ▼ DWE's principles or methodologies for allocating common or shared costs between its WM activities and its other activities
- ▼ the WM outcomes expected to be achieved by DWE's expenditure.

This analysis, combined with cost benchmarking against other water management agencies and the consultant's experience, will allow the consultant to make recommendations on the efficiency of the expenditure program.

The consultant will prepare a draft report and a final report, which will both be published on IPART's website. Interested stakeholders can comment on the consultant's reports as specific submissions or as part of their submission to IPART's draft report and determination.

IPART seeks information from DWE on:

- 9 DWE's WM operating expenditure over the 2006 determination period, including levels of expenditure, the drivers of this expenditure, activities carried out and outcomes achieved. Information on actual MDBC/MDBA and BRC expenditures recovered from DWE over the 2006 determination period should also be included.
- 10 Identification and explanation of variations between DWE's actual operating expenditure over the 2006 determination period and expenditure allowed by IPART when it set prices in the 2006 determination.
- 11 DWE's forecast WM operating expenditure from 2010/11 to 2014/15, and a clear explanation of the methodology and major assumptions used to develop these forecasts, including:
 - drivers of and justifications for this expenditure, activities to be carried out and outcomes to be achieved
 - a clear explanation of how DWE's forecast expenditure relates to WM service or activity levels, and the drivers or justifications for these service/activity levels
 - what indications there are (if any) of stakeholder willingness to pay for service/activity levels
 - the extent to which DWE has carried out options analysis for proposed WM activity expenditures (including, for example, testing contestability of tasks and services provided and conducting cost benefit or business case analysis)
 - identification and explanation of the trend in DWE's forecast operating expenditure from 2010/11 to 2014/15 and the relationship between this trend and DWE's obligations and standards, having regard to expected productivity improvements, historical expenditures, trends in input prices, relevant benchmarks and other relevant factors
 - a detailed description of DWE's current and forecast efficiency programs and the potential for efficiency gains and how these have been factored into forecast expenditures

- information on the forecast MDBA and BRC expenditures to be recovered from DWE and water users from 2010/11 to 2014/15 and the basis for this forecast.
- 12 DWE's approach to allocating indirect (ie, common or shared) costs, and the rationale for this allocation, including:
- the allocation of indirect costs between DWE's IPART regulated WM activities and its other activities/functions – including steps taken to 'ring fence' non-regulated costs³⁰
 - the allocation of indirect WM costs across valleys, water sources and water users, where applicable.

IPART seeks stakeholder comment on:

- 1 The efficiency of DWE's operating costs over the 2006 determination period and the efficiency of its proposed operating costs over 2010/11 to 2014/15.
- 2 Whether there is scope for DWE to achieve efficiency gains over the upcoming determination period.

3.3 Historical and forecast capital expenditure

DWE's forecast capital expenditure at the time of the 2006 determination totalled approximately \$9.8 million (\$2009/10) over 2006/07 to 2009/10. This was attributed to hydrometric instrumentation, station costs, groundwater monitoring bores and associated equipment to support WM activities.³¹

For this determination, IPART plans to review the prudence and efficiency of DWE's actual capital expenditure undertaken over the 2006 determination period and its proposed capital expenditure for 2010/11 to 2014/15. This assessment will determine how much of DWE's actual and proposed capital expenditure will be used to calculate DWE's allowances for depreciation (or return of assets) and, possibly, a return on assets.

As discussed in section 3.2, IPART will engage a consultant to assist it in its review of DWE's expenditure. IPART, and its consultant, will be looking for evidence that DWE has well-developed and sound asset management practices and plans in place (where applicable), that capital expenditure programs are based on a robust evaluation/justification process, and that capital expenditure programs are delivered/executed efficiently.

DWE's submission should detail its capital expenditure during the 2006 determination period and its proposed capital expenditure for 2010/11 to 2014/15. It

³⁰ DWE undertakes a range of other activities not subject to price regulation by IPART. IPART expects that the costs provided for in the determination of bulk water charges will exclude the costs associated with these activities.

³¹ IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p 75.

should also clearly explain the drivers of this expenditure, together with actual and expected WM outcomes to be achieved by this capital expenditure.

IPART seeks information and explanation from DWE on:

- 13 DWE's actual and forecast WM capital expenditure over the 2006 determination period, including drivers of this expenditure, WM activities carried out and outcomes achieved.
- 14 Identification of variations between DWE's actual capital expenditure over the 2006 determination period and the expenditure allowed by IPART when it set prices in the 2006 determination, including a clear and detailed explanation of these variations (positive or negative).
- 15 DWE's forecast WM capital expenditure program from 2010/11 to 2014/15, including identification and explanation of:
 - drivers of and justifications for this expenditure, WM activities to be carried out and outcomes to be achieved
 - how DWE's forecast expenditure relates to WM service or activity levels, and the drivers or justifications for these service/activity levels
 - indications (if any) of stakeholder willingness to pay for discretionary items of capital expenditure
 - the relationship between trends in forecast capital expenditure over 2010/11 to 2014/15 and DWE's obligations and service standards, having regard to historical expenditures, relevant benchmarks and any other relevant factors
 - the robustness of business cases or cost benefit analyses for this expenditure (including the extent of options analysis), the practicality of the projects being delivered within the proposed timeframe, and the basis for cost estimates.
- 16 DWE's approach to allocating or apportioning any shared or common capital cost items and the rationale for this allocation, including:
 - the allocation of costs between DWE's IPART regulated WM activities and its other activities/functions – including steps taken to 'ring-fence' non-regulated costs
 - the allocation of DWE's WM capital costs across valleys, water sources and water users, where applicable.

IPART seeks stakeholder comment on:

- 3 DWE's capital expenditure over the 2006 determination period, taking into account drivers of this expenditure and WM outcomes achieved.
- 4 DWE's forecast capital expenditure program, including its expenditure drivers, scope for efficiency gains and proposed WM outcomes (as outlined in its submission).

3.4 Return of capital

Depreciation (or 'return of capital') is dependent on the value assigned to the agency's assets, the expected or assumed life of those assets and the depreciation method used.

In past determinations, IPART has generally used the straight-line depreciation method to calculate the return of capital for water businesses. This means that the total value of an asset is recovered evenly over its assumed life.

For its 2006 determination, IPART engaged a consultant (Halcrow/MMA) to review DWE's proposed depreciation allowance and the assumptions underlying this proposed allowance. After reviewing DWE's depreciation method, Halcrow/MMA recommended amended values for DWE's depreciation allowance, which were accepted by IPART. Halcrow/MMA's recommendations on DWE's depreciation method compared to DWE's proposal are shown in Table 3.1 below.

Table 3.1 Assumptions used in calculating DWE's depreciation allowance – 2006 determination

Asset class	DWE proposal	Halcrow/MMA recommendation
Groundwater bores	Assets valued at replacement value at 1 July 2005 and then adjusted by 2.5% (for inflation) to 1 July 2006. Asset life subject to a minimum remaining life of 5 years	Eliminated depreciation on pre-1997 assets Assessed the expected life of bores to be significantly greater than 10 years
Capital expenditure on groundwater bores	Straight-line over 10 years	Recalculated depreciation using a (conservative) expected life of 25 years for all bore assets
Other assets	Depreciated at historical cost using useful life. Projected depreciation base on 2004/05	Agreed with DWE proposal

Source: IPART 2006 determination, final report, p 93.

For this price determination, IPART will consider the most appropriate depreciation methodology to calculate DWE's depreciation allowance.

IPART seeks information from DWE on:

- 17 Its proposed depreciation allowance for its existing and new assets, including the means of calculating this allowance, the justification for this methodology, the assumptions underpinning the calculations (eg, asset values and average asset lives) and the justification or rationale for these assumptions.

IPART seeks stakeholder comment on:

- 5 The appropriateness of DWE's proposed depreciation allowance, including the assumptions (eg, asset values and asset lives) underpinning the calculation of this allowance.

3.5 Return on capital

In setting prices of regulated utilities, IPART usually includes an allowance for a return on capital. This represents IPART's assessment of the opportunity cost of funds invested in these utilities. It can therefore be important in ensuring that prices are cost reflective. However, as mentioned in section 3.1.1, DWE does not currently receive a return on its assets. To date, this has been of little consequence as DWE has had a very small WM asset base.

During this review, IPART will consider whether DWE should earn a return on capital over the upcoming determination period and, if so, what this rate of return should be.

IPART's approach to calculating a return on capital for other utilities is outlined in Box 3.1 below.

Box 3.1 IPART's approach to calculating the return on capital

There are several approaches for calculating the appropriate return on capital. In determinations of prices for other utilities, IPART has used the real pre-tax Weighted Average Cost of Capital (WACC) to determine an appropriate range for the rate of return. The WACC is the weighted average of the cost of debt and equity. IPART has used the Capital Asset Pricing Model (CAPM) to derive the cost of equity, and calculated the cost of debt as a margin over the risk free rate. The allowance for a return on capital is then calculated by multiplying the utility's Regulatory Asset Base (RAB) by the WACC for each year of the determination period.

In making decisions on the WACC, IPART also takes into consideration potential effects on the utility's financial viability, the bills of water customers and other matters in section 15 of the IPART Act.

IPART's findings on the rate of return for other regulated utilities, and explanations of these findings, are outlined in IPART's final reports (see: www.ipart.nsw.gov.au).

IPART seeks information from DWE on:

- 18 Whether it should earn an allowance for a return on its WM assets and, if so, its proposed rate of return from 2010/11 to 2014/15 and justifications for its proposal.
- 19 If DWE proposes that its capital expenditure should be rolled into a Regulatory Asset Base (RAB) for the purposes of earning allowances for a return on assets and a return of assets:
 - its proposed opening value of the RAB in 2010/11 and the basis for this valuation (ie, the capital expenditure to be included by asset/expenditure item and year of expenditure).

IPART seeks stakeholder comment on:

- 6 Whether DWE should earn a rate of return and, if so, the appropriate rate of return to apply on DWE's assets and the means of determining this rate.

3.6 Contributions from the Federal Government and other sources

Over time, there have been occasions where governments (local, NSW and Federal) or other parties have contributed assets to water agencies or provided grants to water agencies to assist in funding assets. In general, IPART takes the view that the value of such contributions should be excluded from the agency's asset base for the purposes of determining its revenue requirement and prices. The asset base used for calculating prices should only include investments that are funded by the agency.

Therefore, in providing information on its WM capital expenditure as part of its submission to this review, DWE should clearly identify the value and timing of any such contributions from governments and/or other sources.

IPART seeks information and explanation from DWE on:

- 20 The value, timing and description of any contributions (including contributed assets) to DWE from governments and/or other sources.
- 21 Any implications of these contributions for future expenditure/operations (eg, efficiency savings, changes to maintenance requirements, etc), and how these effects have been factored into cost forecasts.

3.7 Output measures and reporting requirements

During IPART's 2006 review, a key issue raised by irrigators was the need to ensure that DWE and State Water are accountable for their expenditure and activities. Irrigators' main concern was to understand the expenditure of DWE and State Water and to have confidence in the robustness of the data being submitted by these agencies.³²

In response to this concern, IPART's 2006 determination included reporting requirements. These reporting requirements, which are set out in Appendix D, largely focus on DWE reporting its actual costs against those costs used by IPART to set prices. However, IPART's 2006 final report also noted the following:

While the Tribunal supports improved reporting of agencies' costs, it notes that purely focusing on the costs may not necessarily be conducive to encouraging efficient operations, as it would encourage agencies to mainly focus on ensuring that budgeted expenditures are met. Rather, the agencies should be focusing on deliverables, ie, physical outputs and outcomes.

³² Ibid, p 32.

In the longer term the Tribunal, therefore, believes that there is a need to develop performance indicators that accurately measure the activities and outcomes of these activities, including the efficiency of operations.³³

For this review, IPART intends to develop performance indicators or output measures for DWE. The aim is that, where possible, these measures will enable an assessment of DWE's efficiency in undertaking its WM activities. IPART will also explore the possibility of linking DWE's WM performance – as potentially measured by performance indicators or output measures – to its prices (see section 5.3).

IPART recognises that developing performance indicators or output measures for DWE will be challenging, given that it can be difficult to quantify WM outcomes or performance. Nevertheless, it notes that DWE's Corporate Plan includes the following high level WM performance indicators:

- ▼ proportion of water extraction covered by water sharing plans
- ▼ proportion of licences converted to tradeable water access licences
- ▼ level of compliance with legislation
- ▼ proportion of Snowy and Living Murray targets/milestones achieved.³⁴

Similarly, the Western Australian Department of Water is subject to WM performance indicators, including:

- ▼ number of sedimentary water sources with licensed allocation within assessed sustainable yield
- ▼ number of catchments conforming with designated targets.³⁵

IPART seeks information and explanation from DWE on:

- 22 [Appropriate WM output measures or performance indicators for the upcoming determination period.](#)

IPART seeks stakeholder comment on:

- 7 [Appropriate WM output measures, performance indicators and/or reporting obligations for DWE.](#)

³³ Ibid, p 33.

³⁴ DWE, *Corporate Plan 2007-2010*, November 2007, p 9.

³⁵ Economic Regulation Authority of Western Australia, *Inquiry into Water Resource Management and Planning Charges, Issues Paper*, April 2009, p 38.

4 Allocating efficient costs between users and the community

Some of DWE's WM costs are incurred as a result of water extractors (ie, water users), while others relate to the broader community. For this reason, IPART is required to determine how DWE's efficient costs should be shared between water users and the Government (on behalf of the community). This is to ensure that, as far as possible, the costs of managing the bulk water system are shared fairly between water users and the broader community. The users' share of DWE's WM costs is then recovered through bulk water prices.

This chapter provides an overview of the principles and approaches used for allocating costs in previous determinations and IPART's proposed approach for this determination.

4.1 Approaches used in previous determinations

For the 2001 bulk water review, IPART engaged ACIL Consulting (ACIL) to recommend a framework for allocating costs between water users and the Government. ACIL developed an 'impactor pays' approach.³⁶ Under this framework, each agency's total costs were classified according to their associated key activities (such as dam safety compliance and water quality monitoring). Within each of these products or activities, legacy costs were allocated fully to the Government.³⁷ Future expenditure that related to current or future users was allocated to the party (users or the community) that created the costs or the need to incur the costs (ie, the impactor pays).

For the 2006 review, IPART engaged the Centre for International Economics (CIE) to recommend appropriate cost sharing ratios, building on the cost sharing principles established in the 2001 determination. After reviewing these principles, CIE concluded that:

³⁶ The 'impactor pays' approach seeks to allocate costs to different individuals or groups in proportion to the contribution that each individual or group makes to creating the costs (or the need to incur the costs). The impactor is defined as any individual or group of individuals whose activities generate the costs or a justifiable need to incur the costs that are to be allocated.

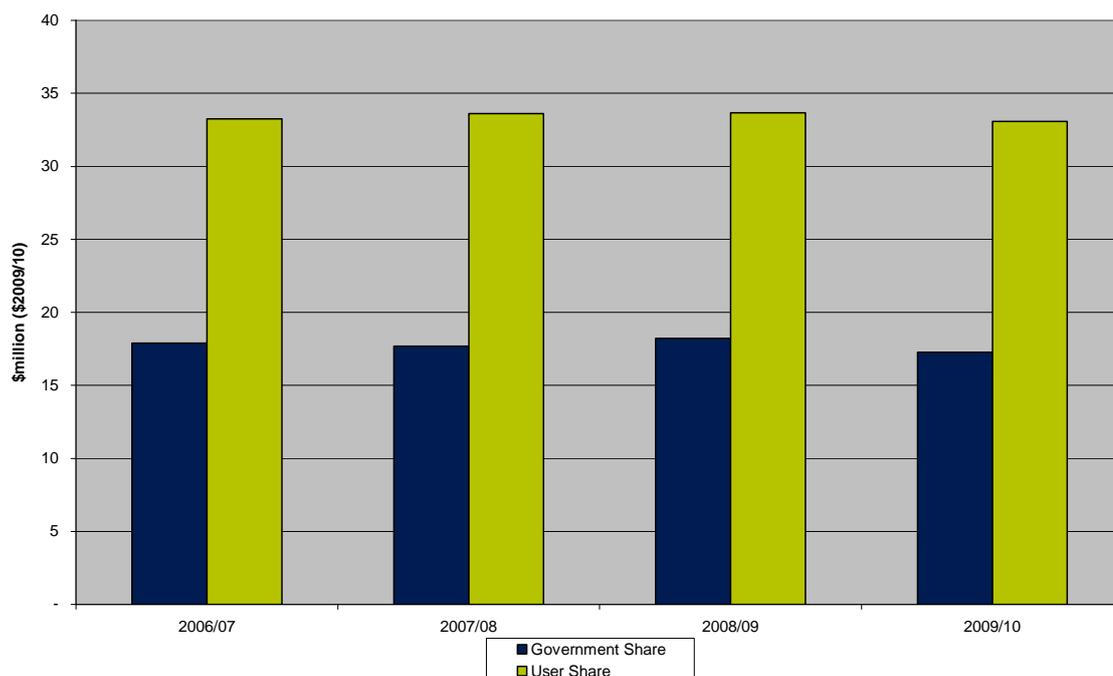
³⁷ Legacy costs involve current and future costs that are attributable to the past that, on equity grounds, are fully borne by government and therefore not shared with current or future users. For the purposes of implementation, IPART drew a 'line in the sand' at July 1997 for assessing liability for such cost recovery.

...the Tribunal's principles with respect to cost share allocations [are] appropriate and robust enough to be applied to new WRM activities, as well as the activities of the newly corporatised [State Water].³⁸

The 2006 determination maintained many of the cost share ratios used in the 2001 determination. Where a new activity did not correspond to an activity code used in the 2001 determination, IPART developed cost share ratios after considering CIE's recommendations and the impactor pays principle. Appendix E lists IPART's 2006 findings on cost share ratios, by WM activity and cost code.

Figure 4.1 below presents IPART's 2006 decision on the user and Government shares of DWE's revenue requirement (ie, efficient costs). This shows that IPART attributed approximately 65 per cent of DWE's WM costs over the 2006 determination period to users.

Figure 4.1 Notional user and Government shares of DWE's revenue requirement – 2006 determination (\$2009/10)



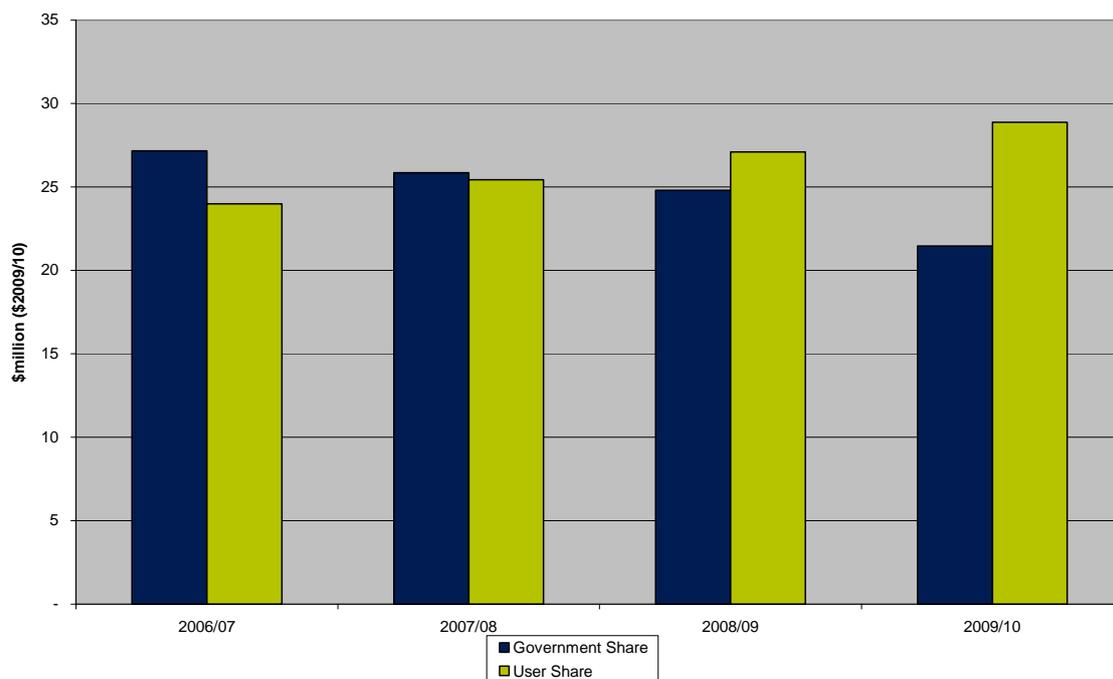
Data source: IPART 2006 determination.

However, after considering potential impacts on users and other matters under section 15 of the IPART Act, IPART set DWE's prices so that expected (or 'target') revenue from users was less than the users' share of DWE's revenue requirement. Figure 4.2 shows DWE's target revenue from users, given IPART's price determination and its forecasts underpinning this determination. The Government

³⁸ Centre for International Economics, *Review of cost sharing ratios – Analysis in support of 2006 Bulk Water Price Review*, March 2006, p 23.

share accounts for the remainder of DWE's revenue requirement for its WM functions.

Figure 4.2 Target user and Government shares of DWE's WM costs – 2006 determination (\$2009/10)



Data source: IPART 2006 determination.

4.2 Proposed approach for this review

IPART continues to favour the 'impactor pays' approach, as it ensures that water users face all of the costs of their activities, including any environmental costs that are a consequence of those activities. This is consistent with principles of efficient pricing and intergovernmental agreements on cost recovery.

Similarly, IPART intends to use its existing cost allocation ratios for each of DWE's cost codes or activities as the starting point for this review, as these have been developed and refined over two price determinations. If DWE or other stakeholders propose a change to cost sharing ratios for any activities or cost codes, they must provide information to support such a proposal. Similarly, if DWE proposes any changes to its activities or cost codes, it must provide a clear and detailed explanation of new cost codes – including their relationship with historical cost codes. This is necessary to enable IPART to relate new activities or cost codes to those featured in the 2006 determination.

IPART seeks information and explanation from DWE on:

- 23 The rationale/basis for any changes that DWE proposes to the activity codes or cost shares included in the 2006 determination. Where DWE proposes changes to activity codes, these codes should be described in such a way as to enable efficient mapping back to historical cost codes and expenditures.
- 24 Identification and explanation of variations between DWE's target revenue and actual revenue over the 2006 determination period, and the implications of these variations for DWE's WM activities/performance.

IPART seeks stakeholder comment on:

- 8 Whether the cost sharing approach and ratios used in the 2006 determination remain appropriate. If not, the adjustments that are required.

5 Setting prices

Once water users' share of DWE's efficient WM costs are determined, the next step in IPART's process is to set prices to recover these costs. To set prices, IPART will need to:

- ▼ forecast water entitlements, licences and volumes of water extracted from regulated rivers, unregulated rivers and groundwater sources
- ▼ set price levels and structures, taking into consideration principles of economic efficiency and potential impacts on DWE and water users
- ▼ decide on other elements of the regulatory approach, including potential measures to deal with risk and the length of the determination period.

5.1 Forecasting water sales and entitlements

In general terms, DWE's WM charges are currently comprised of:

- ▼ prices per ML of entitlement, unit share or licence
- ▼ prices per ML of water actually extracted from regulated rivers, unregulated rivers and groundwater sources
- ▼ administration fees or charges per works approval, access licence approval or dealing.

Therefore, IPART requires forecasts of the following, in order to set prices to enable DWE to recover its target revenue from users:

- ▼ water entitlements, unit shares or licences
- ▼ volumes of water extracted by entitlement holders
- ▼ the number of transactions relating to water access licences, works approvals and other administration fees and charges for services under Chapter 3 of the WMA.

If these forecasts are understated, water users will pay prices that exceed efficient levels, while unduly high forecasts may result in DWE not earning a sufficient revenue stream over the determination period to cover the user share of its efficient costs. Over the 2006 determination period, the revenue DWE has received from users has been lower than forecast, due to lower than expected water availability (and hence extractions). If this discrepancy continues, the ability of DWE to fund and undertake its WM activities may be compromised.

IPART recognises that forecasting water availability (and hence extractions) can be difficult. It requires considerable analysis, particularly given year to year fluctuations in rainfall and uncertainty over the impact of climate change on weather patterns. In addition to seeking the most robust forecasts, IPART will therefore also consider potential mechanisms to address risks associated with variations between forecast levels of water availability and extractions (used to set prices) and actual levels (see section 5.3).

IPART requires forecasts from DWE of water volumes extracted from regulated rivers, unregulated rivers and groundwater sources over 2010/11 to 2014/15, and the methodology, assumptions and data sources used in developing these forecasts. IPART notes that it will also be reviewing State Water's forecast of extractions from regulated rivers, as part of its review of State Water's prices. Regulated river forecasts are discussed below.

5.1.1 Forecast volume of water extracted from regulated rivers

For the 2006 determination, IPART forecast water consumption from regulated rivers by using the long run average (LRA) of historical usage. In using the LRA approach, data was sourced from DNR's Integrated Quantity and Quality Model (IQQM), which contains over 100 years of climatic data. Forecasts were calculated using the LRA approach due to the difficulty in predicting year to year water sales. An advantage of this approach is that it smooths climatic variability.

Figure 5.1 compares the water consumption forecasts from the 2006 determination with actual (and forecast³⁹) sales to users. This shows that actual levels of water consumption from regulated rivers are far lower than forecast levels used in the 2006 determination. IPART notes that dam levels have been particularly low in recent years, and new evidence indicates that long run historical data may no longer be a reliable indicator of future water availability in the Murray-Darling Basin.⁴⁰

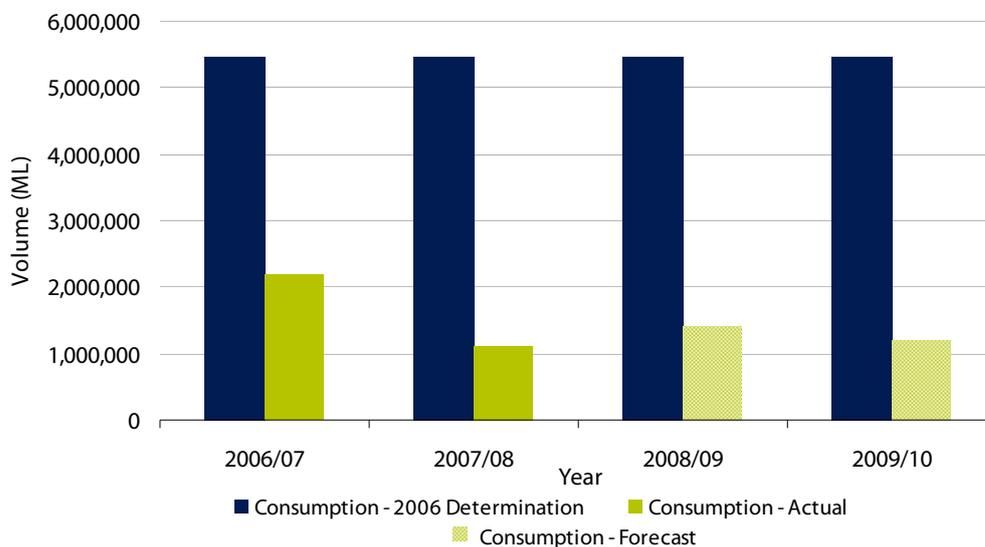
For this review, IPART will assess forecasts of water extractions provided by DWE, and the underlying methodology and rationale behind these forecasts. Potential approaches may include:

- ▼ maintaining the LRA approach using the IQQM
- ▼ adjusting the long-run average from the IQQM for climate change impacts
- ▼ using a moving average of actual extractions or IQQM modelled extractions over a specified time period (eg, the previous 15 years).

³⁹ The figures for 2008/09 and 2009/10 compare forecasts used in the 2006 determination to updated forecasts for these years.

⁴⁰ See: CSIRO, *Water availability in the Murray-Darling Basin*, October 2008.

Figure 5.1 Regulated river actual and forecast sales compared to forecast consumption assumed in the 2006 determination (volume ML)



Data source: IPART 2006 determination and data from State Water, 11 June 2009.

IPART seeks information and explanation from DWE on:

- 25 Volumes of water extracted from regulated rivers, unregulated rivers and groundwater sources over the 2006 determination period compared to forecast volumes used for setting prices in 2006; and the reasons for any significant variations between actual and forecast volumes.
- 26 Forecasts of water volumes extracted from regulated rivers, unregulated rivers and groundwater sources over 2010/11 to 2014/15; and the methodology, assumptions and data sources used in developing these forecasts.
- 27 The impact on its WM activities/services over:
 - the 2006 determination period as a result of lower than expected revenue (due to lower than expected water availability/usage)
 - the upcoming determination period if revenue is again lower than forecast.
- 28 The number of entitlements, unit shares and licences over the 2006 determination period, including the number of customers paying the minimum bill.
- 29 The number of entitlements, unit shares and licences from 2010/11 to 2014/15, including the number of customers expected to be paying the minimum bill, and the methodology or data underpinning these forecasts.
- 30 The number of licences converted (from entitlement volumes under the WA to unit shares under the WMA) over the 2006 determination period and forecast conversion numbers from 2010/11 to 2014/15.
- 31 The number of unregulated river licensees that are (or will be) charged a two-part tariff, including the number of licensees that moved to a two-part tariff over the 2006

determination period, and the number of licensees that are forecast to move to a two-part tariff from 2010/11 to 2014/15.

IPART seeks stakeholder comment on:

- 9 The robustness of DWE's water usage (extraction) forecasts, as outlined in its submission.

5.2 Determining appropriate price structures

As previously mentioned, DWE's charges are comprised of:

- ▼ prices for holding entitlements and extracting water from regulated rivers, unregulated rivers and groundwater sources; and
- ▼ administration fees and charges for the issue and administration of water access licences and works approvals under the *Water Management Act 2000* (WMA).

Key elements of DWE's current price structures are listed in Table 5.1 below. For this review, IPART seeks comment on all elements of DWE's price structures. In making its decisions, IPART will consider principles of economic efficiency, as well as potential impacts on DWE and water users. These issues are discussed further below.

5.2.1 Water entitlement and usage charges

In general terms, DWE's water entitlement and usage charges currently have the following features:

- ▼ many users are subject to two-part tariffs, comprised of a fixed charge (per entitlement or licence) and a usage charge
- ▼ charges can vary by valley, water source (ie, regulated river, unregulated river and groundwater) and customer type
- ▼ those extracting water from regulated rivers, unregulated rivers or groundwater sources are subject to a minimum annual bill of \$60 – ie, their charge is the greater of \$60 or the schedule of fixed and/or usage charges listed in the determination
- ▼ there is no distinction between general and high security entitlements.

The 2006 determination also includes a constraint on annual bill increases for unregulated river and groundwater users.⁴¹ Under this provision, the annual increase in a customer's bill must not exceed 20 per cent (plus inflation).⁴²

⁴¹ See clause 9 of Schedule 2; and clause 7 of Schedule 3 of IPART's 2006 determination (IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, Determination No 5).

⁴² Although any entitlement (and any usage volumes associated with the entitlement) acquired by or transferred to the customer after the 2006 determination commencement date is to be disregarded in this calculation.

Table 5.1 Overview of the current structure of WM charges

Activity	Charges^a
Regulated river	
All users	Entitlement + usage
Unregulated river	
Domestic & stock	Area based or entitlement
Irrigators – without a meter or have not elected to be charged on the basis of a meter	Area based or entitlement
Irrigators – with a meter and who elects to be charged on the basis of a meter	Entitlement + usage
Sydney Catchment Authority and Hunter Water Corporation	Entitlement + usage
Other – where licence holder has not been allocated an entitlement volume	Base charge + usage
Other – where licence holder has been allocated an entitlement volume or share	Entitlement + usage
Groundwater	
Properties in groundwater management areas	Entitlement + base + usage
Properties not in groundwater management areas	Entitlement + base
Hunter Water	Usage
Administration fees and charges	
All users	Includes administration fees related to: <ul style="list-style-type: none"> – Temporary transfers of water – New water access licences – Water access licence dealings – New or amended approvals – Approval extensions

^a For extraction from regulated rivers, unregulated rivers and groundwater sources, users are subject to a minimum annual charge of \$60.

Source: IPART 2006 determination.

Ratio of fixed to usage charges

A two-part tariff – comprised of a usage charge and a fixed charge – is generally considered the most efficient price structure for monopoly services. Economic theory suggests that usage charges should be set to cover the incremental (marginal) cost of providing one more unit of water, to signal to consumers the costs imposed (or avoided) if they increase (or reduce) their consumption by an additional unit; while costs to the utility or agency that are incurred regardless of the level of consumption should be recovered through fixed charges to customers.⁴³

⁴³ This assumes that there is no immediate capacity constraint or that there is no ability to increase capacity. Where there is an immediate capacity constraint, the usage price is generally set with reference to the long-run marginal cost of supply (ie, the cost of providing the next increment of supply) and the fixed charge is then set to recover the residual costs.

However, IPART notes that it is required to consider a number of factors when setting prices, which means that differences can emerge between an agency's cost structure and the price structure determined by IPART.

During the 2006 review, DWE argued that its costs are fixed and do not vary with the level of water consumption, so usage charges are not cost reflective. It consequently proposed a price structure based on entitlements only. DWE also argued that its proposal is consistent with the NWI, as irrigators still face usage charges through the State Water component of the bill.

However, IPART considered that DWE's proposal would place too much volumetric risk on users. It set prices so that a large proportion (but not all) of DWE's target revenue from water users would be recovered through fixed charges, with a smaller proportion recovered through usage charges.⁴⁴ IPART's arguments in 2006 for and against DWE's proposed tariff structure are listed in Table 5.2 below.

Table 5.2 IPART's 2006 assessment of DWE's proposal to abolish usage charges

Arguments for DWE's proposal	Arguments against DWE's proposal
<ul style="list-style-type: none"> ▼ WM is not related to specific volumes used from year to year ▼ WM costs do not vary with usage, and may indeed be higher in times of drought, when usage is lower ▼ A fixed WM charge may encourage trading (as it becomes more expensive to hold onto licences whose entitlements are not used) 	<ul style="list-style-type: none"> ▼ May conflict with COAG principles that require consumption based pricing ▼ Licence holders will have less control over their bills (due to lower/no usage charges) ▼ Licence holders bear all the risk that is associated with varying usage

Source: IPART 2006 determination report, p 109.

For this review, IPART will need to determine the most appropriate split between DWE's fixed (per entitlement or licence) and usage (per ML consumed) charges. In doing so, it will consider:

- ▼ DWE's cost structure – ie, its ratio of fixed to variable costs in providing its WM services, including the extent to which DWE's WM costs vary with water availability and usage
- ▼ The signalling role that DWE's usage prices may provide⁴⁵

⁴⁴ For example, prices were set so that 73 per cent of regulated river user revenue was expected to be received through fixed charges in 2009/10. For unregulated rivers and groundwater sources, these figures were 83 per cent and 86 per cent, respectively.

⁴⁵ IPART notes that, regardless of DWE's prices, the market price of water entitlements (as determined by the trade of these entitlements in the 'secondary' market) can provide a strong signal to water users and promote the efficient allocation and use of water resources.

- ▼ The distribution of risk between DWE and water users, and the capacity to manage risk. For example, the higher the proportion of DWE's revenue requirement to be recovered from fixed charges, the lower the risk to DWE of revenue shortfalls in times of low water availability/usage (and vice versa). Conversely, higher fixed charges can impose greater risk on water users, as it means that their bill can remain relatively constant even when water availability/usage is low.

Uniform or differential charges across valleys

Currently, DWE's charges vary by valley. This is in contrast to DWE's 2006 proposal for uniform charges across valleys or regionally grouped valleys. For this review, IPART will need to determine whether prices should be set on:

- ▼ a state wide basis, or
- ▼ a regional basis – eg, a price for 'western rivers' and a price for 'coastal rivers', or
- ▼ a valley by valley basis.

IPART will also need to consider whether it is appropriate to maintain the current valley alignment of regulated rivers, unregulated rivers and groundwater sources. For example, given the nature of WM costs and the spatial distribution of the hydrological system, it may be appropriate to set regulated river WM charges on a valley by valley basis, but set charges for unregulated rivers and groundwater sources on a regional or aquifer basis.

Economic theory suggests that prices should be as cost reflective as possible. To inform its decisions on the most appropriate approach, IPART will require information from DWE on:

- ▼ the extent to which DWE's WM costs vary by valley or region
- ▼ the way in which DWE records or attributes its WM costs to specific valleys or regions
- ▼ the nature of any variations in DWE's costs between valleys or regions (for example, whether costs vary in the short term but not in the medium or long term).

Uniform or differential charges for high security entitlements

In 2006, IPART determined that DNR should levy the same unit entitlement charge on all water access licence holders on regulated rivers, regardless of whether they hold general security or high security licences. IPART accepted DNR's proposal that its WM activities and costs were not affected by the security of the licences issued and that it was not appropriate to charge a high security premium to holders of high security entitlements.

For this review, IPART will need to consider whether current arrangements are still appropriate, taking into account considerations of efficiency and equity.

DWE's range of charges

DWE currently has a number of different types of charges, particularly in relation to water extraction from unregulated rivers and groundwater sources. Not only do charges vary by valley, but they can also vary by customer type.

IPART will consider whether there is any scope to rationalise DWE's schedule of charges, taking into account the principle of cost reflective pricing and the potential impacts on water users and DWE.

5.2.2 Administration fees and charges

In addition to water entitlement and usage charges, IPART also sets DWE's administration fees for monopoly services provided under Chapter 3 of the WMA that relate to:

- ▼ the making available of water, or
- ▼ the making available of WAMC's water supply facilities, or
- ▼ supplying of water through WAMC's facilities or otherwise.

This includes fees for the assessment, approval and administration of water access licences (granting rights to a share of available water) and works approvals (granting approval for the construction of water management works, such as bores, dams, etc).

In 2006, IPART estimated that DWE's marginal (or incremental) cost of undertaking WMA licence administration activities was \$3 million (\$2009/10) per annum, and set charges to recover these costs. However, DWE reports that its actual cost of these activities in 2006/07 and 2007/08 was approximately \$7.5 million per annum.⁴⁶ It is unclear whether DWE has calculated these actual costs as per the marginal cost approach used by IPART to determine charges for these activities.

For this review, DWE will need to provide its proposals for these administration fees. This should include the rationale for proposed charges, including information on the cost of providing these services and the method of estimating these costs (including treatment or allocation of any shared or common costs).

IPART seeks information and explanation from DWE on:

- 32 Its proposed charges or prices for 2010/11 to 2014/15, and the reasoning or justification for each proposed price, including:
 - the relationship between the price and DWE's costs of service provision

⁴⁶ DWE 2006/07 Information Return to IPART, December 2008; and DWE 2007/08 Information Return to IPART, April 2009.

- the relationship between the proposed price structure and the price structure of the 2006 determination, including the rationale/basis for any proposed variation and an analysis of any transitional issues
- the relationship between the proposed price level and the price level of the 2006 determination, including the rationale/basis for the proposed variation and an analysis of any transitional issues
- analysis of any ‘willingness to pay’ information available to DWE
- a description of the number and type of administration fees and charges forecast to be levied over 2010/11 to 2014/15 (ie, the number of transactions, by type), and the basis for this forecast
- if calculated outside of IPART’s pricing model, DWE’s methodology for the calculation of the price, including major assumptions.

IPART seeks stakeholder comment on:

- 10 The appropriate balance between DWE’s fixed and usage charges.
- 11 The merits of having regulated river, unregulated river and groundwater entitlement and extraction charges that are valley specific, as opposed to being uniform throughout the State or regions.

5.3 Adjusting prices to deal with risk

In addition to setting prices over the upcoming determination period, IPART will need to consider mechanisms for dealing with risk. This includes, for example, potential mechanisms to address the risks associated with variations between:

- ▼ forecast water extractions (or water usage) used in setting prices and actual usage
- ▼ DWE’s WM activities or level of WM performance assumed at the time of the price determination and actual levels of WM activity or performance over the determination period.

Potential regulatory mechanisms or approaches to address these issues are discussed below.

5.3.1 Consumption variation mechanism

As discussed in section 5.1, forecasts of water usage over the determination period are used to set prices to generate the determined revenue requirement. If actual water usage is less than expected (eg, due to lower than expected water availability), DWE may not earn sufficient revenue to cover its costs – particularly if a large proportion of its costs are fixed and not related to actual water usage. As noted in section 5.2 above, the level of risk to DWE will depend on the proportion of its revenue tied to usage charges.

In price reviews for metropolitan water utilities, IPART has previously considered several options to address the impact of consumption volatility, including:

- ▼ no adjustments to the utility's prices for usage variation
- ▼ price adjustments in the subsequent determination period to account for variations outside a certain 'deadband' (eg, a deadband of +/- 10 per cent)
- ▼ an annual price adjustment mechanism to account for variations outside a deadband.

For metropolitan water agencies, IPART has previously noted that making no adjustments for demand variation may result in the water agency bearing excessive risk. However, to date, IPART has not supported the option of making annual price adjustments, as it has considered that this would be contrary to the objectives of price certainty and would effectively allocate all risks to customers. In some instances, IPART has supported the option of making price adjustments in the subsequent determination where the variation over the determination period was outside a deadband of +/- 10 per cent.

For this review, IPART will consider potential mechanisms to address or mitigate risk associated with potential variations between forecast and actual water usage over the upcoming determination period. In doing so, it will consider factors such as:

- ▼ the ratio of DWE's fixed to variable costs relative to the ratio of its fixed to usage charges
- ▼ the distribution of risk between DWE and water users, and potential implications for these parties
- ▼ the robustness and level of certainty that can be attached to forecasts.

IPART seeks stakeholder comment on:

- 12 Mechanisms to address risk associated with variations between forecasts used in setting prices and actual levels of water availability and extractions.

5.3.2 Linking prices to DWE's WM performance

A key concern of stakeholders in previous reviews has been the efficiency and transparency of DWE's WM costs, and the need to ensure that DWE is accountable for its expenditure and activities. In response to these concerns, IPART's 2006 determination included reporting obligations (see Appendix D).

As outlined in section 1.1, information provided by DWE to IPART shows that its WM operating expenditure in 2006/07 and 2007/08 was less than that allowed for by IPART in the 2006 determination (although IPART notes that DWE's revenue from water users has also been less than expected in 2006/07 and 2007/08). As part of this review, IPART will examine the causes and consequences of this under-expenditure

when assessing the efficiency of DWE's expenditure over the 2006 determination period and the upcoming determination period.

To address stakeholder concern, IPART will consider setting output measures or performance indicators for DWE (see section 3.7). It will also investigate ways to increase the link between DWE's WM performance and its prices. For example, it may be that a mechanism or formula is established to reduce DWE's prices within a determination period if DWE is not performing all of the WM functions that IPART allowed for in determining its revenue requirement.

In investigating such options, IPART will consider:

- ▼ potential incentives (positive and negative) that they could provide to DWE
- ▼ the importance of distinguishing between 'under-expenditure' due to under-performance and lower expenditure due to efficiency gains
- ▼ the ease or difficulty of measuring performance, including the extent to which DWE's WM activities can be clearly defined
- ▼ mechanisms used by other economic regulators.

Another important aspect is the extent to which DWE assesses the willingness of its customers to pay for enhanced service levels.

IPART seeks stakeholder comment on:

- 13 Potential regulatory mechanisms to link DWE's performance to its prices over the upcoming determination period.

5.4 Length of determination period

IPART will need to determine the length of the upcoming determination period. In doing so, it will consider incentives for efficiency improvements, the predictability and stability of the regulatory environment, and its confidence in expenditure and water usage forecasts.

In general, a longer determination period provides:

- ▼ greater incentives for achieving increased efficiency, by allowing agencies to retain gains that arise from cost reductions for a longer period of time
- ▼ a more stable and predictable regulatory environment for DWE and water users
- ▼ lower regulatory costs.

However, a longer determination period can also:

- ▼ delay the delivery of benefits from efficiency gains to consumers
- ▼ increase risk associated with any inaccuracies in the forecast data used to make the determination

- ▼ increase the risk that operational and technological changes (and other factors) will create disparities between costs and revenues.

The confidence that IPART can place in a water agency's forecasts will be an important consideration. If, for example, the expenditure profile can only be reliably predicted for two years, a short determination period may be more appropriate.

The 2006 determination set DWE's (and State Water's) prices from 1 October 2006 to 30 June 2010. At the time, IPART considered that a four year determination period would achieve:

...an appropriate balance between providing incentives for improving efficiency, reducing regulatory uncertainty, and minimising the risk that changes in the industry will affect the appropriateness of the determination.⁴⁷

IPART seeks information and explanation from DWE on:

- 33 The appropriate length of the upcoming determination period, including justifications for its proposal.

IPART seeks stakeholder comment on:

- 14 The appropriate length of DWE's upcoming determination period.

5.5 Assessing the impacts of pricing decisions

As part of this review, IPART will consider the potential implications of its pricing decisions on DWE, water entitlement holders and the environment.

In assessing impacts on entitlement holders, IPART will consider the potential effects of changes to bills for regulated river, unregulated river and groundwater customers. It will also take into account the potential effect of combined State Water and DWE bills on regulated river users.

In 2006, IPART commissioned a survey by the Australian Bureau of Agricultural and Resource Economics (ABARE) to assess the impact of prices on water users. This survey assessed the impact of bulk water prices on farm profitability.⁴⁸ For this review, IPART plans to review published studies and other available sources of information to inform its deliberations. For example, ABARE undertakes periodic reviews of the profitability of Murray-Darling Basin irrigation farm profitability;⁴⁹

⁴⁷ IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p 23.

⁴⁸ ABARE, *Impact of bulk water prices on farm profitability*, March 2006.

⁴⁹ ABARE, *An economic survey of irrigation farms in the Murray-Darling Basin, industry overview and region profiles*, November 2008.

and DWE has announced that it is surveying irrigators to monitor socio-economic changes within the industry.⁵⁰

IPART seeks information and explanation from DWE on:

- 34 The impacts of its pricing proposals on water users (eg, annual changes to bills).
- 35 Any planned or proposed mitigation measures to help water users adjust to price changes.

IPART seeks stakeholder comment on:

- 15 The impact of DWE's proposed prices (as set out in its submission) on water users.

⁵⁰ According to DWE, "The comprehensive 2009 survey will monitor irrigators within the areas where NSW water sharing plans have been implemented since 2004, or will be implemented before 2012. The aim of the survey is to gain a better picture of the irrigation industry." (www.dwe.nsw.gov.au/water/plans_socio.shtml).



Appendices

A Matters to be considered under section 15 of the IPART Act

In making determinations, IPART is required under section 15 of the IPART Act to have regard to the following matters (in addition to any other matters IPART considers relevant):

- a) the cost of providing the services concerned
- b) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services
- c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales
- d) the effect on general price inflation over the medium term
- e) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers
- f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environment Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment
- g) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets
- h) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body
- i) the need to promote competition in the supply of the services concerned
- j) considerations of demand management (including levels of demand) and least cost planning
- k) the social impact of the determinations and recommendations
- l) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

B Principles for water planning and management cost recovery in the Murray Darling Basin

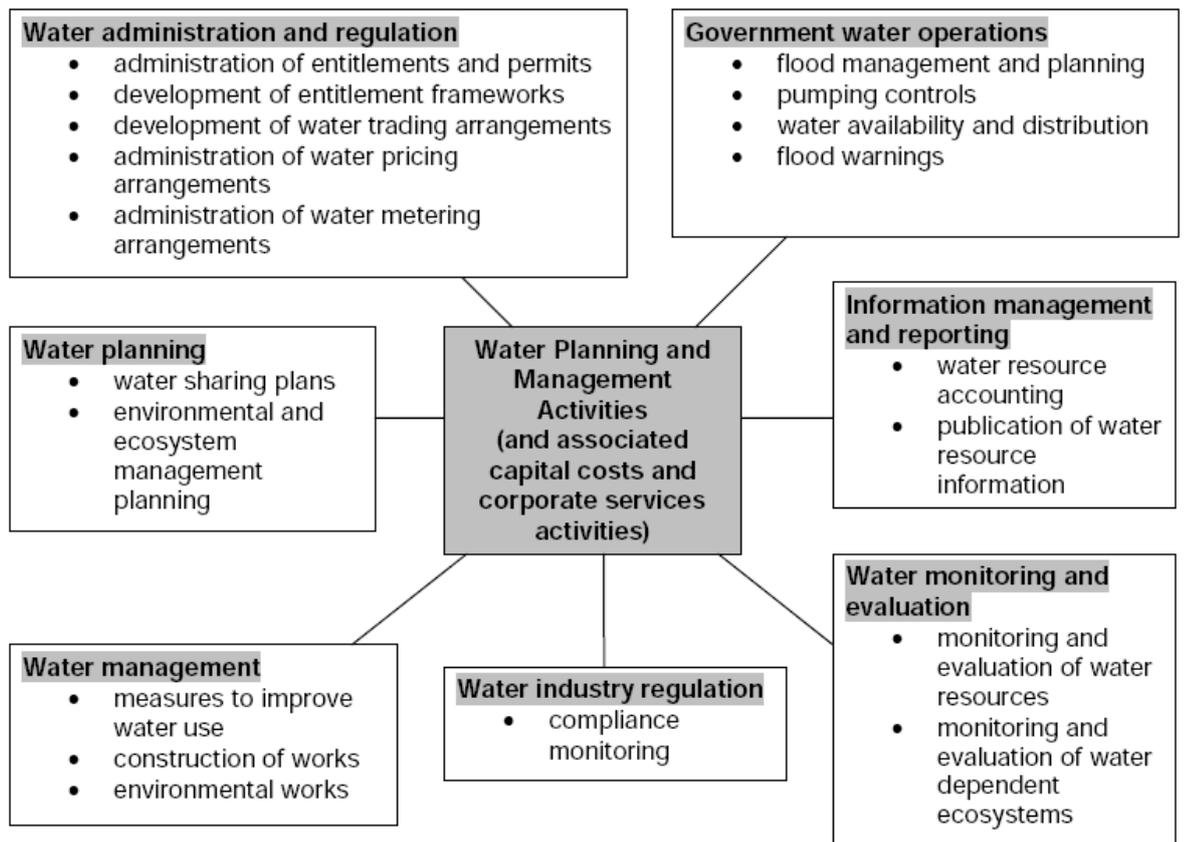
Schedule 2 of the Commonwealth *Water Act 2007* lists the following principles to apply to cost recovery for water planning and management activities in the Murray-Darling Basin:

1. All costs associated with water planning and management must be identified, including the costs of underpinning water markets (such as the provision of registers, accounting and measurement frameworks, and performance monitoring and benchmarking).
2. The proportion of costs that can be attributed to water access entitlement holders is to be identified consistently with the principles set out subclauses (3) and (4).
3. Water planning and management charges are to be linked as closely as possible to the costs of activities or products.
4. Water planning and management charges are to exclude activities undertaken for the government (such as policy development and ministerial or parliamentary services).
5. States and territories are to report publicly on cost recovery for water planning and management annually. The reports are to include:
 - a) The total cost of water planning and management.
 - b) The proportion of the total cost of water planning and management attributed to water access entitlement holders, and the basis on which this proportion is determined.

C Summary of water management activities

The following provides a diagrammatic summary of water management (or ‘water planning and management’) activities.

Figure C.1 Summary of WM (or ‘water planning and management’) activities



Source: NWI Steering Group on Water Charges, *Water Planning and Management Stocktake – Cost Recovery for Water Planning and Management in Australia*, February 2007, p 9.

D Reporting requirements of the 2006 determination⁵¹

Under the 2006 determination, DNR (now DWE) was required to provide IPART with the following information on an annual basis:

- ▼ Audited consolidated financial accounts, with reconciliation to the IPART regulated component of the business.
- ▼ Valley based financial reports, which include the following information:
 - revenue collected from water charges
 - operating expenses separately identified by WM activity codes
 - current year budget, actual expenditure/revenues
 - explanation of the variation between actual operating/capital expenditure and budgeted expenditure
 - explanation of how costs have been apportioned to individual valleys
 - forecasted operating budgets for the following financial year
 - full time equivalent (FTE) staff reports on resources allocated to each of the WM activities.
- ▼ Water availability reports.
- ▼ Reports of environmental water usage for individual river valleys, which are consistent with the methodology used to account for and report on environmental water usage under the NWI.

⁵¹ IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p 201.

E IPART's 2006 findings on DWE's user cost share ratios⁵²

Activity Code	WM activity	IPART's 2006 finding on user share of costs (%)
Surface water information provision		
C01-01	Surface water quantity monitoring/reporting/information provision	70
C01-02	Surface water state-wide data management	50
C01-03	Surface water quality monitoring/reporting/information provision	50
C01-04	Surface water ecology/biology information provision	50
C01-05	Surface water quality state-wide database management	50
C01-06	Surface water asset management — for quantity/quality information provision	70
Groundwater information provision		
C02-01	Groundwater quantity monitoring/reporting/ information provision	100
C02-02	Groundwater quality monitoring/reporting/information provision	100
C02-03	Groundwater state-wide corporate database management	100
C02-04	Groundwater asset management — for quantity/quality information provision	100
Coastal and estuary information provision		
C03-01	Coastal and estuary monitoring and information provision	0
C03-02	Coastal and estuary asset management — for quantity and quality monitoring	0
Surface water and groundwater analysis		
C04-01	Analytical services for water quality programs	50
Water modelling and impact assessment		
C05-01	Water sharing/accounting projects	50
C05-02	Water assessments	30
C05-03	Water balances/accounting	100
C05-04	Groundwater balances/ accounting	100
Water Sharing Plan implementation		
C06-01	Environmental water provisions (Parts 3 & 5)	0
C06-02	Limits to availability of water (Parts 5 & 8)	100
C06-03	Rules for managing access licences (Parts 5 & 9)	100

⁵² Ibid, p 43.

Activity Code	WM activity	IPART's 2006 finding on user share of costs (%)
C06-04	Access dealing rules (Parts 5 & 10)	100
C06-05	System operation rules (Part 12)	100
C06-06	Monitoring and Reporting (Parts 5 & 13)	50
C06-07	Plan amendments (Part 14)	50
WRM planning		
C07-01	Water sharing plan development	70
C07-02	Water use plans	70
C07-03	Drainage plans	0
C07-04	Floodplain plans	0
C07-05	Floodplain harvesting plans	100
C07-06	Environmental water management planning	0
C07-07	Water savings planning	0
C07-08	Delivery capacity rights planning	100
C07-09	Wetland recovery plan major initiative	0
C07-10	NSW wetland policy implementation	0
C07-11	NRC reviews and support of water sharing plans	50
C07-12	CMA support for environmental water programs	0
C07-13	River health and water quality plans	0
C07-14	Impact of dams on water quality	0
C07-15	Blue-green algae operational planning	50
C07-16	Bacterial, chemical, salinity and other regional operational planning	0
C07-17	Interstate and national commitments	50
River management works (non-capital)		
C08-01	River management works planning	50
C08-02	River bank and river bed remediation	50
Water consent administration		
C09-01	Head office systems administration	100
C09-02	Regional administration	100
C09-03	Head office register administration	100
C09-04	Licence cleansing	100
C09-05	Town water supply entitlements	100
C09-06	Compliance	100
C09-07	Systems development	100
Water consent transaction		
C10-01	<i>Water Act 1912</i> consents transactions	100
C10-02	<i>Water Management Act 2000</i> consents transactions	100
Business administration		
C11-01	Metering and billing water usage	100
C11-02	WRM business development	70

Activity Code	WM activity	IPART's 2006 finding on user share of costs (%)
C11-03	Financial administration	100
WRM systems capital program		
C12-01	Metering and monitoring of water use systems on unregulated rivers and groundwater	90
C12-02	IMEF	0
C12-03	Groundwater monitoring network for water sharing plans and extension of surveillance and salinity networks	70
C12-04	Integrated corporate water and ecological databases	50
C12-05	Water and wetland recovery management	0

F Information that IPART is seeking from DWE

To enable IPART to review prices, it is seeking the following information from DWE (as listed and discussed at relevant sections throughout this Paper).

- 1 A clear and detailed description of its WM activities carried out over the 2006 determination period, including the quantity, quality and scope of activities. 17
- 2 A description of the number and type of administration fees and charges levied over the 2006 determination period (ie, the number of transactions, by type). 17
- 3 Identification of variations between WM activity/service levels forecast in the 2006 determination and actual activities carried out by DWE over the 2006 determination period, including an explanation of the reasons for any variations and the implications of any variations for WM outcomes. 17
- 4 Identification of variations between the number and type of administration fees and charges forecast in the 2006 determination and the actual number and type of administration fees and charges levied over the 2006 determination period, including an explanation of the reasons for any variations. 17
- 5 The impact on its WM activities/services over: 17
 - the 2006 determination period as a result of lower than expected revenue (due to lower than expected water availability/usage), and 17
 - the upcoming determination period if revenue is again lower than forecast. 17
- 6 Its assessment of its performance against the requirements of the 2006 determination. 17
- 7 The number and type of complaints that DWE has received in relation to its WM services and IPART regulated charges over the 2006 determination period, as well as any plans or programs DWE has in place or that it will implement in response to these complaints. 17
- 8 A clear and detailed description of DWE's forecast WM activities and service levels from 2010/11 to 2014/15, including: 18
 - any forecast changes to service levels and the reasons for these changes, and 18
 - how DWE has ascertained the appropriateness of service levels. 18

Where service levels are determined by legislative requirement or government policy, specific references should be provided. DWE should also include details

	of any input by water users (and other beneficiaries of its services) into service level decisions.	18
9	DWE's WM operating expenditure over the 2006 determination period, including levels of expenditure, the drivers of this expenditure, activities carried out and outcomes achieved. Information on actual MDBC/MDBA and BRC expenditures recovered from DWE over the 2006 determination period should also be included.	23
10	Identification and explanation of variations between DWE's actual operating expenditure over the 2006 determination period and expenditure allowed by IPART when it set prices in the 2006 determination.	23
11	DWE's forecast WM operating expenditure from 2010/11 to 2014/15, and a clear explanation of the methodology and major assumptions used to develop these forecasts, including:	23
	– drivers of and justifications for this expenditure, activities to be carried out and outcomes to be achieved	23
	– a clear explanation of how DWE's forecast expenditure relates to WM service or activity levels, and the drivers or justifications for these service/activity levels	23
	– what indications there are (if any) of stakeholder willingness to pay for service/activity levels	23
	– the extent to which DWE has carried out options analysis for proposed WM activity expenditures (including, for example, testing contestability of tasks and services provided and conducting cost benefit or business case analysis)	23
	– identification and explanation of the trend in DWE's forecast operating expenditure from 2010/11 to 2014/15 and the relationship between this trend and DWE's obligations and standards, having regard to expected productivity improvements, historical expenditures, trends in input prices, relevant benchmarks and other relevant factors	23
	– a detailed description of DWE's current and forecast efficiency programs and the potential for efficiency gains and how these have been factored into forecast expenditures	23
	– information on the forecast MDBA and BRC expenditures to be recovered from DWE and water users from 2010/11 to 2014/15 and the basis for this forecast.	24
12	DWE's approach to allocating indirect (ie, common or shared) costs, and the rationale for this allocation, including:	24
	– the allocation of indirect costs between DWE's IPART regulated WM activities and its other activities/functions – including steps taken to 'ring fence' non-regulated costs	24
	– the allocation of indirect WM costs across valleys, water sources and water users, where applicable.	24

F Information that IPART is seeking from DWE

13	DWE's actual and forecast WM capital expenditure over the 2006 determination period, including drivers of this expenditure, WM activities carried out and outcomes achieved.	25
14	Identification of variations between DWE's actual capital expenditure over the 2006 determination period and the expenditure allowed by IPART when it set prices in the 2006 determination, including a clear and detailed explanation of these variations (positive or negative).	25
15	DWE's forecast WM capital expenditure program from 2010/11 to 2014/15, including identification and explanation of:	25
	– drivers of and justifications for this expenditure, WM activities to be carried out and outcomes to be achieved	25
	– how DWE's forecast expenditure relates to WM service or activity levels, and the drivers or justifications for these service/activity levels	25
	– indications (if any) of stakeholder willingness to pay for discretionary items of capital expenditure	25
	– the relationship between trends in forecast capital expenditure over 2010/11 to 2014/15 and DWE's obligations and service standards, having regard to historical expenditures, relevant benchmarks and any other relevant factors	25
	– the robustness of business cases or cost benefit analyses for this expenditure (including the extent of options analysis), the practicality of the projects being delivered within the proposed timeframe, and the basis for cost estimates.	25
16	DWE's approach to allocating or apportioning any shared or common capital cost items and the rationale for this allocation, including:	25
	– the allocation of costs between DWE's IPART regulated WM activities and its other activities/functions – including steps taken to 'ring-fence' non-regulated costs	25
	– the allocation of DWE's WM capital costs across valleys, water sources and water users, where applicable.	25
17	Its proposed depreciation allowance for its existing and new assets, including the means of calculating this allowance, the justification for this methodology, the assumptions underpinning the calculations (eg, asset values and average asset lives) and the justification or rationale for these assumptions.	26
18	Whether it should earn an allowance for a return on its WM assets and, if so, its proposed rate of return from 2010/11 to 2014/15 and justifications for its proposal.	27
19	If DWE proposes that its capital expenditure should be rolled into a Regulatory Asset Base (RAB) for the purposes of earning allowances for a return on assets and a return of assets:	27

–	its proposed opening value of the RAB in 2010/11 and the basis for this valuation (ie, the capital expenditure to be included by asset/expenditure item and year of expenditure).	27
20	The value, timing and description of any contributions (including contributed assets) to DWE from governments and/or other sources.	28
21	Any implications of these contributions for future expenditure/operations (eg, efficiency savings, changes to maintenance requirements, etc), and how these effects have been factored into cost forecasts.	28
22	Appropriate WM output measures or performance indicators for the upcoming determination period.	29
23	The rationale/basis for any changes that DWE proposes to the activity codes or cost shares included in the 2006 determination. Where DWE proposes changes to activity codes, these codes should be described in such a way as to enable efficient mapping back to historical cost codes and expenditures.	33
24	Identification and explanation of variations between DWE's target revenue and actual revenue over the 2006 determination period, and the implications of these variations for DWE's WM activities/performance.	33
25	Volumes of water extracted from regulated rivers, unregulated rivers and groundwater sources over the 2006 determination period compared to forecast volumes used for setting prices in 2006; and the reasons for any significant variations between actual and forecast volumes.	36
26	Forecasts of water volumes extracted from regulated rivers, unregulated rivers and groundwater sources over 2010/11 to 2014/15; and the methodology, assumptions and data sources used in developing these forecasts.	36
27	The impact on its WM activities/services over:	36
–	the 2006 determination period as a result of lower than expected revenue (due to lower than expected water availability/usage)	36
–	the upcoming determination period if revenue is again lower than forecast.	36
28	The number of entitlements, unit shares and licences over the 2006 determination period, including the number of customers paying the minimum bill.	36
29	The number of entitlements, unit shares and licences from 2010/11 to 2014/15, including the number of customers expected to be paying the minimum bill, and the methodology or data underpinning these forecasts.	36
30	The number of licences converted (from entitlement volumes under the WA to unit shares under the WMA) over the 2006 determination period and forecast conversion numbers from 2010/11 to 2014/15.	36

31	The number of unregulated river licensees that are (or will be) charged a two-part tariff, including the number of licensees that moved to a two-part tariff over the 2006 determination period, and the number of licensees that are forecast to move to a two-part tariff from 2010/11 to 2014/15.	36
32	Its proposed charges or prices for 2010/11 to 2014/15, and the reasoning or justification for each proposed price, including:	41
	– the relationship between the price and DWE’s costs of service provision	41
	– the relationship between the proposed price structure and the price structure of the 2006 determination, including the rationale/basis for any proposed variation and an analysis of any transitional issues	42
	– the relationship between the proposed price level and the price level of the 2006 determination, including the rationale/basis for the proposed variation and an analysis of any transitional issues	42
	– analysis of any ‘willingness to pay’ information available to DWE	42
	– a description of the number and type of administration fees and charges forecast to be levied over 2010/11 to 2014/15 (ie, the number of transactions, by type), and the basis for this forecast	42
	– if calculated outside of IPART’s pricing model, DWE’s methodology for the calculation of the price, including major assumptions.	42
33	The appropriate length of the upcoming determination period, including justifications for its proposal.	45
34	The impacts of its pricing proposals on water users (eg, annual changes to bills).	46
35	Any planned or proposed mitigation measures to help water users adjust to price changes.	46

Glossary

2006 determination	<i>Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010 (Determination Nos 4 and 5, 2006).</i>
2006 determination	1 October 2006 to 30 June 2010
ABARE	Australian Bureau of Agricultural and Resource Economics
ACCC	Australian Competition and Consumer Commission
Basin	Murray-Darling Basin
BRC	Dumaresq-Barwon Border Rivers Commission
CIE	Centre for International Economics
COAG	Council of Australian Governments
Commonwealth Water Act determination	<i>Water Act 2007 (Cth)</i> price limits (maximum prices) set by IPART for a given period (determination period)
DNR	NSW Department of Natural Resources
DWE	NSW Department of Water and Energy (formerly the Department of Natural Resources). The NSW Government has recently announced that the WM section of DWE will be incorporated into the new Department of Environment, Climate Change and Water. Nevertheless, this issues paper refers to 'DWE' when discussing WM activities and charges.
GL	gigalitre
IQQM	Integrated Quantity and Quality Model
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act	<i>Independent Pricing and Regulatory Tribunal Act 1992</i>

kL	kilolitre
LRA	Long run average
LRMC	Long Run Marginal Cost
MDBA	Murray-Darling Basin Authority
MDBC	Murray-Darling Basin Commission
ML	megalitre
notional revenue requirement	Revenue that would be recovered from users if prices were set to fully recover efficient costs.
NWI	National Water Initiative
RAB	Regulatory Asset Base
target revenue	The revenue that IPART expects DWE to earn over a determination period, given its determination of prices and the water usage forecasts that are used in setting these prices.
Tribunal	Independent Pricing and Regulatory Tribunal of NSW (IPART)
upcoming determination period	the period commencing 1 July 2010
WA	<i>Water Act 1912</i>
WACC	Weighted Average Cost of Capital
WAMC	Water Administration Ministerial Corporation
WMA	<i>Water Management Act 2000</i>
WM	water management, which is sometimes also referred to as 'water resource management' (WRM) or 'water planning and management'