

Independent Pricing and Regulatory Tribunal  
New South Wales

## Rural Water Cost Shares

**WaterNSW**  
**Water Administration Ministerial Corporation**

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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 by 27 November 2018**

We would prefer to receive them electronically via our online submission form <[www.ipart.nsw.gov.au/Home/Consumer\\_Information/Lodge\\_a\\_submission](http://www.ipart.nsw.gov.au/Home/Consumer_Information/Lodge_a_submission)>.

You can also send comments by mail to:

**Review of Rural Water Cost Shares**

Independent Pricing and Regulatory Tribunal

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Late submissions may not be accepted at the discretion of the Tribunal. Our normal practice is to make submissions publicly available on our website <[www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)> as soon as possible after the closing date for submissions. 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 above.

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# 1 Executive summary

The NSW Independent Pricing and Regulatory Tribunal (“IPART” or “we”) is reviewing how we share costs between rural water customers<sup>1</sup> and the NSW Government (on behalf of the broader community) when setting maximum prices for the Water Administration Ministerial Corporation’s (WAMC’s) water management services and WaterNSW’s rural bulk water services<sup>2</sup>. Background information about WAMC’s water management services and WaterNSW’s rural bulk water services is provided in Appendix E.

This review relates to how forward operating and capital expenditure is shared between customers (via regulated prices) and the NSW Government. This review will not affect the past allocation of costs and will not affect prices over the current WAMC<sup>3</sup> and WaterNSW<sup>4</sup> price determinations. However, decisions we make in this review will inform our starting point for the upcoming price reviews for WAMC in 2019-20 and WaterNSW in 2020-21. We note there will be further opportunities to consult with stakeholders on issues including rural cost shares as part of these upcoming WAMC and WaterNSW price reviews.

## 1.1 Summary of our draft decisions

We have made draft decisions to:

- ▼ Continue to allocate the efficient costs of rural bulk water services between water customers and the NSW Government on the basis of the impactor pays principle. That is, those that create the need to incur the costs should pay the costs. Forward-looking legacy costs will continue to be allocated solely to the NSW Government.
- ▼ Maintain the current activity-based framework and not adopt an alternative, service-based cost share framework.
- ▼ Update several cost share ratios under the activity-based framework.
- ▼ Support valley-specific cost share ratios in principle and consider valley-specific cost share ratios at the upcoming WAMC and WaterNSW price reviews.
  - We would deviate from the state-wide aggregate cost share ratio for an activity on an exception basis – ie, where sufficient information was available to indicate a material difference between a specific valley’s cost share ratio and the state-wide cost share ratio.

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<sup>1</sup> That is, water entitlement holders that are subject to WaterNSW’s and/or the Water Administration Ministerial Corporation’s regulated prices (as determined by IPART).

<sup>2</sup> When we refer to WaterNSW’s services throughout this Draft Report, we are referring to WaterNSW’s rural bulk water services.

<sup>3</sup> IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 July 2016 — Final Report*, June 2016.

<sup>4</sup> IPART, *WaterNSW: Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021*, June 2017.

### **1.1.1 Clarifying our cost sharing principles**

Our draft decision is to continue to allocate the efficient costs of WAMC and WaterNSW's rural bulk water services on the basis of the impactor pays principle. Under this approach, costs are allocated between water customers and the NSW Government (on behalf of other users such as recreational users and the broader community) on the basis of whichever party created the need for an activity (and its associated costs) to be incurred. We prefer the impactor pays approach over alternative approaches (such as a beneficiary pays approach) as we consider it achieves better efficiency outcomes, is a more practical and transparent method for allocating costs and because it is consistent with the funding hierarchy that we have used previously for other services.

In this Draft Report we have clarified how we would apply the impactor pays approach and identify which parties are potential impactors. Our draft decision is that the counterfactual starting point (which we apply the impactor pays principle to) is a world without high consumptive use of water resources. We have also clarified our treatment of legacy costs and our draft decision is that legacy costs (which are paid for by the NSW Government) are those costs that are a result of past users or previous uncommercial investment and management decisions and are not related to the efficient costs to service current and future water customers.

### **1.1.2 Maintaining our activity-based cost sharing framework**


We currently apply an activity-based cost sharing framework, however as part of this review we have investigated the merits of moving to a service-based framework. A service-based framework allocates costs to defined services that WAMC and WaterNSW deliver, while the activity-based framework allocates costs to the activities that the entities undertake (to deliver their services).

Our draft decision is to maintain the activity-based framework. Based on stakeholder feedback and consultant advice, our draft finding is that the potential benefits of a service-based framework are unlikely to outweigh the costs of its implementation. We also consider that a service-based framework would not enhance transparency or cost-reflectivity relative to an activity-based framework.

### **1.1.3 Applying our principles and framework**

In applying our cost sharing principles and framework, we determine a cost share ratio to apply to the efficient cost of each activity undertaken by WAMC and WaterNSW to deliver regulated rural bulk water services. We engaged an expert consultant (Aither) to review the current activity-based cost share framework and cost share ratios. Based on Aither's advice, we have made a draft decision to revise a number of the cost share ratios for both WAMC and WaterNSW's activities.

Our draft decision to revise these cost share ratios recognises that there are impactors other than water customers that drive some of WAMC and WaterNSW's efficient costs. These include communities that create the need for flood management costs and recreational users that create the need for WAMC and WaterNSW to incur additional costs. It also recognises



that water customers create the need to incur direct costs (eg, the costs of storing and delivering water) and indirect costs (eg, the costs of addressing environmental impacts that are caused by storing and delivering water).

#### **1.1.4 Identifying areas of further investigation for upcoming price reviews**

This review has identified a number of potential improvements and assessed the costs and benefits of implementing these changes. These changes include consideration of valley-specific cost share ratios and consolidation of a number of activities to improve transparency and remove duplication. In principle, we support Aither's recommendations and we see merit in investigating these potential improvements to the cost sharing framework at the next price reviews for WAMC (2019-20) and WaterNSW (2020-21).

### **1.2 Estimated impacts of our draft decisions**

The revised cost share ratios have the following indicative impacts:

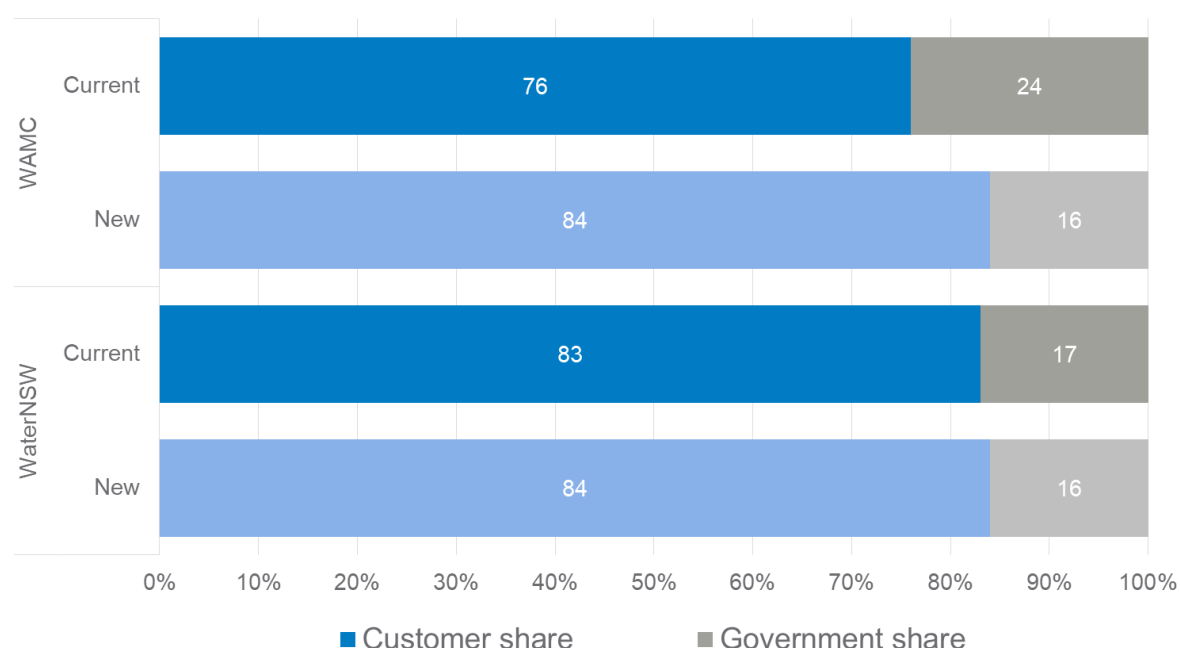
- ▼ Increasing the customer share of WAMC's efficient costs from 76% to 84%.
- ▼ Increasing the customer share of WaterNSW's efficient costs from 83% to 84%.

These impacts have been calculated in aggregate across all valleys and based on the existing allocation of costs to activities for both WAMC and WaterNSW over the four year period 2018-2021.

We note that prices for water customers will not be impacted immediately by this review. Decisions in this review will inform the next WAMC price review (in 2019-20) and the next WaterNSW-Rural price review (in 2020-21). We further note that increased cost shares for water customers do not necessarily mean a corresponding increase in prices, as the total efficient costs to be recovered and what customers can afford to pay would be also considered by IPART in the upcoming pricing reviews for both WAMC and WaterNSW.



**Figure 1.1 Estimated impact of our draft decisions on customer shares**



Data source: IPART analysis.

### 1.3 Structure of this report

The rest of this report discusses the review in more detail and sets out our analysis and draft decisions:

- ▼ **Chapter 2** provides background and context for this review.
- ▼ **Chapter 3** clarifies the principles we apply through our cost sharing framework.
- ▼ **Chapter 4** assesses an alternative service-based cost sharing framework and explains our draft decision to maintain the current activity-based framework.
- ▼ **Chapter 5** sets out our draft decisions to maintain / revise the cost share ratios for the current lists of activities under the current activity-based framework.
- ▼ **Chapter 6** identifies opportunities for potential further improvements to the activity-based cost sharing framework, which we intend to investigate further as part of the upcoming price reviews for WAMC (2019-20) and WaterNSW (2020-21).

Each chapter outlines our draft decisions and the reasons for these decisions, including how we have taken information and views provided by stakeholders into account.

### 1.4 Timetable for this review

In undertaking this review, we are conducting public and targeted stakeholder consultation as well as research and analysis. This Draft Report is the next step in our review process. It explains our draft decisions and invites stakeholder submissions on our proposed approach to cost sharing and our proposed changes to the current cost share ratios.

We will continue to consult with stakeholders and will:

- ▼ hold workshops where stakeholders can provide further evidence and feedback on any aspects of the Draft Report, and
- ▼ consider all stakeholder feedback and undertake further analysis before making our final decisions.

Table 1.1.1 summarises the timetable for this review.

**Table 1.1 Timetable for the review of rural water cost shares**

Milestone	Timeframe
Release Issues Paper	24 April 2018
Submissions due on the Issues Paper	5 June 2018
Release IPART's Draft Report	16 October 2018
Secretariat workshops with stakeholders	October/November 2018
Submissions due on the Draft Report	27 November 2018
Release IPART's Final Report	Early February 2019

## 1.5 List of draft decisions

For convenience, a list of our draft decisions is provided below.

- 1 WaterNSW and WAMC's efficient costs will continue to be allocated between water customers and the NSW Government (on behalf of other users and the broader community) based on the impactor pays principle, ie, those that create the need for the cost to be incurred should pay the cost. 19
  - In applying the impactor pays principle, the counterfactual starting point is a world without a high consumptive use of water. 19
- 2 Legacy costs are considered to be those costs caused by past users and activities that are not attributable to current and future users of the regulated service. Legacy costs should not be reflected in the prices paid by current and future users. 27
  - Changes in costs due to changes in regulations or standards are not considered legacy costs. 27
- 3 To maintain the activity-based cost sharing framework. 37
- 4 To update a number of customer cost share ratios for WAMC as per Table 5.2. 43
- 5 To update a number of customer share ratios for WaterNSW as shown in Table 5.4. 46
- 6 To consider, at the next price reviews for WaterNSW and WAMC, applying valley-specific cost share ratios on an exception basis, where the impactors' relative contribution to the need to undertake an activity and incur costs is materially different to that assumed for the general cost share ratio. 51
- 7 To consider, at the next price reviews, removing activities from the framework that represent cost categories (rather than actual activities required to be undertaken) and allocating the associated costs across the remaining activities. 53

## 2 Context for the review

WaterNSW operates dams and weirs to deliver bulk water to irrigators and other entitlement holders on regulated rivers<sup>5</sup> across NSW (rural bulk water services). WAMC provides water management services to holders of entitlements to take water from regulated rivers, unregulated rivers and groundwater sources across NSW.<sup>6</sup> When setting prices for WaterNSW's rural bulk water services and WAMC's monopoly water services we share costs between rural water customers<sup>7</sup> and the NSW Government, on behalf of the broader community.

We are reviewing our approach to rural water cost sharing. This chapter provides context for our review and the sections below:

- ▼ explain why we are undertaking this review now and when (and how) the results of the review will take affect
- ▼ set out the scope of the review, and how it fits within the broader regulatory framework and our price determination process, and
- ▼ outline our current cost sharing framework, and the aims of this review.

### 2.1 This review will inform our next price determinations

The current cost share methodologies for WAMC and WaterNSW have not been comprehensively reviewed since 2001.<sup>8</sup> We made a commitment to review rural cost shares in our 2017 Final Report on WaterNSW's rural bulk water prices<sup>9</sup>, and in our 2012 review of rural water charging systems.<sup>10</sup>

We are conducting this review outside our scheduled price reviews<sup>11</sup> to consider common issues at the same time and ensure consistency in our approaches to WaterNSW and WAMC cost shares.

Changing costs shares could lead to changes in prices for rural water customers. However, this review will have no impact on customer prices immediately. Rather, it will inform our

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<sup>5</sup> The difference between unregulated and regulated rivers is that regulated rivers are controlled by a major storage or dam to supply water.

<sup>6</sup> WaterNSW, the Department of Industry (DoI), and the Natural Resources Access Regulator (NRAR) currently deliver these services on behalf of WAMC.

<sup>7</sup> These are water entitlement holders that are subject to WaterNSW's and/or WAMC's regulated prices (as determined by IPART).

<sup>8</sup> IPART, *Department of Land and Water Conservation, Bulk Water Prices from October 2001*, December 2001.

<sup>9</sup> IPART, *WaterNSW - Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021 – Final Report*, June 2017, p 97.

<sup>10</sup> IPART, *Review of Rural Water Charging Systems – Final Report*, August 2012, p 8.

<sup>11</sup> Our next price review for WAMC will be undertaken in 2019-20 and our next price review for WaterNSW (rural) will be undertaken in 2020-21.

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upcoming price reviews for WAMC and WaterNSW.<sup>12</sup> Any changes to cost shares would be subject to further consultation as part of those reviews. We also note that the customer share of efficient costs is one factor we consider in setting prices. We also consider a number of other matters, including what customers can afford to pay.

## 2.2 Scope of this review

WaterNSW's rural bulk water services are inside the scope of this review. When we refer to WaterNSW's services throughout this Draft Report, we are referring to WaterNSW's rural bulk water services. WAMC's water management services are inside the scope of this review.

In reviewing cost shares our goal is to ensure that customers only pay prices for regulated services that reflect the efficient costs of providing those services. This recognises that historically other costs have been incurred in addition to the efficient costs required to provide the regulated services and that these costs should not be reflected in prices for regulated services going forward.

We are not reviewing the prudence and efficiency of past policies and past investment decisions and activities, and proposed (future) costs are assessed as part of a price determination. Rather, this review is about how efficient costs are shared between customers and other parties.<sup>13</sup> How our cost sharing framework and price setting function fit into the broader regulatory landscape is set out in the box below.

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<sup>12</sup> The decisions that we make in this review will notify stakeholders of our default approach to sharing efficient costs in future determinations of rural bulk water prices. We note that under the propose-respond model a regulated business will submit a pricing submission to us before we release an issues paper outlining our approach to setting prices.

<sup>13</sup> We also note that WaterNSW and WAMC's delivery of services is outside the scope of this review.

### Box 2.1 IPART price setting within the broader regulatory landscape

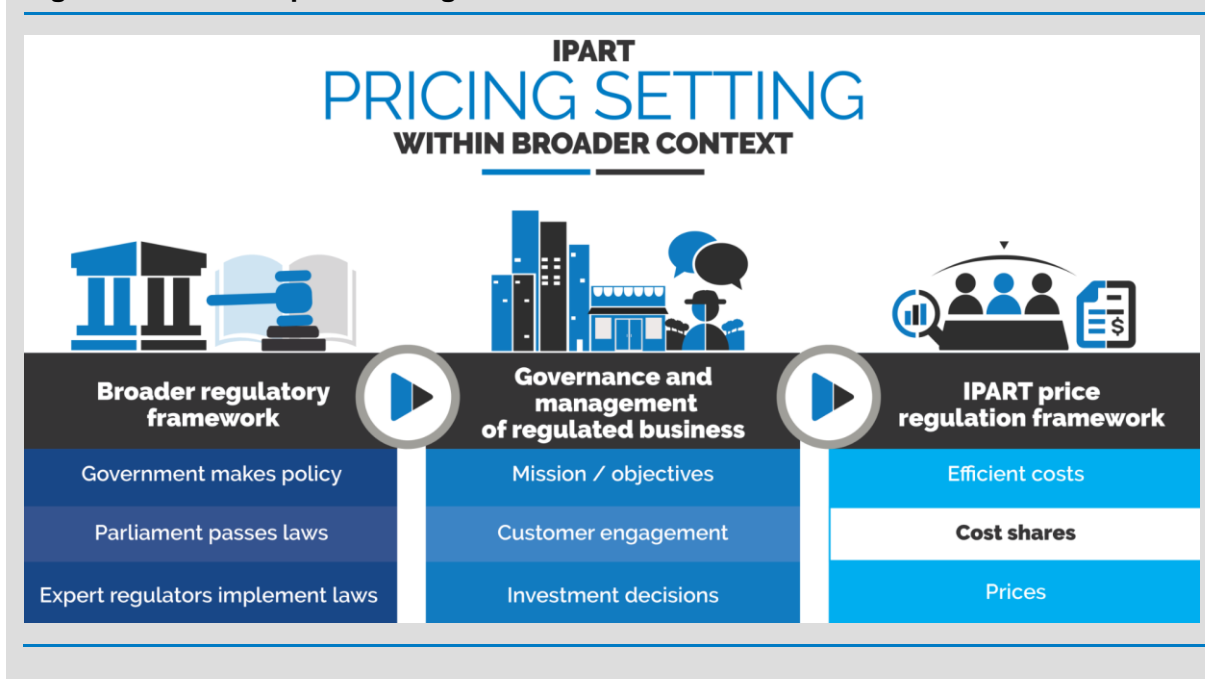
Rural bulk water services are provided within a wide regulatory framework. Among other things, this framework imposes constraints on the prices that can be charged for these services and how much water can be supplied (and to whom).

Within this framework, governments (including the NSW Government) are responsible for establishing policy regarding water management, which is subsequently passed into law and implemented by expert regulators. These includes health, safety, environment, planning and economic regulators.

Regulated businesses are governed and managed within their objectives and functions. This involves consulting with customers to understand the service levels they value and the prices they are willing to pay. Regulated businesses then make investment decisions, informed by their customers' preferences and the regulatory standards they must meet. In NSW, these investment decisions are reflected in the pricing proposals made to IPART.

Within our price review process we assess the proposals of regulated businesses to determine efficient costs and apply our cost sharing framework to share costs between customers and the NSW Government (on behalf of the broader community). We aim to ensure that customers only pay prices for regulated services that reflect the efficient costs of providing those services.

**Figure 2.1 IPART price setting within the broader context**



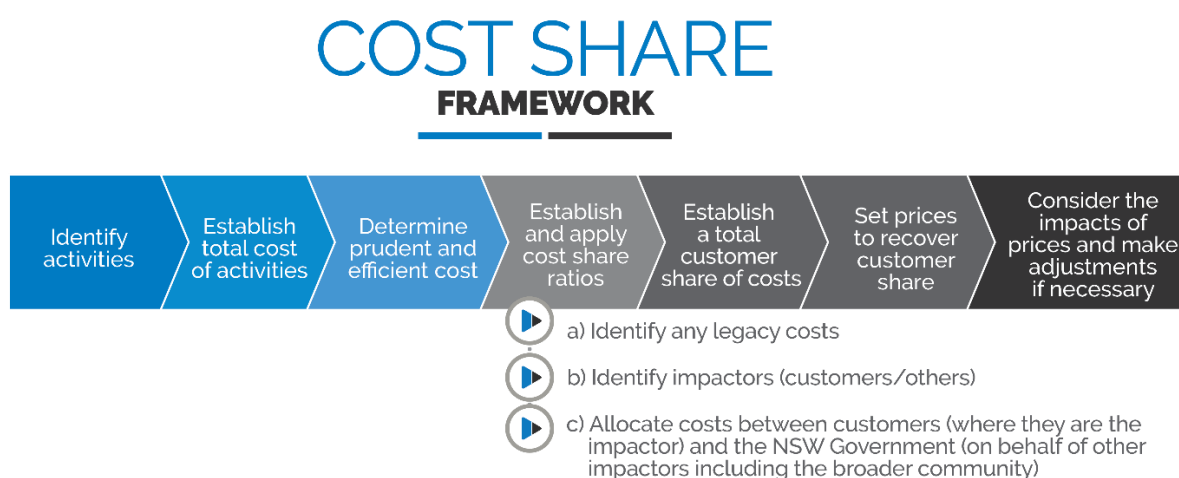
An important consideration when setting prices is the likely impact of our decisions on customers, including considering what customers can afford to pay. While these considerations are an important element of IPART's decision making process when setting prices, they are outside the scope of this review of rural water cost shares. How our cost sharing framework (and hence this review) fits into our price determination process is set out below.

Our price determination process reflects a number of steps, as illustrated in the figure below:

- ▼ Identifying the activities undertaken to provide regulated bulk water services and other services (eg, flood mitigation, recreational activities).
- ▼ Establishing the total costs associated with these activities.
- ▼ Determining efficient and prudent costs. This involves reviewing proposed costs and occurs during the price review.
- ▼ Establishing cost share ratios by:
  - Identifying and removing legacy costs.
  - Identifying the impactors of the remaining costs.
  - Allocating costs between customers (where they are the impactor) and the NSW Government (on behalf of other impactors including the broader community).
- ▼ Applying the cost shares to efficient costs and calculating prices to recover the customer share. This occurs in the price review.
- ▼ Considering a range of factors, including the impact of pricing decisions on stakeholders including customers, regulated businesses and the community. This occurs in the price review.

This review is focused on informing the step above that refers to establishing cost share ratios.

**Figure 2.2 Cost sharing within the price determination process**



## 2.3 Our current cost sharing framework and the aims of this review

The cost-sharing framework currently in place takes the efficient and prudent capital and operating costs, excludes ‘legacy costs’, and then applies the ‘impactor pays’ principle to determine who should pay for the costs of each of WaterNSW and WAMC’s activities.

The costs of providing rural bulk water services have been shared between the NSW Government and users since IPART has regulated these charges. For each review and determination of WaterNSW’s and WAMC’s prices, we have subjected the prevailing cost shares, by activity, to stakeholder consultation. We have considered all stakeholder comments and responses in determining cost shares and setting prices. Key milestones in

IPART's regulation of bulk water charges, and determination of cost shares, are set out in the box below.

### **Box 2.2      Changes to our cost sharing framework over time**

In **1998**, IPART's determination of bulk water charges used a beneficiary pays and impactor pays approach as the basis for sharing costs between water users and the NSW Government.<sup>a</sup>

In **2001**, IPART's determination of bulk water charges moved towards a greater reliance on the impactor pays approach – except for those costs attributable to pre 1 July 1997 ('line in the sand') activities and occupational health and safety and dam safety upgrade costs, which were deemed to be legacy costs, to be funded by the NSW Government.<sup>b</sup>

In **2006**, IPART's determination of bulk water charges maintained a focus on the impactor pays approach (largely maintaining the 2001 cost shares) - except for those costs associated with "products/activities incurred to meet community expectations", such as occupational health and safety costs and water quality monitoring, which were allocated to the NSW Government.<sup>c</sup>

In **2012**, the NSW Government asked IPART to identify options for determining the NSW Government's share of bulk water costs. IPART recommended the continuation of the existing approach to determining cost shares, using the cost allocation ratios that it had applied in the 2010 Determination, until 1 July 2017.<sup>d</sup>

In its **2017** review of Water NSW's charges, IPART decided to maintain the current cost share ratios, consistent with its earlier decisions. However, IPART decided that it would conduct an extensive, standalone review of the cost share framework prior to the next Determination.<sup>e</sup>

<sup>a</sup> IPART, Bulk water prices for 1998/99 & 1999/00, July 1998, p 11.

<sup>b</sup> IPART, Department of Land and Water Conservation, Bulk Water Prices from October 2001, Chapter 5, December 2001.

<sup>c</sup> IPART, Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation, Chapter 5, September 2006.

<sup>d</sup> IPART, Review of Rural Water Charging Systems – Final Report, August 2012, p 8.

<sup>e</sup> IPART, WaterNSW Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021, Chapter 9, June 2017.

This review has the following aims:

1. To outline and, if necessary, refine our cost sharing principles and objectives, which are currently based on the impactor pays principle.
2. To review the current activity-based cost share framework and, if necessary, amend the framework, list of activities and cost share ratios.
3. To further investigate an alternative service-based cost sharing framework including developing a framework, identifying potential costs and benefits of moving to this framework and assessing whether or not the benefits are likely to exceed the costs.



### 3 Principles underlying our cost shares framework

We consider that charges for monopoly services should reflect the full efficient costs of providing these services. This principle of ‘full cost recovery’ is consistent with the service provider recovering their efficient costs and provides price signals that encourage the efficient use of, and investment in, these services.

In the recovery of efficient costs, rural bulk water customers should only pay for the share of efficient forward-looking costs that is required to service their use. In other words, they should not pay if there are unavoidable legacy costs. These are costs resulting from past users or previous uncommercial investment and management decisions, which are unrelated to the efficient forward-looking cost of providing services to customers.

In addition, there may be a case to share the capital and operating costs of assets used to deliver monopoly rural bulk water services between water customers and other segments of the community (or the government on behalf of the broader community). This can occur where costs are incurred to provide other services, in addition to monopoly bulk water services, eg, flood management or recreation services to the broader community.

To determine the price of rural bulk water services, under the cost sharing framework currently in place, we take the efficient and prudent capital and operating costs allowed to be recovered, exclude legacy costs and apply the ‘impactor pays’ principle to determine who should pay for the costs of each of WaterNSW and WAMC’s activities. That is, we determine the share of WaterNSW’s and WAMC’s efficient costs that should be paid for by water customers, and the share that should be paid for by the NSW Government on behalf of other users and the broader community.<sup>14</sup>

If WaterNSW and WAMC can earn unregulated revenue from their regulated assets (eg, revenue from recreational users of WaterNSW’s dams), we may also deduct a share of this revenue from their regulated cost bases. This would mean those parties contributing the unregulated revenue (eg, recreational users) would effectively pay a share of the regulated costs which, all other things being equal, would reduce regulated prices to water customers. Our practice has been to deduct a share of unregulated income (50 per cent) from the regulated cost base, to provide the water business with a financial incentive to pursue unregulated revenue (as it keeps a share of this revenue), while ensuring that a share of the benefits of this revenue flows on to customers through lower regulated prices.<sup>15</sup>

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<sup>14</sup> WaterNSW and WAMC’s opex and capex allowances are allocated to a list of agency-specific ‘activities’. We then apply ‘cost share ratios’ (ie, the percent of the efficient cost that is to be recovered from customers) to each of these activities to calculate what proportion of that expenditure should be recovered by customers (through our prices) and the NSW Government (the residual).

<sup>15</sup> For example, in the 2008 Sydney Water price review, we deducted 50 per cent of the rental income Sydney Water receives from renting its regulated assets (such as reservoirs, to telecommunication carriers) from the regulated cost base, and we have maintained this approach at each subsequent price review. (IPART, *Review of prices for Sydney Water Corporation from 1 July 2016 to 30 June 2020 – Final Report*, June 2016, p 77).

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In this chapter, we begin by outlining our objectives for the review. We then set out and discuss our draft decisions on:

- ▼ why we continue to favour an impactor pays approach to cost sharing, and
- ▼ how we will use this approach to determine the shares of WaterNSW and WAMC's costs to be recovered from rural bulk water customers (via regulated water prices) and the share that should be paid for by the NSW Government on behalf of other users and the broader community.

### **3.1 Objectives of our cost sharing framework**

In conducting this review of our cost sharing framework, our objectives are that our cost sharing framework should be transparent, cost-reflective and practical.

#### **Transparent**

We aim to ensure that the cost sharing framework is transparent, in regard to both the cost of providing specific services and the share of costs between customers and the NSW Government. This includes the quantum and basis on which the NSW Government is providing funding to WaterNSW and WAMC.

#### **Cost-reflective**

We aim to ensure that the cost sharing framework reflects the efficient costs of the services. This promotes efficient bulk water use and investment decisions by bulk water suppliers and customers.

#### **Practical**

We aim to ensure that the cost sharing framework can be applied practically. A practical framework should be easy to understand and, at application, not impose overly onerous administrative burden on either IPART or the regulated business.

Additionally, it should reflect the operations of the business, so that it can be applied consistently over time, and be flexible enough to efficiently and effectively respond to changes in the business or water sector.

### **3.2 We will continue to share costs based on the impactor pays principle**

Prices for water services should reflect the full efficient forward-looking costs of providing these services to customers. This promotes the efficient use and allocation of resources, to the benefit of society. As part of our current cost-sharing framework, we use the impactor pays principle to determine water customers' share of WaterNSW's and WAMC's costs.

Under the impactor pays principle, costs are allocated to those who create the need to incur the cost. Water customers face the costs of the services they receive, including costs WaterNSW and WAMC incur to comply with environmental and other regulatory requirements in delivering those services. We consider that using the impactor pays principle

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to determine water customers' share of WaterNSW's and WAMC's costs is consistent with cost-reflective pricing.

Our draft decision is that WaterNSW and WAMC's efficient costs continue to be allocated between water customers and the NSW Government (on behalf of other users and the broader community) based on the impactor pays principle, ie, those that create the need for the cost to be incurred should pay the cost. In applying the impactor pays principle, the counterfactual starting point is a world without a high consumptive use of water.<sup>16</sup>

#### Draft decision

- 1 WaterNSW and WAMC's efficient costs will continue to be allocated between water customers and the NSW Government (on behalf of other users and the broader community) based on the impactor pays principle, ie, those that create the need for the cost to be incurred should pay the cost.
  - In applying the impactor pays principle, the counterfactual starting point is a world without a high consumptive use of water.

#### 3.2.1 Reasons for draft decision

We consider that sharing costs using the impactor pays principle achieves better efficiency outcomes than sharing costs using the beneficiary pays principle. In addition, we consider that it is a more practical and transparent approach and we note that it is consistent with the funding hierarchy that we have used previously for other services.

While there is support for an impactor pays approach amongst stakeholders in principle, there is a range of views on what it means in practice. By clearly defining the counterfactual starting point for the impactor pays principle, we are able to more transparently identify the underlying impactors of each activity and allocate costs between users accordingly.

We acknowledge that distinguishing between impactors and beneficiaries, and allocating costs in situations where multiple impactors are identified, both require careful consideration and judgement. However, in our view applying an impactor pays approach through an activity-based framework<sup>17</sup> is the most practical and sound approach available to achieve the objectives of our cost sharing framework.

#### Efficiency, practicality and consistency

Under the impactor pays principle, water customers face the costs of the services they receive, including costs WaterNSW and WAMC incur to comply with environmental and other regulatory requirements in delivering those services. For example, if a dam is required solely to deliver bulk water to entitlement holders, and that dam triggers a regulatory requirement for WaterNSW to construct and operate fish ladders, then (under the impactor pays principle), water customers should pay for the prudent and efficient cost of WaterNSW complying with this environmental requirement.

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<sup>16</sup> That is, a world without the need for regulated infrastructure and services.

<sup>17</sup> In our Issues Paper we proposed that an alternative service-based framework could better facilitate the application of the impactor pays principle (at least in theory). Chapter 4 sets out our draft decision to maintain the activity-based framework as it is the most practical approach available.

In contrast, the sharing of costs could be based on the beneficiary pays principle. Under this principle, the costs of a service or activity would be allocated to those who benefit from the service or activity. Water customers would pay for the direct costs of water supply, but would only pay environmental mitigation or remediation costs associated with water supply to the extent they benefit from these activities. This would likely mean that environmental remediation or mitigation work, such as that associated with the fish passage example outlined above, would be paid for by the general community (through the NSW Government) – even though it may be required to deliver water to customers.

We prefer the impactor pays principle as:

- ▼ It is more efficient for costs to be allocated to those who create the need to incur these costs (see box below).
- ▼ We consider it is more cost reflective and therefore more equitable for costs, such as the costs of complying with environmental regulatory requirements, to be allocated to those who create the need to incur the cost.
- ▼ In many cases, it is more transparent and practical to allocate costs to impactors – who are typically water users – than beneficiaries. For example, it may be difficult to attribute the benefit of protecting species diversity in a river system to a specific segment of society.

In the following sections we set out a number of examples to support our view that the impactor pays principle is more appropriate than the beneficiary pays principle for allocating the costs of rural bulk water services. We also consider the consistency of the impactor pays principle with the funding hierarchy that we have applied across a range of services previously.

### Sharing the costs of infrastructure and associated environmental costs

The box below provides an example of how the two principles differ in their application in the case where a dam is constructed and its environmental impact needs to be mitigated. This example highlights a key advantage of the impactor pays principle over the beneficiary pays principle. While the costs of protecting the environment have a benefit to the broader community, these costs only need to be incurred due to the demand of the local council area for water from the dam. If we do not charge the party that caused the need for the cost to be incurred, we would promote the inefficient use of and investment in the service, for example, by leading to excessive consumption of water services above the economically efficient level.<sup>18,19</sup>

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<sup>18</sup> One argument provided in support of applying the beneficiary pays principle is that it provides a better incentive to the Government to ensure the costs of environmental management activities do not exceed their benefits. That is, in deciding the level of environmental regulation, the Government will have a stronger incentive to weigh up the costs and benefits of these activities if it is funding these costs. We agree that this process is important when conducting an upfront assessment of a new regulation. However, this outcome is still inefficient for society to the extent customers do not face the full costs of supplying water services to them. (IPART, Review of rural water cost shares Issues Paper, April 2018, p 10.)

<sup>19</sup> We acknowledge the NSW Irrigators Council's position that consumption decisions are affected by factors other than price (see NSW Irrigators Council, Submission to Independent Pricing and Regulatory Tribunal Review of rural water cost shares, June 2018, pp 12-13). However, we are of the view that efficient price signals are still important. Constraints on consumption decisions can potentially be removed.

### Box 3.1 The impactor pays and beneficiary pays principles

This box presents an illustrative example of the application of the impactor pays and beneficiary pays principles.

#### Applying the impactor pays and beneficiary pays principles

In this example, a local council is a high security entitlement holder on a regulated river and a dam is built to supply water to the local council who in turn supplies water to the businesses and households in the local council area. The dam creates two costs:

1. The costs of building and maintaining the dam to supply water.
2. The costs of environmental management activities, which are prescribed in regulation to limit the dam's impact on the environment (ie, to address negative externalities resulting from building the dam).

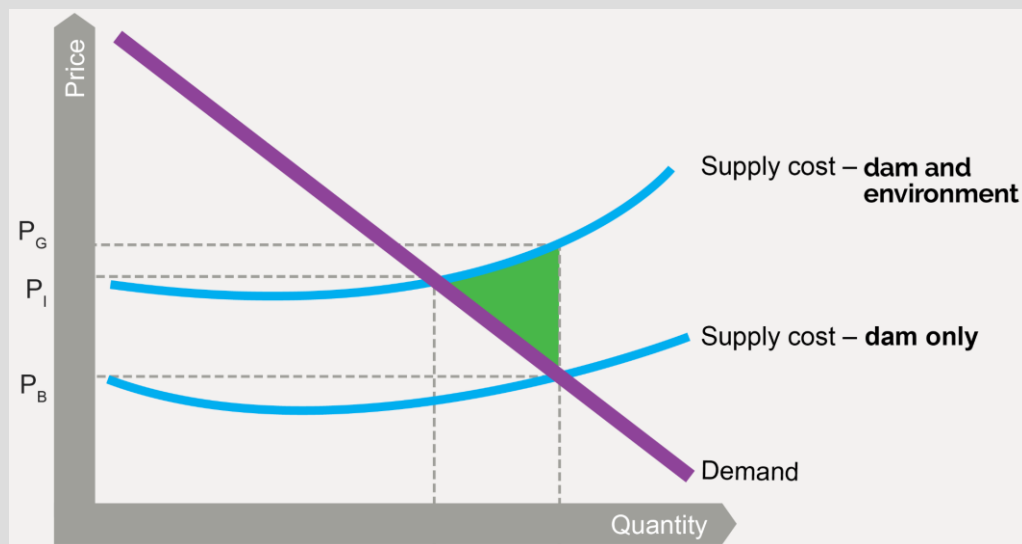
In this example:

- ▼ Under the impactor pays principle, the local council would pay for both costs.
- ▼ Under the beneficiary pays principle, the local council would pay for the cost of building and maintaining the dam, while the government would fund the cost of environmental activities.

#### Why we prefer the impactor pays principle

This is shown in the stylised figure below. The demand from the local council for water services is shown by the downward sloping demand curve (purple line). The cost of building, maintaining and operating the dam is shown by the 'supply cost – dam only' curve. The total cost of building, maintaining and operating the dam and managing the environmental costs resulting from the dam is shown by the 'supply cost – total' curve.

**Figure 3.1 Stylised supply of water services under impactor and beneficiary pays**



The efficient level of water services supplied to the local council is given by the level  $Q^*$ , where the demand for an additional unit of water services is equal to the cost of supply (or, in other words, the benefit to society of water supply equals its cost). This is the quantity of water services supplied under the impactor pays principle, where users would pay for both costs (at price  $P_I$ ).

Under the beneficiary pays principle, users would consume a higher quantity of water services (QB in this example) because the price of water services would be lower (PB) – or, in other words, because they would not face the true cost of providing water services to them. The government would pay the difference between the total cost of supplying water services (PG) and the price users pay (PB). This would be inefficient for society, because the demand for an additional unit of water services is lower than the cost of supply, and the welfare loss for society is shown by the green shaded triangle.

This example is based on the concept of efficient marginal cost pricing (ie, an efficient level of consumption is expected to occur when the price of an additional unit of consumption is set equal to the marginal cost of that additional unit of consumption). We note that while a large proportion of bulk water costs are fixed in the short run, all costs are variable in the long run. Therefore, in the long run there is an economic argument for prices to reflect the full efficient cost of providing services to customers.

#### Sharing the costs of infrastructure and when there are both impactors and beneficiaries

The box below considers a case where there is both an impactor (a council) and beneficiaries (recreational users) from an investment in a dam. It shows that:

- ▼ while the costs of the infrastructure have a broader benefit than serving the local council (the impactor),
- ▼ sharing these costs between impactors and beneficiaries on the same basis could promote the inefficient use of and investment in the service,
  - for example, by leading to excessive consumption of water services above the economically efficient level.

### Box 3.2 Cost sharing with both impactors and beneficiaries

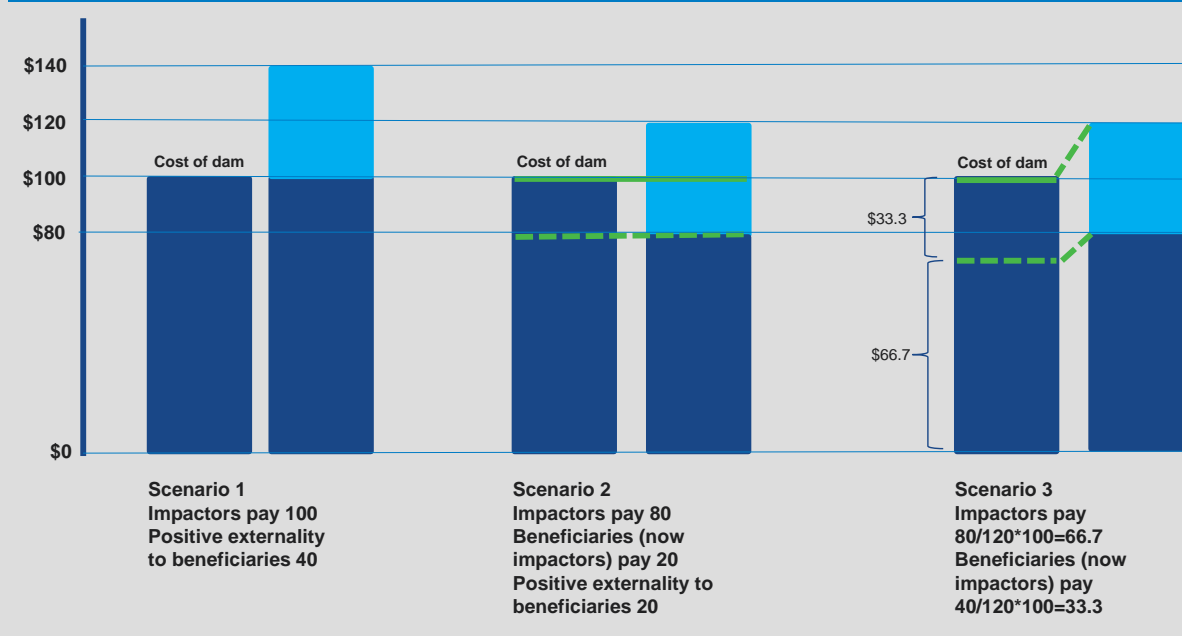
Consider again the example in Box 3.1 where a dam has been built to serve a local council area.

Assume that the costs of building, maintaining and operating a dam to supply a local council, including complying with environmental regulatory requirements, are \$100. Under the impactor pays principle, the local council would pay \$100 for water supplied from the dam.

However, in this example there are other beneficiaries from the dam (eg, example recreational users who value its use at \$40), but these additional activities generate no additional costs. In the figure below we consider three scenarios:

1. The council has the capacity to pay the full \$100 cost of the dam.
2. The council has the capacity to pay \$80, and the remaining \$20 is paid by recreational users.
3. The council has the capacity to pay \$80, recreational users value the dam at \$40, and the \$100 cost is shared between the council and recreational users on this basis.

**Figure 3.2 Considering costs under the impactor and beneficiary pays principles**





In the first scenario, the full cost of supplying water (\$100) would be recovered from the local council and there would be a positive externality of \$40 (ie, the benefit to recreational users).

In the second scenario, we could recover \$80 from the local council and \$20 (the residual costs) from recreational users. Recreational users in effect become impactors for the dam as the investment would not be efficient if not for the value they ascribe to it. Recognising the value recreational users have for the dam ensures efficient investments are still undertaken.

In the third scenario costs are allocated according to willingness to pay. Under this scenario:

- The council pays:  $80/120 \times 100 = 66.7$
- Recreational users pay:  $40/120 \times 100 = 33.3$

We consider this provides an inefficient price signal to the council – the original impactor for the dam. That is, similar to the example above, the council may consume a higher quantity of water services (because the price of water services would be lower than it otherwise would be) and this would be inefficient for society.

### Consistency with our funding hierarchy

Our preference for the impactor pays principle is consistent with our approach across a range of services, where we have generally adopted or promoted the following funding hierarchy:

1. Preferably, the party that created the need to incur the cost (the impactor) should pay in the first instance.
2. If that is not possible, the party that benefits (the beneficiary) should pay. Further, it is preferable for direct beneficiaries to pay, but if that is not possible then indirect beneficiaries should pay. In some cases, the impactor and the beneficiary are the same.
3. In cases where it is not feasible to charge either impactors or beneficiaries (for example, because of social welfare policy, public goods, externalities, or an administrative or legislative impracticality of charging), the government (taxpayers) should pay.

For example, we recommended the adoption of this funding hierarchy in our review of the funding framework for Local Land Services in NSW.<sup>20</sup> Under our funding hierarchy we seek to identify and charge impactors first. If we cannot identify and/or charge impactors (or it is too difficult or costly), we then seek to identify and charge beneficiaries. If we cannot identify and/or charge beneficiaries (or it is too difficult or costly), the costs are borne by the NSW Government. In the case of rural water, we can identify impactors but it is not always practical to charge them<sup>21</sup>, in which case the NSW Government contributes on their behalf.

### Stakeholder views on the cost sharing principle

Submissions to the Issues Paper suggest that there is no consensus among stakeholders on either the correct principle to apply to rural cost shares (ie, impactor pays, beneficiary pays or a mix of the two) or the definition and application of the impactor pays principle.

<sup>20</sup> For further information, see IPART, *Review of funding framework for Local Land Services NSW – Draft Report*, 2013.

<sup>21</sup> For example, it may be impractical for WaterNSW to charge recreational users that impact on WaterNSW's costs.



Some stakeholders agree with the impactor pays approach, such as the Department of Industry (DoI), which stated that the impactors pay principle aligns with its approach for program evaluation purposes and the NSW biosecurity strategy.<sup>22</sup> However, other stakeholders consider that the principle is ill-suited in the context of rural cost shares because:

- ▼ It is not appropriate for 'pre line in the sand' legacy assets.<sup>23</sup>
- ▼ It does not equitably capture the increased complexity of water users now compared to 2001, ie, the environment, basic land holder rights, recreational users, rural communities and cultural water and their unique demands.<sup>24</sup>
- ▼ It does not take account of the fact that rural water users have no choice and cannot switch providers.<sup>25</sup>
- ▼ It is over simplistic in a monopoly market as it fails to recognise that rural water users cannot significantly influence the cost of service provision at an individual level.<sup>26</sup>

Some stakeholders consider that the beneficiary pays principle should applied:

- ▼ where costs are associated with pre line in the sand assets,<sup>27</sup>
- ▼ where there are multiple users,<sup>28</sup> and
- ▼ in the context of the State and Federal ongoing water reform processes, which are not driven by licence holders.<sup>29</sup>

Regardless of the underlying principle used for cost sharing, of particular concern among stakeholders is the increase in community expectations of the water industry, other than around the traditional delivery of bulk water services. This includes how water is managed and used for the benefit of the whole community and how this has led to additional costs that some stakeholders consider should be attributed to other 'impactors', such as the environment.<sup>30</sup>

Below we set out how we will define the counterfactual starting point from which we will apply the impactor pays principle. By clearly defining the counterfactual starting point for the impactor pays principle, we are able to more transparently identify the underlying impactors of each activity and allocate costs between users accordingly. The following section includes a number of examples of what this means for cost sharing in the rural bulk water sector.

<sup>22</sup> Department of Industry, Submission to Review of Rural Water Cost Shares, June 2018, p 3. A further stakeholder agreed with the principle, but considers it has been applied incorrectly, in that the cost of mitigating environmental impacts should be charged to consumptive water users and not the environment. See Anonymous, Submission to Review of Rural Water Cost Shares, June 2018, pp 1-2.

<sup>23</sup> WaterNSW, Submission to the Independent Pricing and Regulatory Tribunal, June 2018, p 5.

<sup>24</sup> Gwydir Valley Irrigators Association, Submission to IPART's Review of Rural Cost Sharing Framework, June 2018, p 2. NSW Irrigators Council, Submission Independent Pricing and Regulatory Tribunal Review of rural water cost shares, June 2018, p 20.

<sup>25</sup> Southern Riverina Irrigators, Submission to Review on Rural Water User Cost Share, June 2018, p 4.

<sup>26</sup> Murray Irrigation, Submission on the Rural Water Cost Share Review, June 2018, p 2.

<sup>27</sup> WaterNSW, Submission to the Independent Pricing and Regulatory Tribunal, June 2018, p 5.

<sup>28</sup> Macquarie River Food and Fibre, Submission on Review of rural water cost shares, June 2018, p 6.

<sup>29</sup> NSW Irrigators Council, Submission Independent Pricing and Regulatory Tribunal Review of rural water cost shares, June 2018, p 12.

<sup>30</sup> See, eg, Lachlan Valley Water, Submission to IPART on Review of rural water cost shares, June 2018, p 2 and WaterNSW, Submission to the Independent Pricing and Regulatory Tribunal, June 2018, p 5.

## Defining the counterfactual

The principle of impactor pays can lead to different outcomes when it is applied, depending on how we define the counterfactual starting point. Once we clearly define and articulate the counterfactual starting point, we can more transparently identify the underlying impactors of each activity.

Our draft decision is to anchor our application of the impactor pays principle to a defined counterfactual for both WaterNSW and WAMC. The counterfactual (or ‘without world’) is a world without the large consumptive use of water resources.

In terms of WaterNSW (rural), we see this as a world without the need to physically regulate water sources (eg, build dams). We consider this is appropriate as we have found that the initial purpose of the construction of many of the rural dams WaterNSW operates and manages was to support consumptive use, including the development of townships and the agriculture industry.

In terms of WAMC, we see this as a world without the need to manage NSW water resources. We consider that the need for WAMC’s services such as planning and managing water resources and issuing and protecting licences would not be required if there was not high consumptive use of the water resources, where one group/individual’s use of water impacts on another group/individual’s ability to use the resource.

### 3.3 Considerations in applying the impactor pays principle to share costs

Under the impactor pays principle, the party that creates the need to incur the cost should pay the cost. Therefore, if water customers create the need to incur a share of the cost of an activity or asset (ranging from 0% to 100%), then they should pay this cost.

Water customers should only pay for the share of forward-looking costs that are required to service their water use. In other words, they should not pay if:

- ▼ There are unavoidable legacy costs. That is, costs caused by past users and activities which are unrelated to the efficient forward-looking cost of providing services to current and future customers.
- ▼ Costs are created by other impactors. If it is not possible to directly charge these other impactors, or these costs are incurred to deliver benefits to the broader community, these costs should be funded by government.

Below we discuss how we consider costs should be shared in these two cases.

#### 3.3.1 Unavoidable legacy costs

Legacy costs are not included in prices for regulated services. In general, legacy costs should not be reflected in prices for current and future users because they are costs that a business must incur due to past users or previous uncommercial investment and management decisions.

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These costs may be incurred regardless of any current or future use of the regulated service (eg, we would still need to remediate salinity problems even if current usage ceased and there was no future usage of services – see discussion below). They should not form part of the efficient forward-looking costs of providing the service to customers. This is because the inclusion of these costs in determining customer charges does not provide accurate price signals to current and future customers, nor is there any economic efficiency rationale for the cost inclusion (ie, it is not related to the cost of providing the service to the customer).

As part of our current cost-sharing framework, we determine which costs are defined as legacy costs and we assign these costs a zero customer share. That is, these costs are fully funded by the NSW Government.

#### Draft decision

- 2 Legacy costs are considered to be those costs caused by past users and activities that are not attributable to current and future users of the regulated service. Legacy costs should not be reflected in the prices paid by current and future users.
  - Changes in costs due to changes in regulations or standards are not considered legacy costs.

#### Reasons for our draft decision

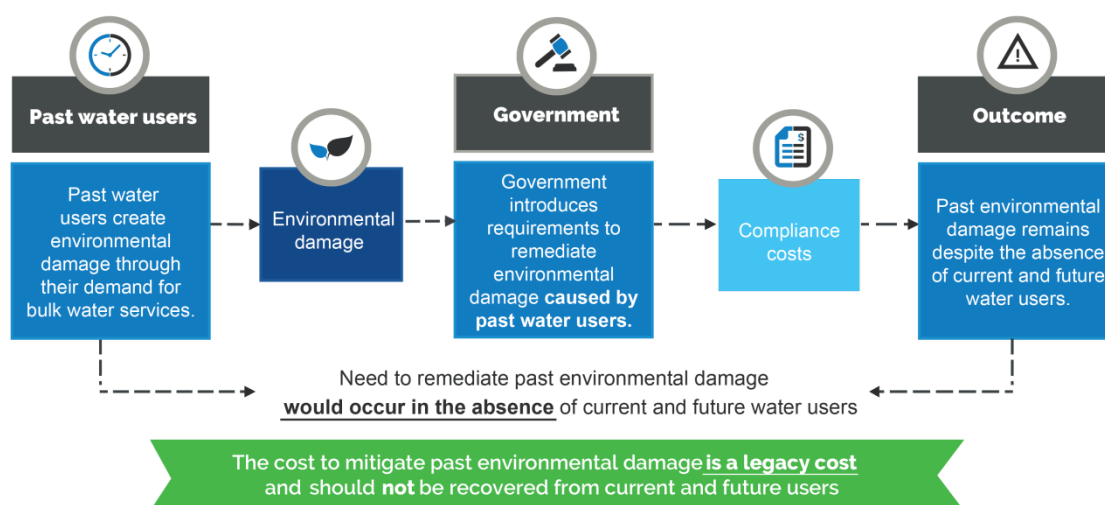
We consider there are two aspects of legacy costs, those that are caused by past users and those that are caused by previous uncommercial investment and management decisions. We have previously adjusted for both aspects, eg in our treatment of the costs of addressing salinity and the costs of bringing pre-1997 assets up to 1997 dam safety standards. Some stakeholders consider that this second adjustment suggests that we should require the NSW Government to pay for any change in regulations or standards that leads to an increase in costs (this issue is discussed below).

This would not be consistent with our definition and application of legacy costs. The efficient forward looking costs of providing services to current and future users will be recovered in accordance with the cost sharing framework. That is, both maintaining the standard and any change in regulations or standards after 1997 will be considered a ‘cost of doing business’ and will be recovered in accordance with the cost sharing framework.

#### How we define and identify legacy costs

Following the discussion in our Issues Paper, we consider that there are potentially two aspects of legacy costs. Firstly, there may be costs incurred today and in the future due to past users, eg, the cost of remediating past environmental damage. These costs are driven by some historical factor that remains even if all users no longer existed and the regulated service is no longer required. An illustrative example of the steps to determining legacy costs in this case is shown in the figure below.

**Figure 3.3 Illustrative example for defining legacy costs**



**Data source:** IPART analysis.

Secondly, there may be costs incurred today and in the future because of previous uncommercial investment and management decisions. This is an aspect of legacy costs we have recognised previously, when we decided that the costs required to bring pre-1997 infrastructure up to standards that existed in 1997 should be treated as legacy costs (see section below).

The first aspect of legacy costs may be transitional, eg, if we can remediate the environmental damage associated with past users. We expect the second aspect to always be transitional. While assets need to be brought up to standard, once all infrastructure that existed pre-1997 is up to the standard that existed at 1997 then there should be no more legacy costs.

### Examples of legacy costs in rural bulk water

Two examples of legacy costs in the rural bulk water sector are given by expenditure required to meet past dam safety standards and the costs of addressing river salinity.

In our 2001 review of rural bulk water prices, we determined that legacy costs would be those current and future costs attributable to pre-1997 activities and/or the cost of bringing infrastructure to prevailing 1997 standards (see the box below).<sup>31</sup> The decision to classify legacy costs this way acknowledged that historical activity had meant that dam infrastructure was not up to the current standards (ie, at the time we took on responsibility for setting prices).

Therefore, to set forward looking prices, we did not include the ‘catch-up’ expenditure required to reach the prevailing standards and regulations. These costs were defined as legacy costs, as those standards should already have been met. That is, expenditure required to reach standards established at or before 1 July 1997 would be categorised as legacy costs, but expenditure required to maintain these standards, or to meet standards established after that time, would not form part of legacy costs and would be subject to our cost sharing framework. This ensures that rural bulk water customers only pay the share of efficient forward-looking costs that corresponds to their use of the regulated services.

<sup>31</sup> IPART, *Department of Land and Water Conservation, Bulk Water Prices from October 2001*, December 2001, pp 31-32.

### Box 3.3 Our application of legacy costs

Our role in regulating prices for rural bulk water services began in 1996. At that time we recognised that rural water infrastructure assets built in the late 19th and early 20th century were built in part as a government policy to expand agriculture and rural development. Water prices in 1996 were still subsidised as it was only in 1994 that governments across Australia stated that they intended to fully recover the costs of service provision.

Therefore, when we set the initial regulatory asset base (for pricing purposes) in 2001, we drew a 'line in the sand' and did not include water assets put in place prior to 1 July 1997, referring to them as sunk costs (ie, we set an initial regulatory asset base of zero). This recognised the probability of inefficient past investment decisions and past poor practices. As a consequence, these assets as they stood at the time did not attract depreciation or a rate of return. However, we decided that all new expenditure on these assets, including renewals and compliance costs post-1997, would be subject to a depreciation allowance and attract a rate of return.

We aligned the timing of our application of the cost-sharing framework with this decision and classified legacy costs as those current and future costs attributable to past (ie, pre-1997) activities and/or the cost of bringing natural and artificial infrastructure to prevailing 1997 community standards. In practice, this means that expenditure required to reach standards established at or before 1 July 1997 would be categorised as legacy costs, but expenditure required to maintain the standards and/or to meet new standards would not form part of legacy costs and would be subject to our cost sharing approach and full efficient cost recovery.

While the 1997 anchor point is the same in both decisions, the decisions themselves are independent of each other. That is, we could have set a positive regulatory asset base and still identified legacy costs, or identified no legacy costs and set either a zero or positive regulatory asset base

**Source:** IPART, *Department of Land and Water Conservation, Bulk Water Prices from October 2001*, December 2001, p 23 and pp 31-32.

In the late 1960's, river salinity rose to levels high enough to cause damage to irrigated crops and exceeded the World Health Organisation recommendations for human consumption. It was only in the mid 1980's that salinity was recognised as one of the most significant environmental and economic challenges facing the Murray-Darling Basin. This then precipitated a coordinated agreement to reduce salinity, rehabilitate irrigation areas and support sustainable farming practices and the environment.<sup>32</sup>

To the extent that we can attribute the high concentration of salt to poor policy and/or farming practices in the past, we would allocate a proportion of funding these remediation costs to the NSW Government. However, to the extent that current irrigation practices exacerbate river salinity, then customers are also 'impactors' of ongoing efforts to manage river salinity and should be required to pay their share of its costs.

<sup>32</sup> See Murray-Darling Basin Ministerial Council, *Basin Salinity Management 2030 BSM2030*, November 2015, p 1.

## Stakeholder views on legacy costs

A common view among stakeholders is that dam infrastructure constructed pre-1997 should remain a legacy cost and be funded by the NSW Government.<sup>33</sup> The justification given is that the infrastructure was not built in the most 'cost effective' manner solely for the delivery and storing of water. Instead, it was built with the other purposes in mind such as encouraging economic development, to facilitate navigation and/or to maintain flows to other States. Because of this, many of the dams have associated safety, regulatory and environmental costs which are far greater than they would have been if the dam was constructed purely for consumptive user purposes.

Our research into the key cost drivers of WaterNSW's infrastructure and its historical context has found that dams were built to support irrigation and the agriculture industry. As set out above, when we set WaterNSW's initial regulatory asset base we adopted an asset value of zero, to address stakeholder concerns regarding inefficient (or over) investment.<sup>34</sup>

Stakeholders have also argued that our application of legacy costs in the past has set a precedent for the NSW Government to fund the costs of bringing infrastructure up to **new** regulatory or compliance standards. This issue is discussed in the next section.

### Changes in costs due to changes in regulations or standards are not legacy costs

Stakeholders, particularly irrigators, consider that water customers should not pay for increased compliance and regulatory costs driven by changes in community expectations. For example, the NSW Irrigators' Council (NSWIC) suggested broadening and clarifying the definition of legacy costs to include a "change in government policy that has created additional costs that have neither been demanded by extractive water users nor been the result of extractive water users".<sup>35</sup> NSWIC makes reference to the Australian Competition and Consumer Commission (ACCC), which suggested that any new environmental or safety obligations may be considered legacy costs or grandfathered on the basis that any new regulatory obligations should not materially disadvantage existing users.<sup>36</sup>

Similarly, the Gwydir Valley Irrigators Association (GVIA) considers that increasing administration requirements for new legislation such as the Basin Plan, fish passages (environmental measures), dam safety requirements, flood monitoring and river monitoring should be considered legacy costs.<sup>37</sup>

<sup>33</sup> See eg, Lachlan Valley Water, Submission to IPART on Review of rural water cost shares, June 2018, p 2 and Macquarie River Food and Fibre, Submission on Review of rural water cost shares, June 2018, p 7.

<sup>34</sup> We also note that Frontier Economics considered that applying a 0% user share to costs associated with pre-1997 assets overstated the true legacy cost and understated the forward-looking nature of these costs. See Frontier Economics, *Review of WaterNSW Cost Shares*, December 2016, p 53.

<sup>35</sup> NSW Irrigators Council, Submission Independent Pricing and Regulatory Tribunal Review of rural water cost shares, June 2018, p 10.

<sup>36</sup> ACCC, *Allocation of costs between government and users in the regulation of wholesale water service providers in NSW*, Working Paper, 2012, pp 13-14. The ACCC viewed that (in-principle) any new regulatory obligations which impose significant costs on government-owned businesses should not necessarily be allowed to pass these costs onto existing customers. In practice, this means that any increases in environmental or safety obligations driven by increasing community expectations on existing asset infrastructure be considered legacy costs or grandfathered. However, any new assets constructed after the introduction of the new obligations pass on the total cost of construction and compliance onto customers.

<sup>37</sup> See Gwydir Valley Irrigators Association, Submission to IPART's Review of Rural Cost Sharing Framework, June 2018, p 2.

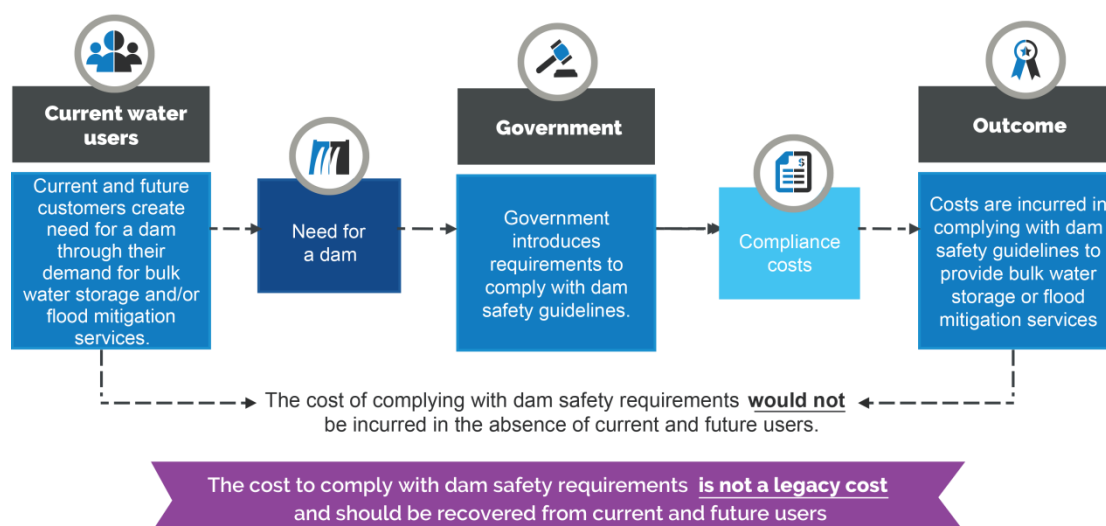


Our decision to classify some costs as legacy costs in 2001 acknowledged that previous poor investment and management decisions had meant that dam infrastructure was not up to the current standards. Therefore, to set forward looking prices, we did not include the ‘catch-up’ expenditure required to upgrade assets to meet the prevailing standards and regulations. These costs we defined as legacy costs.

However, we consider that costs associated with maintaining the standards and any future changes in standards and regulation should not be classified as legacy costs as these are part of the forward looking costs of the business. They are not necessarily a ‘catch up’ cost required because infrastructure is below the current standards. An illustrative example of the steps in considering the treatment of costs associated with a change in regulations or standards is shown in the figure below.

We consider that our decision in 2001 does not set a precedent to classify costs attributed to changes in regulation or standards as legacy costs.

**Figure 3.4 Illustrative example for considering costs of a standard change**



Data source: IPART analysis.

### 3.3.2 Costs caused by other users

Under the impactor pays principle, the party that creates the need to incur the cost should pay the cost. Therefore, if water customers create the need to incur a share of the cost of an activity (ranging from 0% to 100%), they should pay their share this cost.

Water customers should only pay for the share of efficient forward-looking costs that are required to service their water use. In other words, they should not pay if costs are created by other impactors. If it is not possible to directly charge these other impactors<sup>38</sup>, or these

<sup>38</sup> There may be a number of other users that contribute to WaterNSW's and WAMC's costs. For example, these may include recreational users. Water customers should not pay for the costs that are caused by other users.

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costs are incurred to deliver services to the broader community<sup>39</sup>, these costs should be funded by the NSW Government.

When identifying the impactor(s) causing the need to undertake an activity and incur a cost, our counterfactual starting point is the world without the need for the regulated service. In this case, it is the world without the need to store and deliver water for consumptive users, ie, the natural environment (potentially with some water use attributable to basic landholder rights). A number of parties could subsequently be considered impactors in the rural bulk water sector:

- ▼ water customers (or consumptive users)
- ▼ communities requiring flood protection
- ▼ NSW Government (for testing and monitoring activities)
- ▼ recreational users, and
- ▼ landholders with basic landholder rights.

Consider the case illustrated in the figure below, where a dam is built to supply water to consumptive users. Consumptive users are the impactors that cause the need for the dam and should pay the costs involved in storing and delivering water.

As a consequence of the dam, two situations may transpire for a downstream community. Firstly, a flood may occur due to dam failure. To the extent that flood management costs are required to respond to or manage the risk posed to the community by dam failure (and the dam was constructed to supply water to consumptive users), these should be allocated to consumptive users. In this case, the impactor of the cost is the consumptive users that require the dam to be built in the first place, as the need to protect the community from this risk would not exist in the absence of the infrastructure.

However, floods also occur naturally due to rainfall and the new dam may have the ability to absorb floodwater (and thus reduce the probability of a flood occurrence compared to an unregulated river). To the extent that flood management costs are incurred to manage the risk posed through naturally occurring floods, then the impactor is the downstream community.

If the dam was initially constructed to provide flood **mitigation** services, then the downstream community would be the impactor for the costs associated with this service.

The building of the dam triggers costs associated with dam safety and environmental standards. The primary objective of dam safety is to minimise the risk associated with dam failure. Dam safety and compliance costs would be shared between impactors to reflect the

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<sup>39</sup> Some of WaterNSW's activities may also provide a broader benefit to society. For example, as well as delivering bulk water to customers, WaterNSW's water storage and supply assets can in some cases provide flood mitigation and recreational benefits to surrounding communities. To the extent that costs are incurred to provide broader social benefits, recovering these costs from water users may result in over-charging (relative to the efficient cost of providing the water service) and under provision (relative to the efficient level of demand and supply) of water storage and supply services. That is, water customers should not be required to pay any additional or incremental costs of delivering benefits to other users (eg, recreational users). Where such incremental costs are incurred, the other users are the 'impactors' of these costs. A Government contribution may therefore be necessary to ensure the efficient provision of water storage and delivery services.



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rationale for constructing the dam in the first place. That is, if the dam was constructed solely for consumptive users, then these users would pay the dam safety costs. However, if the dam was also constructed for specific flood mitigation purposes, then the downstream community would also be an impactor for these costs.

Improved environmental outcomes (eg, fish ladders) are required, to bring the environment back towards the state prevailing before the dam was built. Again, these costs would be shared between impactors to reflect the rationale for constructing the dam in the first place. That is, if the dam was constructed solely for consumptive users, then these users would pay the environmental planning and protection and environmental water management costs (arising from efforts to mitigate the environmental impacts of the dam). However, if the dam was also constructed for specific flood mitigation purposes, then the downstream community would also be an impactor for these costs.

To the extent that consumptive users create the need for regulated businesses to incur costs to comply with regulatory requirements, we consider consumptive users should pay for this cost through regulated prices. We take this view even where it is the community driving a change in standard and therefore costs (eg, due to rising concerns about the environment). That is, we view changes in costs due to changes in regulatory standards as a cost of doing business, which should be reflected in the forward-looking costs recovered by prices.<sup>40</sup>

In terms of landholders with basic landholder rights, to the extent that costs are incurred to provide ongoing access to these rights once the dam has been constructed, then the costs of these activities should be allocated between the impactors that caused the dam to be built. However, any costs incurred to provide services to these land holders that go above and beyond what they would have received in the absence of the dam should be borne by the landholders themselves.

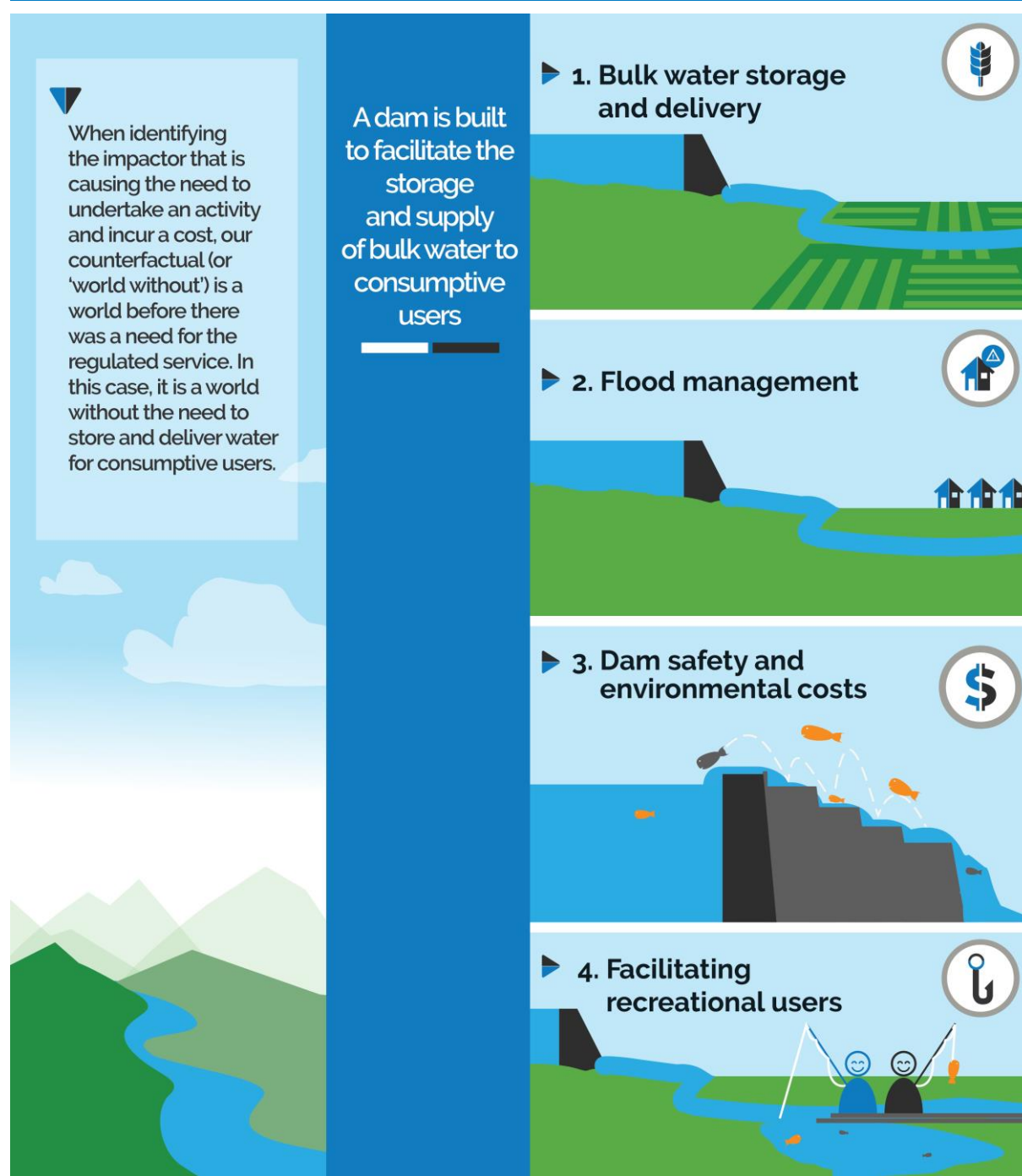
Finally, the dam may serve a recreational use. To the extent additional costs are incurred to facilitate this use (eg, because an additional car park, boat ramp and buildings are needed for recreational users), then the recreational users are the impactors for these costs (this is illustrated in the box below).

In short, in the event that the dam is designed and built, and costs are incurred, to deliver services/outcomes that go above and beyond supplying water services to consumptive users (and managing the safety requirements and environmental impacts from providing those water services), there can be a case to share costs between multiple impactors.

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<sup>40</sup> We recognise that a change in the downstream community may change the costs of implementing an existing standard (eg, the growth of a downstream community may increase the costs associated with implementing an existing dam safety standard). Under our application of the impactor pays principle these costs would be shared between impactors to reflect the rationale for constructing the dam in the first place.

**Figure 3.5** Identifying the impactor(s) of costs associated with a dam



### Box 3.4 How do we apply the impactor pays principle where there are other users?

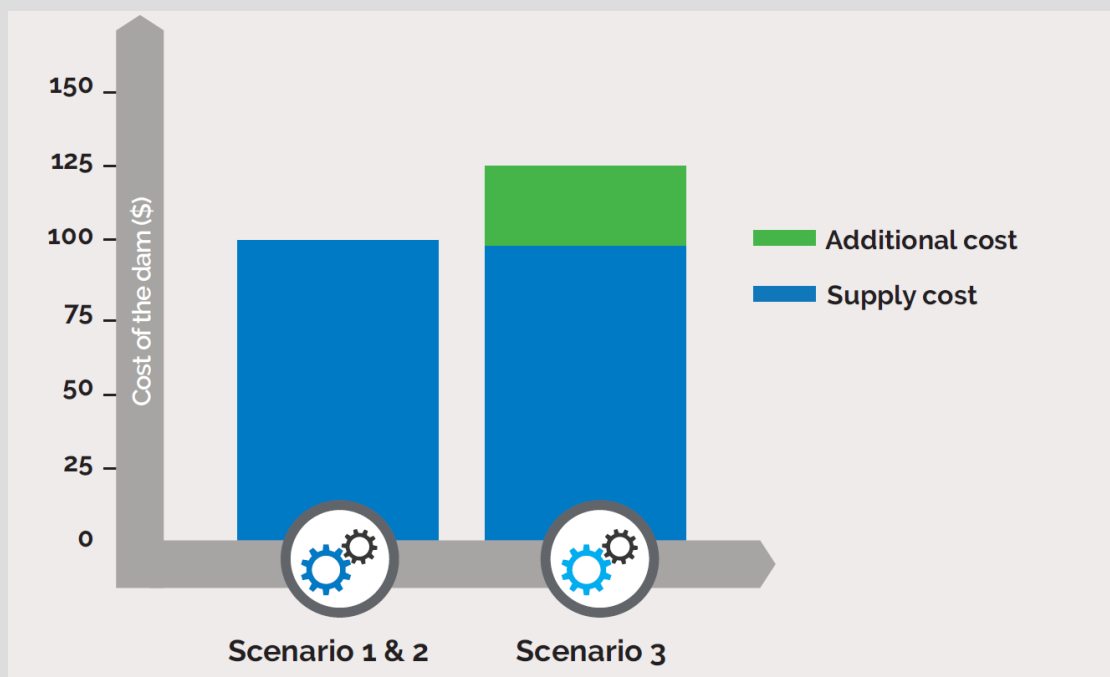
Consider the case where a dam has been built to serve a local council area.

Assume that the costs of building, maintaining and operating the dam, including complying with environmental regulatory requirements, are \$100. Under the impactor pays principle, the local council would pay \$100 for water supplied from the dam.

However, in this example, the dam can also be used for recreation activities, such as fishing, boating, and camping. In Figure 3.6 we consider three scenarios:

3. The dam is only used to supply water to the local council area (ie, there are no recreational uses). The cost of the dam is \$100, and this is shown on the left column.
4. The dam is also used for recreational activities, but these additional activities generate no additional costs (this scenario is also shown on the left column).
5. The dam is also used for additional recreational activities involving an additional cost of \$25 (for example, because an additional car park, boat ramp and buildings are needed for recreational users). This is shown by the incremental cost in the right column.

**Figure 3.6 Considering costs under the impactor pays principle**



In the first scenario, we would recover the full cost of supplying water (\$100) from the local council. We consider this approach is efficient because the local council has caused the need for the dam to be built, as well as the need to conduct environmental management, and in this example, there are no other uses for the dam.

In the second scenario, we would also recover the full cost of supplying water (\$100) from the local council, even though the dam is used for recreational purposes. We also think this is efficient because the recreational users of the dam do not impact the overall cost of building, maintaining and operating the dam.

In the third scenario, the council would pay \$100 to reflect the cost of their activities, while the government would pay \$25, to reflect the cost incurred as a result of recreational use of the dam (if it was not possible or practical to recover costs from recreational users themselves).

## 4 Draft Decision on our cost sharing framework

We adopt a cost sharing framework to allow us to apply our cost sharing principles, as discussed in Chapter 3, to determine the share of efficient costs that should be paid for by customers, and the NSW Government (on behalf of other users and the broader community). The framework determines *how we categorise the efficient costs* of WAMC and WaterNSW. We can then apply our principles of impactor pays and legacy costs to determine the total customer share of efficient costs.

During this review we have investigated two different frameworks for cost sharing. A service based cost sharing framework and an activities based cost sharing framework. The two frameworks are different in the way that they allocate the efficient and prudent costs of the entity (ie, WaterNSW (rural bulk water) or WAMC for the purpose of this review). The service based framework allocates costs to defined services that WaterNSW and WAMC deliver, while the activity-based framework allocates costs to the activities that the entities undertake (to deliver their services).

In this chapter we set out our draft decision on the cost sharing framework and assess the benefits and costs of the activity-based and service-based cost sharing frameworks, respectively.

### 4.1 Activities or service-based cost sharing framework?

Our current cost sharing framework is an activity-based framework. The first step of a price review involves the regulated business submitting its pricing proposal, including its proposed capital and operating expenditure allocated to activities. WaterNSW and WAMC's capital and operating expenditure are broken down by activity, and a customer cost share is applied to each activity to determine the total customer share of each entity's efficient costs.

During the WaterNSW 2017 price review, IPART engaged Frontier Economics (Frontier) to review the existing cost share ratios and framework. As part of its review, Frontier recommended that IPART adopt a service-based cost sharing framework rather than the existing activity-based framework.<sup>41</sup>

As part of the current review of rural water cost shares we engaged Aither to develop an implementable service-based framework, identify its potential benefits and costs (including implementation costs) and assess whether there is merit in moving to such a service-based framework. Aither's report sought to define the services that both WaterNSW and WAMC deliver and a cost share ratio for each service. Aither also mapped the current activities and costs to each service.<sup>42,43</sup>

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<sup>41</sup> Frontier Economics, *Review of WaterNSW Cost Shares*, December 2016.

<sup>42</sup> Aither's service-based framework is set out in Appendix A. We note that the mapping and cost allocation Aither recommended are hypothetical as there is insufficient information available to undertake a comprehensive bottom-up allocation of costs.

<sup>43</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018, pp 62-63.

## Draft Decision

### 3 To maintain the activity-based cost sharing framework.

Our draft decision is that we continue to apply the activity-based cost sharing framework. In practice, this means that we would continue to categorise WAMC and WaterNSW's costs by activity, and apply a customer share to each activity to determine the total customer share of each entity's efficient costs. This is consistent with the current framework and more accurately reflects the accounting and cost allocation processes currently in place for both WAMC and WaterNSW.

## 4.2 Reasons for our draft decision

Based on stakeholder feedback and consultant advice, our draft finding is that the short and medium term costs of implementing a service-based framework are likely to outweigh the potential benefits.<sup>44,45</sup> We also found that all stakeholders, including water customers and the regulated entities, expressed concern that a service-based framework would not necessarily result in a more transparent or cost reflective cost sharing framework in practice. Therefore, there is the risk that the potential advantages of the service-based framework over the activities based framework would not materialise.

### 4.2.1 The potential benefits of a service based framework are unlikely to outweigh the costs of implementation

As part of its recommendation, Frontier claimed that the service-based framework provides a more transparent process for allocating efficient costs between customers and the NSW Government.<sup>46</sup> It also allows cost shares to be more easily understood by key stakeholders such as customers and the NSW Government because costs would be presented in a way that is directly linked to the services being received by these stakeholders.

In our Issues Paper we acknowledged that a service-based framework is likely to better facilitate the application of the impactor pays principle because the process of identifying and defining services would help identify the impactor/s of those services.<sup>47</sup>

However, while a service based framework could improve our ability to identify impactors and attribute costs of services to impactors, it would also introduce additional complexity in terms of how costs are allocated from activities to services.<sup>48</sup> Additionally, in Lachlan Valley Water's submission to the Issues Paper, it suggested that a service-based framework may lead to cost shifting and a decrease in transparency and stakeholder understanding of how costs are allocated.<sup>49</sup>

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<sup>44</sup> WaterNSW, Submission to the Independent Pricing and Regulatory Tribunal, Review of rural water cost shares Issues Paper, June 2018, p 11.

<sup>45</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018, p v.

<sup>46</sup> Frontier Economics, *Review of WaterNSW Cost Shares*, December 2016, p 34.

<sup>47</sup> IPART, *Review of rural water cost shares Issues Paper*, April 2018, p 19.

<sup>48</sup> IPART, *Review of rural water cost shares Issues Paper*, April 2018, p 19.

<sup>49</sup> Lachlan Valley Water, Submission to IPART on Review of rural water cost shares, June 2018, p 5.

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Our consultant Aither developed alternative service-based frameworks for WAMC and WaterNSW as part of this review.<sup>50</sup> A summary of these alternative service-based frameworks is provided at Appendix A. Based on its review, Aither viewed that although the service-based framework has conceptual merit and advantages over the activity-based framework, it is not a practical approach for both WAMC and WaterNSW. The benefits of a possible increase in transparency and customer focus did not outweigh the costs of implementation and the possibility that the service-based framework would increase complexity internally for the regulated entities.

Aither found that:

Costs for implementing this change across WaterNSW and WAMC would involve further defining services, identifying customer segments, allocating costs to those segments and internal and external resourcing to redesign accounting systems and implement the solution. This would also involve training/education to ensure cost allocation is undertaken accurately. WaterNSW estimated between \$4 and \$5 million to implement this scenario. Further costs would be required for DOL's system.<sup>51</sup>

While the service-based framework has theoretical merit by improving the ease of application of the impactor pays principle, due to high implementation costs and the potential increase in complexity, our view is that the costs of moving to a service-based framework are likely to outweigh the benefits. Therefore, our draft decision is to maintain the activity-based cost share framework.

#### **4.2.2 The service based framework does not directly address the key issues with the current cost sharing framework**

Most stakeholders did not express a preference for either the service-based framework or an activity-based cost sharing framework. Of greater concern to most stakeholders, particularly customers, is the efficiency and allocation of costs for both WaterNSW and WAMC.<sup>52</sup> Customers had a shared view that there was a lack of transparency and process around what costs are actually allocated to the activities and the rationale behind the cost share ratios to a number of activities. Macquarie Flood and Fibre commented that, as the regulating body, IPART should have oversight over the management accounting systems of the utilities to ensure that the allocation of costs are correctly applied in practice.<sup>53</sup>

Our view is that moving to a service-based framework would not directly address the main concerns expressed by stakeholders about whether costs are efficient and how costs are allocated to activities in practice. WaterNSW suggests that implementing the service-based approach would only result in additional administrative and regulatory costs, as it would be allocating costs to activities and then activities to services rather than directly allocating costs to services. WaterNSW's submission also indicated that given the difficulty of moving to a service-based framework, allocating the cost of some activities such as 'routine maintenance' across several services may lead to arbitrary allocations (ie, that costs are not allocated to

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<sup>50</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018.

<sup>51</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018, p 70.

<sup>52</sup> Central Coast Council, Submission on Review of rural water cost shares, June 2018, p 3; Bega Valley Water Users Association (Inc.), Submission to Review of rural water cost shares, June 2018, p 1.

<sup>53</sup> Macquarie River Food & Fibre, Submission on Review of rural water cost shares, June 2018, p 5.



services accurately).<sup>54</sup> This also highlights that a service-based framework may result in less transparency and accountability compared to the current activity-based framework.

Given this, our view is that more rigour needs to be adopted around the cost allocation process of the utilities, and that without this, the risk that prematurely compelling agencies to implement a service-based cost sharing framework would not result in the potential benefits that the service based framework offers over the activity-based framework.

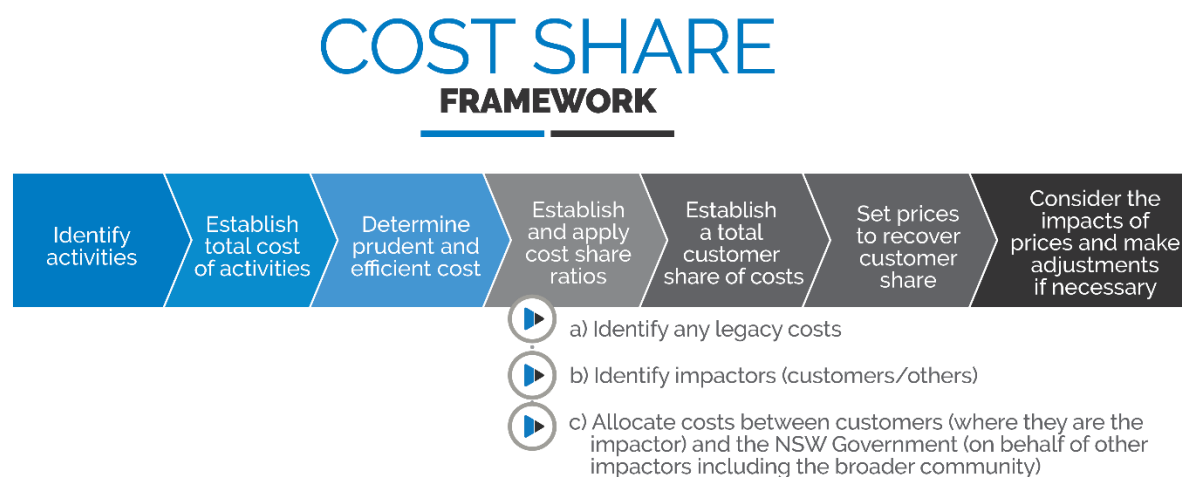
If, theoretically, the activity-based and service-based approaches were both implemented accurately, they should result in the same aggregate cost share. This indicates that we should only prefer one over the other if, for example, it provided more transparency to stakeholders (and hence held the businesses more accountable) and was more likely to be implemented accurately. At this stage, we consider this to be the activity-based framework.

Appendix B, which explains the application of the impactor pays principle to each of WAMC and WaterNSW's current activities, also provides a description of the activities undertaken by these utilities.

### 4.3 Cost sharing framework

The figure below illustrates our draft decision on the cost sharing framework and how it fits into the price determination process.

**Figure 4.1 Cost sharing within the price determination process**



**Data source:** IPART analysis.

Our draft decision is to maintain the activity-based cost sharing framework. This allocates efficient costs (by activity) between customers and the NSW Government (on behalf of other impactors, including the broader community) using the impactor pays principle (ie, where practical, the party that creates the need to incur the cost should pay the cost).

This cost sharing framework involves:

<sup>54</sup> WaterNSW, Submission to the Independent Pricing and Regulatory Tribunal, June 2018, p 11.

- 
- ▼ Grouping forecast efficient operating and capital costs into a comprehensive set of operating and capital expenditure activities.
  - ▼ Setting cost share ratios for each activity-based on the application of our cost sharing principles (both in terms of the impactor pays principle and treatment of legacy costs). These ratios range from 100% customer and 0% NSW Government cost shares for some activities, to 0% customer and 100% NSW Government cost shares for other activities.
  - ▼ During the price review, these cost share ratios are applied to forecast expenditure by activity for each year of the determination period. These cost shares are then aggregated to arrive at total customer and NSW Government share of efficient operating and capital expenditure by valley.
  - ▼ The customer cost shares are used to set regulated prices for the monopoly services. The NSW Government cost shares are effectively used to inform the level of funding provided by the NSW Government to the regulated business.

As part of our price review process we consider a range of matters including the potential impact of our pricing decisions on customers. For example, if our pricing decisions were likely to result in a large impact on customers' bills, we would consider how to mitigate this impact through transitional arrangements such as a glide path, which would allow prices to adjust gradually over the determination period. If there is a case for a government subsidy to address concerns about what customers can afford to pay, we consider this should be made clear through an explicit and transparent government subsidy separate from the NSW Government share of efficient costs established through our application of our cost sharing framework.



## 5 Draft decision on cost share ratios

To share the efficient costs of WAMC and WaterNSW's activities between customers and the NSW Government, we determine a cost share ratio to apply to the efficient cost of each activity these regulated businesses undertake.

In previous chapters of this Draft Report we have discussed the principles and framework that underpin the decision of how each cost share ratio is decided. This chapter is about applying these principles through our framework to determine cost share ratios for each of WAMC and WaterNSW's activities.

This chapter discusses our draft decisions on cost share ratios for WAMC and WaterNSW's current activities. We also discuss our preliminary views on adopting valley-specific cost share ratios and consolidating a number of activities to improve transparency and remove duplication.

### 5.1 Applying the impactor pays principle

We engaged Aither to review our current cost share framework and cost share ratios. Aither has developed a Draft Report as part of this engagement.<sup>55</sup> We agree with Aither's recommendations to revise a number of WAMC and WaterNSW's cost share ratios (as set out in Scenario 1 of Aither's Draft Report).

Where Aither has recommended a cost share ratio range, we have selected the mid-point of the range. We consider this is appropriate in the absence of a compelling case to select the high or low end of the range.

Our draft decision is expected to increase the customer share of WAMC's efficient costs from 76% to 84% and WaterNSW's efficient costs from 83% to 84%. Appendix C provides the impact of our draft decision on cost share ratios on a valley by valley basis.

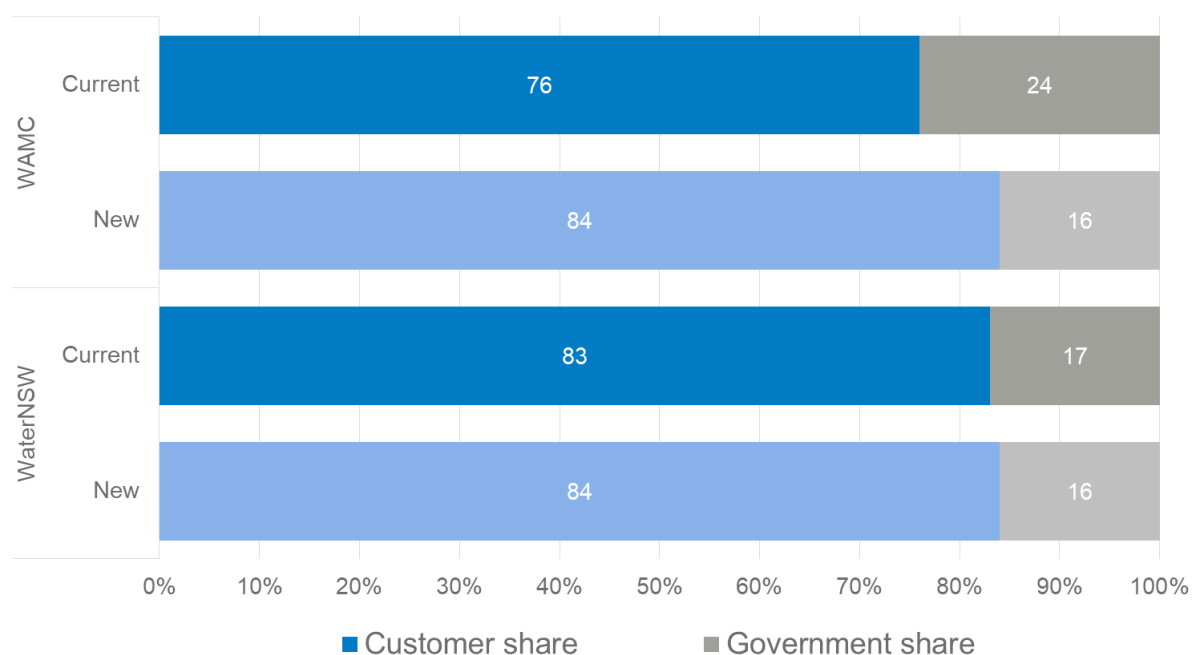
We note, however, that our draft decisions in this review will not impact current prices for WAMC and WaterNSW customers, but will inform how costs are allocated at the next WAMC and WaterNSW price reviews. We also note that our assessment of the customer share of efficient costs is just one factor we consider in setting prices. Amongst other matters at the next reviews of WAMC and WaterNSW's prices, we will also consider potential impacts on customers and what they can afford to pay.

Further, these estimated impacts are based on the current allocation of costs over the period 2018-2021. The impact of these draft decisions may differ if costs are allocated to activities differently in future WAMC and WaterNSW price reviews.

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<sup>55</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018

**Figure 5.1 The impact of our draft decision on the customer share of efficient costs**



**Data source:** IPART analysis.

We have reviewed the cost share ratios for each activity-based on information provided by stakeholders (ie, the regulated businesses and customers) and analysis undertaken by our consultant. We note the information available for this review is not complete and some judgement has been applied in developing the revised cost share ratios. We are therefore seeking stakeholder views and further information through the public consultation process of this review.

We have defined three levels of ‘impactor’, as shown below.

**Table 5.1 Quantifying cost share ratios**

Level of impactor	Definition
Sole impactor	We identify that the costs are 100% caused by this impactor.
Minor impactor	There are some additional costs caused by this impactor.
Major impactor	We identify that the majority of the costs are caused by this impactor, but that there is a minor impactor driving additional costs.
Joint impactor	We identify that both impactors equally cause the cost of the activity.

## 5.2 WAMC’s cost shares

WAMC currently has 33 activities. The proportion of costs currently allocated to customers, based on the existing cost share ratios, is 76%. Our draft decision is to update the cost share

ratios of a number of activities. This would increase the aggregate customer share of efficient costs to 84%.

As noted above, this estimated impact is based on the current allocation of costs over the period 2018-2021. Therefore, the estimated impact on the customer share of costs is indicative only and may differ if costs are allocated differently in future price determination periods.

#### Draft Decision

4 To update a number of customer cost share ratios for WAMC as per Table 5.2.

Table 5.1 below presents our recommended customer cost share ratios against the current customer cost share ratios.

**Table 5.2 WAMC customer shares for operating and capital expenditure**

Activity	Current (%)	Aither Rec (%)	IPART Draft Decision (%)
W01-01 Surface water quantity monitoring	70	100	100
W01-02 Surface water data management and reporting	50	50	50
W01-03 Surface water quality monitoring	50	50-70	60
W01-04 Surface water algal monitoring	50	30-50	40
W01-05 Surface water ecological condition monitoring	50	50	50
W02-01 Groundwater quantity monitoring	100	100	100
W02-02 Groundwater quality monitoring	100	100	100
W02-03 Groundwater data management and reporting	100	50	50
W03-01 Water take data collection	100	100	100
W03-02 Water take data management and reporting	100	100	100
W04-01 Surface water modelling	50	70-90	80
W04-02 Groundwater modelling	100	100	100
W04-03 Water resource accounting	100	100	100
W05-01 Systems operation and water availability management	100	100	100
W05-02 Blue-green algae management	50	30-50	40
W05-03 Environmental water management	0	70-90	80
W05-04 Water plan performance assessment and evaluation	50	50	50
W06-01 Water plan development (coastal)	70	70	70
W06-02 Water plan development (inland)	70	70	70
W06-03 Floodplain management plan development	0	0	0
W06-04 Drainage management plan development	0	0	0
W06-05 Regional planning and management strategies	70	70	70
W06-06 Development of water planning and regulatory framework	75	70-90	80
W06-07 Cross-border and national commitments	50	50	50
W07-01 Water management works	50	70-90	80
W08-01 Regulation systems management	100	100	100
W08-02 Consents management and licence conversion	100	100	100
W08-03 Compliance management	100	100	100

Activity	Current (%)	Aither Rec (%)	IPART Draft Decision (%)
W08-99 Water consents overhead	100	100	100
W09-01 Water consents transaction	100	100	100
W10-01 Customer management	100	100	100
W10-02 Business governance and support	70	80	80
W10-03 Billing management	100	100	100

Source: Aither, *Rural water cost sharing review Draft Report*, September 2018, pp 70-101.

### 5.2.1 Reasons for our draft decision

Appendix B provides a summary of the rationale to maintain or revise each of WAMC's cost share ratios listed in Table 5.1. Further detailed explanation is provided in Aither's Draft Report.<sup>56</sup> The section below highlights key areas where we have changed or simply clarified the rationale for our draft decision on WAMC's cost share ratios.

#### **We recognise that some activities are undertaken to provide information to the government and the broader community**

The following activities have a customer share of less than 100%, to reflect WAMC's role of providing information to the government and the broader community:

- ▼ W01-02 Surface water data management and reporting: we have maintained a customer share of 50%.
- ▼ W02-03 Groundwater data management and reporting: we have decreased the customer share from 100% to 50%.
- ▼ W04-01 Surface water modelling: we have increased the customer share from 50% to 80%.

These cost share ratios recognise that there are two impactors. The consumptive user (because WAMC is required to undertake the activity because of high water extraction), and the NSW Government, which requires reporting and/or information gathering above the minimum level necessary to manage the high consumptive use of water.

#### **We recognise that some activities are undertaken to facilitate government and policy objectives**

WAMC is responsible for a number of long-term water resource planning activities to manage the consumption of bulk water. While the consumptive users are impactors of those activities, we recognise that these activities are also undertaken, in part, to serve broader community and policy objectives. This is relevant to the following activities:

- ▼ W05-04 Water plan performance assessment and evaluation: we have maintained a customer share of 50%.
- ▼ W06-01 Water plan development (coastal): we have maintained a customer share of 70%.
- ▼ W06-02 Water plan development (inland): we have maintained a customer share of 70%.

<sup>56</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018.

- ▼ W06-05 Regional planning and management strategies: we have maintained a customer share of 70%.
- ▼ W06-06 Development of water planning and regulatory framework: we have increased the customer share from 75% to 80%.

Stakeholders were concerned that WAMC prices fund broader government policy work undertaken by the Department of Industry - Water

We view that, consistent with the National Water Initiative direction<sup>57</sup>, any costs that the Department of Industry – Water incurs to provide Ministerial and Parliamentary services, such as the development and refinement of overarching policy frameworks, should be excluded from the efficient cost base used to establish prices for WAMC’s regulated monopoly services. However, the costs of applying the policy framework, including the establishment and monitoring of Water Sharing Plans, should be borne by consumptive users. This is because, in the absence of consumptive users, there would be no need for Water Sharing Plans.

#### **Box 5.1      Applying the impactor pays principle to WAMC’s *W01-02 Surface water data management and reporting activity***

WAMC compiles data on surface water quantity, quality and biological information. It also manages the data, including storing and reporting the data. WAMC publishes reports and accompanying data to customers, stakeholders and the general public.

The costs associated with these activities is captured under the WAMC activity code W01-02 Surface water data management and reporting.

Our draft decision for this activity code is a customer share of 50%. This is unchanged from the existing cost share ratio. Our view is that the consumptive user and the NSW Government, on behalf of itself and the broader community, are joint impactors for this activity.

#### **The consumptive user is an impactor**

If we begin with a world without high consumptive water use (ie, our counterfactual ‘world without’ defined in Chapter 3), then the impactor of the costs required to collect and monitor water use is the consumptive users. Consumptive users have created the need for a water sharing framework, to ensure sustainability of the resource. Water information, data collection and monitoring facilitates the ability for the water resource to be shared to optimise consumption and sustainability. Some consumptive users may also use this information to inform their own water management and investment decisions.

#### **The NSW Government is also an impactor**

We have recognised that, in terms of reporting, the NSW Government and the broader community have increased expectations regarding the necessary levels of water resource information. This results in additional costs above what is required to manage the use of water. This information can be used for broader policy requirements.

**Source:** Aither, Rural water cost sharing review Draft Report, September 2018, pp 42.

<sup>57</sup> COAG, *Intergovernmental agreement on a National Water Initiative*, 2004, p 14.

### 5.3 WaterNSW's cost share ratios

WaterNSW currently has 17 activities. The proportion of costs currently allocated to customers, based on the existing cost share ratios, is 83%. Our draft decision is to update a number of customer share ratios. This would increase the aggregate customer share of WaterNSW's efficient costs to 84%.

As previously noted, this impact is based on the current allocation of costs over the current WaterNSW determination period. Therefore, the estimated impact on the customer share of costs is indicative only and may differ if costs are allocated differently in future price determination periods.

#### Draft Decision

5 To update a number of customer share ratios for WaterNSW as shown in Table 5.4.

Table 5.2 presents our draft decision on customer cost share ratios against the current customer cost share ratios.

**Table 5.3 Customer cost shares for WaterNSW's operating and capital expenditure**

Activity	Category of expenditure	Current (%)	Aither Rec (%)	IPART Draft Decision (%)
Customer support	Operating	100	100	100
Customer billing	Operating	100	100	100
Metering and compliance	Operating and capital	100	100	100
Water delivery and other operations	Operating and capital	100	95	95
Flood operations	Operating and capital	50	70-90	80
Hydrometric monitoring	Operating and capital	90	90	90
Water quality monitoring	Operating and capital	50	70-90	80
Direct insurances	Operating and capital	100	100	100
Corrective maintenance	Operating and capital	100	95	95
Routine maintenance	Operating and capital	100	95	95
Asset management planning	Operating and capital	100	95	95
Dam safety compliance	Operating and capital	50	70-90	80
Dam safety compliance pre-1997	Capital	0	0	0
Environmental planning and protection	Operating and capital	50	70-90	80
Corporate systems	Operating and capital	100	80	80

Activity	Category of expenditure	Current (%)	Aither Rec (%)	IPART Draft Decision (%)
Irrigation Corporation District (ICD) rebates	Operating and capital	100	100	100
Renewals and Replacement	Operating and capital	90	95	95
Risk Transfer Product	Operating	100	100	100

Source: Aither, *Rural water cost sharing review Draft Report*, September 2018, pp 70-101.

### 5.3.1 Reasons for our draft decision

Appendix B provides a summary of the rationale to maintain or revise each of WaterNSW's cost share ratios listed in Table 5.2. Further detailed explanation is provided in Aither's Draft Report.<sup>58</sup> The section below highlights the key areas where we have changed or clarified the rationale for our draft decisions on WaterNSW's cost share ratios.

#### We have recognised recreational users as additional impactors

We have recognised recreational users as an additional minor impactor of costs associated with a number of WaterNSW's activities. Aither's recommendation in its Draft Report suggests that, after surveying WaterNSW's operational staff, additional costs - measured as the time staff spend servicing additional customers - are incurred to service recreational user requirements.<sup>59</sup>

Accordingly, we have made draft decisions to revise the customer shares for the following activities:

- ▼ Water delivery and other operations: we have reduced the customer share from 100% to 95%.
- ▼ Corrective maintenance: we have reduced the customer share from 100% to 95%.
- ▼ Routine maintenance: we have reduced the customer share from 100% to 95%.
- ▼ Asset management planning: we have reduced the customer share from 100% to 95%.
- ▼ Renewals and replacement: we have reduced the customer share from 100% to 90%.

Stakeholder feedback stated that we need to identify the true impactors of WaterNSW's operations and services.

Most irrigator stakeholders, including the NSW Irrigators' Council's (NSWIC) submission to our Issues Paper, contended that there were gaps in the analysis of how much costs are incurred to service other groups including stock and domestic, recreational, cultural and environmental water users.<sup>60,61</sup>

<sup>58</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018.

<sup>59</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018, p 35.

<sup>60</sup> NSW Irrigators Council, Submission Independent Pricing and Regulatory Tribunal Review of rural water cost shares, June 2018, p 5.

<sup>61</sup> Southern Riverina Irrigators, Submission Review of rural cost shares, June 2018, p 3.



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Aither's review found that, consistent with NSWIC's concerns, additional costs were incurred by WaterNSW to deliver water for recreational use.<sup>62</sup> However, our review has found that the impactors of costs associated with complying with environmental regulatory requirements, including the delivery of water for environmental purposes, are the consumptive users (ie, not the environment itself or the broader community on behalf of the environment). This is consistent with our application of the impactor pays principle using the counterfactual 'without world' starting point we defined in Chapter 3.

### **We have clarified our application of the impactor pays principle for activities related to environmental protection and management**

Consistent with the impactor pays principle, we have increased the customer share for the environmental management and protection activity and activities relating to managing and planning for environmental water. This recognises that environmental regulatory standards are set to mitigate and remediate the environmental impacts that result from high consumptive water use.

Consumptive users contend that they should not bear the full cost of new environmental requirements

The NSWIC considers that it would be inequitable for consumptive users to bear the full cost of environmental regulatory obligations that arise from external legislative changes or government agreements.<sup>63</sup> However, our view of the application of the impactor pays principle is that without high consumptive use of water there would be no need for WaterNSW to undertake activities for 'environmental purposes' and therefore incur the costs of these activities.

Further, we have not found evidence to suggest that the regulatory standards or environmental objectives of the WSPs are set to achieve an environmental standard greater than the counterfactual (a world without extensive extractive water use) – or that the community is demanding something over and above the counterfactual. Thus, including the cost of environmental obligations in the customer share of costs attempts to internalise the negative externality that water consumption creates, which results in efficient price signals that reflect the full economic costs of water delivery.

This is consistent with the National Water Initiative (NWI), agreed in 2004, which set the need to set water prices to achieve full cost recovery. One of the NWI's principles is to apply consumptive-based pricing to achieve full cost recovery of water services, including recovery of externalities.<sup>64</sup>

### **WaterNSW and WAMC's flood management functions**

We have recognised that some activities undertaken by WaterNSW and WAMC are for the purpose of flood management. Flood management benefits downstream communities. However, the impactors of these activities are both the consumptive users of water as well as downstream communities.

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<sup>62</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018, p 35.

<sup>63</sup> NSW Irrigators Council, *Submission Independent Pricing and Regulatory Tribunal Review of rural water cost shares*, June 2018, p 13.

<sup>64</sup> COAG, *Intergovernmental agreement on a National Water Initiative*, 2004, p13.

We have identified there are two impactors based on the following rationale:

- ▼ To the extent that the dam's flood management function reduces the probability of a flood occurrence compared to an unregulated river, applying the impactor pays principle suggest the impactor is the broader community (ie, NSW Government).
- ▼ However, to the extent that the dam's flood management function is required because the presence of the dam increases the risk of a flood to communities living downstream of the dam, the impactors would be the consumptive users.

There is some uncertainty around the relative contributions of these two impactors towards WaterNSW's efficient costs. If the broader community is the main impactor, this would suggest a lower customer share. If the consumptive user is the main impactor, this would suggest a higher customer share. The activities that are affected by these factors are listed below:

1. Flood operations (WaterNSW)
2. Dam safety and compliance (WaterNSW)
3. Environmental planning and protection (WaterNSW), and
4. W05-03 Environmental water management (WAMC).

While flood operations clearly involves flood management activities, the other three activities listed above also include flood management activities to some extent. To the extent flood management drives these activities and since the broader community can be an impactor for flood management activities, there can be a case to allocate some of the costs of these activities to the NSW Government on behalf of the broader community.

For activities that include costs associated with flood management, Aither recommends customer cost shares of between 70% to 90% for both WaterNSW and WAMC.<sup>65</sup> This is an increase from the current 50% customer share, reflecting the view that the consumptive user is the major impactor. Our draft decision is to accept Aither's finding that consumptive users are the major impactors for these activities. We have adopted the mid-point of Aither's recommended range. That is, our draft decision is to increase the customer share of costs for flood operations, dam safety and compliance, environmental planning and protection and environmental water management from 50% to 80%.

### **We have not changed the cost sharing for Murray Darling Basin Authority (MDBA) or Border River Commission (BRC) costs**

At this stage, we have not explicitly set cost share ratios for MDBA or BRC costs.

To date, WaterNSW has proposed customer cost shares for MDBA and BRC costs, based on a process undertaken by the NSW Government. In our 2017 WaterNSW price review we accepted the proposed customer shares, as we understood that they had been based on the activities and cost share ratios set by IPART for other rural water costs (although we made adjustments to proposed MDBA and BRC cost **levels**, to reflect our assessment of efficient costs). This suggests that the customer share of efficient MDBA and BRC costs will be impacted by the changes in the cost share ratios discussed in this report.

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<sup>65</sup> Aither, *Rural water cost sharing review Draft Report, September 2018*, p 36.

### **Box 5.2      Applying the impactor pays principle to WaterNSW's *Flood operation* activity**

WaterNSW operate dams during times of floods. It actively controls the volume of water and offsets the timing of flood water entering the river valleys. As part of this function, it must ensure that staff are adequately trained to manage flood events and undertake necessary day to day activities. This protects communities located downstream of large dams.

Our draft decision for WaterNSW's Flood Operations activity is a customer share of 80%. This is an increase from the existing customer share of 50%. We have identified the consumptive user as the major impactor (80%) and the NSW Government on behalf of the broader community as the minor impactor (20%).

#### **Consumptive users are the major impactor**

Our draft decision on our cost share ratio for flood operations activity assumes that the presence of the dam largely increases the risk of floods to downstream communities.

If we begin with a world without high consumptive water use (ie. our counterfactual 'world without' defined in Chapter 3), the impactors of the costs associated with managing the increased risk and exposure communities have to flood occurrences because of the dam are the consumptive users.

#### **The broader community is the minor impactor**

We have recognised that to the extent that controlling the volume of water and offsetting the timing of flood water entering river valleys can also reduce the probability of a flood event, compared to an unregulated river, the impactor of some of the costs is the broader community. Costs associated with this should be allocated to the NSW Government on behalf of the broader community.

**Source:** Aither, *Rural water cost sharing review Draft Report*, September 2018, p 22.

## 6 Opportunities for further improvement

The outcomes of this review, including the draft and final decisions made by IPART, will inform the next pricing determinations for both WAMC and WaterNSW. As well as reviewing the cost share ratios (discussed in Chapter 5), Aither has identified a number of potential improvements to the activity-based cost share framework and assessed the costs and benefits of implementing these changes. This chapter discusses the changes recommended by Aither, including valley-specific cost share ratios and removing a number of activities. In principle, we support Aither's recommendations and we see merit in investigating these potential improvements to the cost sharing framework at the next price reviews.

### 6.1 Valley-specific cost share ratios

WaterNSW services customers across a broad geographic area. This includes the Murray-Darling Basin and Coastal valleys.<sup>66</sup> Aither has recommended valley-specific cost share ratios, to the extent that there are different impactors or different activities undertaken in different valleys (compared to what was found at the aggregate level).

It is our understanding that, in general, the activities undertaken by WAMC do not vary by valley. Consequently we have not identified valley-specific cost shares for WAMC. However, we are open to considering this issue at the next price review.

#### Draft Decision

- 6 To consider, at the next price reviews for WaterNSW and WAMC, applying valley-specific cost share ratios on an exception basis, where the impactors' relative contribution to the need to undertake an activity and incur costs is materially different to that assumed for the general cost share ratio.

The table below shows the activities for WaterNSW where Aither has recommended a valley-specific cost share ratio.

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<sup>66</sup> IPART, *WaterNSW review of prices for rural bulk water services from 1 July 2017 to 30 June 2021*, June 2017, p 22.

**Table 6.1 Valley-specific cost share ratios**

Activity	General customer share ratio	Valleys where valley-specific ratios are recommended	Rationale	Revised valley-specific customer share ratio
Water delivery and other operations	95%	▼ Lachlan ▼ Macquarie ▼ Namoi ▼ Border ▼ Gwydir	These valleys incur additional costs to service basic land holder rights licence holders (ie, to provide a level of service that goes above and beyond what they would receive without the dam)	90%
Water delivery and other operations	95%	▼ Murray	The Murray valley incurs additional costs to provide a navigational service	90%
Asset management planning	95%	▼ Murray	The Murray valley incurs additional costs to provide a navigational service	90%
Routine maintenance	95%	▼ Murray	The Murray valley incurs additional costs to provide a navigational service	90%
Corrective maintenance	95%	▼ Murray	The Murray valley incurs additional costs to provide a navigational service	90%
Renewals and replacement	95%	▼ Murray	The Murray valley incurs additional costs to provide a navigational service	90%
Flood operations	80%	▼ Hunter ▼ Macquarie	These valleys receive a specific flood mitigation service	50%
Dam safety compliance	80%	▼ Hunter ▼ Macquarie	These valleys receive a specific flood mitigation service	50%
Environmental planning and protection	80%	▼ Hunter ▼ Macquarie	These valleys receive a specific flood mitigation service	50%

**Source:** Aither, *Rural water cost sharing review Draft Report*, September 2018, p 55.

### 6.1.1 Reason for our draft decision

WaterNSW services customers across 13 valleys within NSW. This diverse geographic area has meant that the impactor of some activities conducted by WaterNSW can vary between valleys. The valley-specific considerations include the following:

- ▼ Lachlan, Macquarie, Namoi, Border and Gwydir valleys incur additional costs to service basic land holder rights. WaterNSW's activities provide increased water security to these customers, greater than that they would otherwise have had without dam infrastructure.<sup>67</sup>
- ▼ WaterNSW is required to operate some of its infrastructure in the Murray valley to provide services for water craft to navigate the river. This is unique to the Murray valley.<sup>68</sup>

<sup>67</sup> Aither, *Rural water cost sharing review Draft Report*, September 2018, p 55.

<sup>68</sup> Murray Irrigation, Submission on the Review of rural water cost shares, June 2018, p. 6.

- ▼ Hunter and Macquarie valley have dams (Glenbawn and Burrendong) which were constructed to provide a specific flood mitigation function.<sup>69,70</sup> To the extent that the dam was built with a specific flood mitigation purpose, applying the impactor pays principle would result in the impactor being the NSW Government on behalf of the broader community.

### **Stakeholders requested that IPART assess all cost shares on a valley-by-valley basis**

Many irrigator stakeholders recommended assessing cost shares on a valley-by-valley basis, to take into account the differences in the services and associated costs between the different valleys.<sup>71</sup> Moreover, stakeholders requested that the framework have the ability to apply different cost share ratios to activities undertaken for MDBA purposes, to account for the regulatory standards that may be for the collective benefit of the Commonwealth and other states and territories.<sup>72</sup>

Our draft decision is consistent with Aithers recommendation to apply valley-specific ratios on an exception basis, where there is enough evidence to suggest that the impactor or the relative contributions of impactors in a particular valley is materially different to the aggregate. Aither found that the merit of adopting a valley-by-valley approach for all activities did not outweigh the complexity this would add to the framework. Therefore, Aither recommended continuing to use an aggregated approach and only applying valley-specific ratios on an exception basis.<sup>73</sup>

## **6.2 Removing some activities from the framework**

Some of the activities in the cost sharing framework (for both WAMC and WaterNSW) are categories of costs rather than activities. These categories of costs represent overheads or indirect costs, but not necessarily an activity undertaken by either regulated entity. Aither has recommended that, to be consistent with our activity-based framework, these categories of costs should be removed and that the expenditure allocated to them should be distributed across the existing activities where relevant. Aither recommended that both WAMC and WaterNSW should conduct this allocation process using a transparent and documented internal cost allocation process.<sup>74</sup> This way, the activity-based framework would only include actual activities undertaken by either WAMC or WaterNSW.

### **Draft Decision**

- 7 To consider, at the next price reviews, removing activities from the framework that represent cost categories (rather than actual activities required to be undertaken) and allocating the associated costs across the remaining activities.

For WAMC, this means the removal of W08-04 Water Consent Overheads and W10-02 Business and Governance Support. The costs that would otherwise be allocated to these

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<sup>69</sup> Macquarie River Food & Fibre, Submission on the Review of rural water cost shares, June 2018, p 5.

<sup>70</sup> WaterNSW, Submission on the Review of rural water cost shares, June 2018, p 7.

<sup>71</sup> WaterNSW, Submission on the Review of rural water cost shares, June 2018, p 6.

<sup>72</sup> WaterNSW, Submission on the Review of rural water cost shares, June 2018, p 9.

<sup>73</sup> Aither, *Rural water cost sharing review Draft Report, September 2018*, p 55.

<sup>74</sup> Aither, *Rural water cost sharing review Draft Report, September 2018*, p 54.

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activities would be distributed via a cost allocation process across the remaining WAMC activity list.

For WaterNSW, this means the removal of Corporate Systems. The costs that would otherwise be allocated to this activity would be distributed via a cost allocation process across the remaining WaterNSW activity list.

### **6.2.1 Reasons for our draft decision**

#### **Stakeholders viewed that reducing the number of activities could improve understanding of our cost sharing framework**

IPART held a number of stakeholder workshops following the release of the Issues Paper, between key stakeholder groups and IPART. The purpose was to further identify stakeholder concerns with IPART's approach to cost sharing. Irrigators considered that there were too many activities in the current cost share framework for both WAMC and WaterNSW. In their view, this reduces the ability for stakeholders to understand how the cost sharing framework impacts the prices IPART regulates.

The activity lists for both WAMC and WaterNSW include a number of activities that do not have any expenditure allocated to them (both historically and in the current determination period). These activities are duplicated in both capital expenditure and operating expenditure categories, but may only be relevant to one category. Aither advised that the actual allocation between operating and capital expenditure for these activity codes is based on the capitalisation policies of the agencies and therefore the duplication of these codes provides administrative/accounting flexibility to the agencies. Accordingly, Aither did not recommend removing the activities where there is duplication based on capitalisation policies, as this has the potential to impose greater administration costs on the agencies by changing their systems. These costs would outweigh the benefits of increased simplicity in the cost sharing framework.<sup>75</sup> We agree in principle with Aither's review but will consider further consolidation of activities at the next price reviews.

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<sup>75</sup> Aither, *Rural water cost sharing review Draft Report, September 2018*, p 52.



## A Alternative service-based cost share framework

Aither's scenario 3 service-based framework is shown in the tables below.

**Table A.1 WaterNSW service-based cost share framework**

WaterNSW service	Description	User share	Mapping current activities to services (share of activity's cost allocated to this service)
Water storage services	These include the storage of water held by entitlement holders (including environmental water managers).	95%	<ul style="list-style-type: none"> <li>• Water delivery and other operations (35%)</li> <li>• Asset management planning (50%)</li> <li>• Routine Maintenance (50%)</li> <li>• Corrective Maintenance (50%)</li> <li>• Renewals and replacement (50%)</li> </ul>
Water transportation services	These include the delivery of water to licensed water users (including consumptive entitlement holders, environmental water managers, and other parties such as stock and domestic users).	95%	<ul style="list-style-type: none"> <li>• Water delivery and other operations (30%)</li> <li>• Water quality monitoring (70%)</li> <li>• Routine Maintenance (45%)</li> <li>• Corrective Maintenance (45%)</li> <li>• Asset management planning (45%)</li> <li>• Renewals and replacement (45%)</li> </ul>
Environmental services	These include releases of environmental flows in accordance with statutory obligations and operation, maintenance of environmental gauging stations, and environmental management such as the provision of fish passages.	100%	<ul style="list-style-type: none"> <li>• Water delivery and other operations (30%)</li> <li>• Environmental Planning and Protection (100%)</li> </ul>

WaterNSW service	Description	User share	Mapping current activities to services (share of activity's cost allocated to this service)
Metering and retail customer services	These include administration services, customer support, customer billing and compliance and maintaining and reading water meters for extractive customers and non-extractive customers.	100%	<ul style="list-style-type: none"> <li>• Customer support (100%)</li> <li>• Customer billing (100%)</li> <li>• Metering and compliance (100%)</li> </ul>
Information services	These include providing information on surface and groundwater quantity and quality.	80%	<ul style="list-style-type: none"> <li>• Hydrometric monitoring (70%)</li> <li>• Corporate systems (100%)</li> </ul>
Non-routine services	These include costs associated with providing non-routine services (e.g. Fish River connections/disconnections)	(e.g. 100%)	<ul style="list-style-type: none"> <li>• Dependent on particular service</li> </ul>
Flood management and mitigation services	These include costs associated with managing the potential impacts of flooding.	80%	<ul style="list-style-type: none"> <li>• Flood operations (100%)</li> <li>• Dam Safety Compliance (50%)</li> <li>• Dam Safety Compliance on pre-1997 capital projects – capital (100%)</li> <li>• Hydrometric monitoring (30%)</li> </ul>
Recreational services	This includes costs associated with providing recreational opportunities on waterways for water sports and recreational fishing.	0%	<ul style="list-style-type: none"> <li>• Water delivery and other operations (5%)</li> <li>• Routine Maintenance (5%)</li> <li>• Corrective Maintenance (5%)</li> <li>• Asset management planning (5%)</li> <li>• Water quality monitoring (30%)</li> <li>• Renewals and replacement (5%)</li> </ul>

**Note:** The percentages is the hypothetical proportions of costs of the current activities should go into the service.

**Source:** Aither, *Rural water cost sharing review Draft Report*, September 2018, pp 60-62.

**Table A.2 WAMC service-based cost share framework**

WAMC service	Description	User share	Mapping current activities to services
Water management rulemaking and planning	These include costs associated with developing, assessing and recommending changes to water sharing/water resource plans and water management rules for the management of surface and groundwater resources. It also involves costs associated with facilitating the implementation (such as water availability decisions), monitoring and evaluation of water planning processes and other mechanisms or works required for implementation	90%	<ul style="list-style-type: none"> <li>• W06 – Water management planning</li> <li>• W05 – Water management implementation</li> <li>• W07 – Water management works</li> </ul>
Modelling and monitoring	These include modelling and monitoring of surface and groundwater data and information to inform water management planning, implementation, and compliance and enforcement decisions.	70%	<ul style="list-style-type: none"> <li>• W01 – Surface water monitoring</li> <li>• W02 – Groundwater monitoring</li> <li>• W03 – Water take monitoring</li> <li>• W04 – Water modelling and impact assessment</li> </ul>
Licensing and approvals (including customer service)	These include the costs associated with the administration of all water licensing information, and customer and billing management.	100%	<ul style="list-style-type: none"> <li>• W08 – Water regulation management (except sub code W08-03)</li> <li>• W09 – Water consents transactions</li> <li>• W10 – Business and customer services</li> </ul>
Compliance and enforcement	These include the costs associated with ensuring that license holders comply with the regulatory framework for water and the enforcement of compliance actions where necessary.	100%	<ul style="list-style-type: none"> <li>• W08 – Water regulation management (W08-03 Compliance management only)</li> </ul>

**Source:** Aither, *Rural water cost sharing review Draft Report, September 2018*, pp 62-63.

## B Application of the impactor pays principle to activities

This appendix details the rationale and application of the impactor pays principle to each of WAMC and WaterNSW's current activities. Our draft decision on the cost share ratios for both WAMC and WaterNSW reflect the rationales discussed below.

**Table B.1 Assessment of activity codes for WAMC (operating and capital expenditure)**

Activity	Description	Current customer share (%)	Rationale	Updated customer share (%)
W01-01 Surface water quantity monitoring	The provision of a surface water quantity monitoring system; including design, station calibration, data collection, processing, encoding, quality assurance and archiving from the networks of water monitoring stations; the delivery of near real time height and/or flow data from all telemetered stations to the corporate database; and the maintenance and operation of surface water monitoring stations.	70%	Consumptive user is the sole impactor.	100%
W01-02 Surface water data management and reporting	The data management and reporting of surface water quantity, quality and biological information; including compilation, secure storage, management and publishing of data to customers, stakeholders and the general public.	50%	Consumptive user and the broader community are joint impactors. WAMC is required to undertake this activity to manage and monitor water consumption however additional costs are incurred the meet the broader community's expectation for information dissemination.	50%
W01-03 Surface water quality monitoring	The provision of a surface water quality monitoring program; including design, sample collection, laboratory testing and analysis, test result quality assurance to accepted standards, and test result encoding to make it available for data management and reporting.	50%	Consumptive user is the major impactor as water quality is impacted by water extraction and river regulation. Incremental costs are incurred to meet broader reporting and target setting requirements, making the broader community a minor impactor.	50-70%

Activity	Description	Current customer share (%)	Rationale	Updated customer share (%)
W01-04 Surface water algal monitoring	The provision of a surface water algal monitoring program; including design, sample collection, laboratory analysis, algal identification and enumeration to accepted standards, and result encoding for provision to regional coordinating committees.	50%	The broader community is the major impactor as blue green algae occurs naturally to some extent in all freshwater sources. The consumptive user is a minor impactor as the effect of water extraction on water temperature and water availability can increase the occurrence of outbreaks of the algae.	30-50%
W01-05 Surface water ecological condition monitoring	The provision of a surface water ecological condition monitoring system to assess the health of water sources; including design and application based on the River Condition Index for rivers, flood plains and wetlands.	50%	Consumptive user and the broader community are joint impactors. This activity is undertaken to understand the long term impacts of water consumption, however the NSW Government would need to conduct some monitoring of the ecological condition of the river system regardless of water use.	50%
W02-01 Groundwater quantity monitoring	The provision of a groundwater level, pressure and flow monitoring system; including design, site calibration, data collection, entry, audit, quality assurance, archiving, and information provision; and the maintenance and operation of groundwater monitoring bores.	100%	Consumptive user is the sole impactor.	100%
W02-02 Groundwater quality monitoring	The provision of a groundwater quality monitoring program; including design, sample collection, laboratory testing and analysis, test result quality assurance to accepted standards, and test result encoding to make it available for data management and reporting	100%	Consumptive user is the sole impactor.	100%
W02-03 Groundwater data management and reporting	The data management and reporting of groundwater quantity and quality information; including compilation, secure storage, management and publishing of data to customers, stakeholders and the general public.	100%	Consumptive user and the broader community are joint impactors. WAMC is required to undertake this activity to manage and monitor water consumption however additional costs are incurred the meet the broader community's expectation for information dissemination.	50%
W03-01 Water take data collection	The electronic and manual collection, transmission and initial recording of water take data from licence holders for unregulated and groundwater sources; and the operation and maintenance of government owned meter and telemetry facilities.	100%	Consumptive user is the sole impactor.	100%

Activity	Description	Current customer share (%)	Rationale	Updated customer share (%)
W03-02 Water take data management and reporting	The data management and reporting of water take for unregulated and groundwater sources including compilation, secure storage, management and publishing of data to authorised parties.	100%	Consumptive user is the sole impactor.	100%
W04-01 Surface water modelling	The development, upgrade and application of surface water resource management models for use in water planning and to assess performance in terms of statutory requirements, interstate agreements, regional water supply optimisation and third-party impacts on NSW stakeholders.	50%	Consumptive user is the major impactor but there are some incremental costs incurred to collect information used for broader NSW Government processes and compliance with inter-state water sharing agreements.	70-90%
W04-02 Groundwater modelling	The development, upgrade and use of groundwater resource management models for water sharing and management applications, and for resource impact and balance assessments.	100%	Consumptive user is the sole impactor.	100%
W04-03 Water resource accounting	The development and update of water resource accounts and information on NSW water sources, for use by external stakeholders, and for internal water planning, management and evaluation processes.	100%	Consumptive user is the sole impactor.	100%
W05-01 Systems operation and water availability management	The preparation and implementation of the procedures and systems required to deliver the provisions of water management plans; and operational oversight to ensure plan compliance, the available water determinations and the assessment of compliance with long term extraction limits.	100%	Consumptive user is the sole impactor.	100%
W05-02 Blue-green algae management	The provision of an algal risk management system; including oversight, coordination and training, the issue of algal alerts and the development of algal risk management plans.	50%	The broader community is the major impactor as blue green algae occurs naturally to some extent in all freshwater sources. The consumptive user is a minor impactor as the effect of water extraction on water temperature and water availability can increase the occurrence of outbreaks of the algae.	30-50%
W05-03 Environmental water management	The development and collaborative governance of environmental flow strategies and assessments; and the use of environmental water to achieve environmental outcomes.	0%	Consumptive user is the major impactor. The broader community is a minor impactor to the extent that there are additional costs incurred due to WaterNSW's role in flood management.	70-90%

Activity	Description	Current customer share (%)	Rationale	Updated customer share (%)
W05-04 Water plan performance assessment and evaluation	The assessment, audit and evaluation of the water management plans' appropriateness, efficiency and effectiveness in achieving economic, social and environmental objectives.	50%	Consumptive user and the broader community are joint impactors. The activity is required because of high consumptive use of water but also to meet high level government objectives.	50%
W06-01 Water plan development (coastal)	The development, review, amendment, and extension or replacement of water management plans, and the consultation activities associated with developing these plans for the coastal water sources.	70%	Consumptive user is the major impactor of development of water plans, however the broader community is a minor impactor due to the additional costs incurred to deliver broader policy objectives.	70%
W06-02 Water plan development (inland)	The development, review, amendment, and extension or replacement of water management plans; the development of additional planning instruments to comply with the Commonwealth Water Act; and the consultation activities associated with developing these plans for the inland water sources.	70%	Consumptive user is the major impactor of development of water plans, however broader community is a minor impactor due to the additional costs incurred to deliver broader policy objectives.	70%
W06-03 Floodplain management plan development	The development, review, amendment, and extension or replacement of Floodplain Management Plans, in collaboration with the Office of Environment and Heritage.	0%	Broader community is the sole impactor.	0%
W06-04 Drainage management plan development	The development, review, amendment, and extension or replacement of Drainage Management Plans, to address water quality problems associated with drainage systems.	0%	Broader community is the sole impactor.	0%
W06-05 Regional planning and management strategies	The review of planning instruments, and the development evaluation, review and stakeholder engagement of planning and management strategies for water sharing and water plans (where the water market alone will not provide for economic or urban growth).	70%	Consumptive user is the major impactor as activity is required to meet their current and future water needs, however the broader community is a minor impactor due to the additional costs incurred to deliver high level strategic regional economic development planning.	70%



Activity	Description	Current customer share (%)	Rationale	Updated customer share (%)
W06-06 Development of water planning and regulatory framework	The development of the operational and regulatory requirements and rules for water access.	75%	The consumptive user is the major impactor because compliance and regulatory costs are part of the costs of delivering the service. The broader community is a minor impactor to the extent that additional costs are incurred for planning for broader legislation and the Basin Plan.	70-90%
W06-07 Cross-border and national commitments	The development of interstate water sharing arrangements and the implementation of operational programs to meet national and interstate commitments.	50%	Consumptive users and the broader community are joint impactors. Water sharing rules are required because of high consumptive use, however costs are also incurred to deliver cross-border and national commitments.	50%
W07-01 Water management works	The undertaking of water management works to reduce the impacts arising from water use or remediate water courses.	50%	Consumptive users are the major impactor. The broader community is a minor impactor to the extent that there are additional costs incurred due to WaterNSW's role in flood management.	70-90%
W08-01 Regulation systems management	The management, operation, development and maintenance of the register for access licences, approvals, trading and environmental water.	100%	Consumptive user is the sole impactor.	100%
W08-02 Consents management and licence conversion	The transcribing of water sharing provisions into licence conditions and the conversion of licences to the Water Management Act.	100%	Consumptive user is the sole impactor.	100%
W08-03 Compliance management	The on-ground and remote monitoring activities (including investigations and taking statutory actions) to ensure compliance with legislation, including licence and approval conditions.	100%	Consumptive user is the sole impactor.	100%
W08-99 Water consents overhead	The administrative overhead costs associated with water consent transactions, which are passed on to customers in the water management tariff.	100%	Consumptive user is the sole impactor.	100%

Activity	Description	Current customer share (%)	Rationale	Updated customer share (%)
W09-01 Water consents transaction	Transactions undertaken on a fee for service basis; including dealings, assessments, change of conditions and new applications for water licence and graphs.	100%	Consumptive user is the sole impactor.	100%
W10-01 Customer management	All customer liaison activities; including responding to calls to licensing and compliance information lines; and producing communication and education materials such as website content and participation in customer forums.	100%	Consumptive user is the sole impactor.	100%
W10-02 Business governance and support	The business systems and processes that support organisation-wide activities; including asset management, annual reporting and pricing submissions to IPART.	70%	Based on the weighted average user share for all other activity codes.	80%
W10-03 Billing management	The management of billing requirements and subcontracted billing, revenue collection and debtor management service delivery, and responding to queries on billing activities.	100%	Consumptive user is the sole impactor.	100%

Source: Aither, *Rural water cost sharing review Draft Report, September 2018*, pp 70-101.

**Table B.2 Assessment of activity codes for WaterNSW**

Activity	Description	Category of expenditure	Current customer share (%)	Rationale for change	Updated customer share (%)
Customer support	Management and administration of the CAG's, customer education and support materials	Operating	100%	Consumptive user is the sole impactor.	100%
Customer billing	<ul style="list-style-type: none"> <li>▼ Customer enquiries,</li> <li>▼ transaction and complaints services (Helpdesk),</li> <li>▼ invoicing and receipting</li> <li>▼ debtor management,</li> <li>▼ system administration,</li> <li>▼ postage to collect regulated revenue.</li> </ul>	Operating	100%	Consumptive user is the sole impactor.	100%

Activity	Description	Category of expenditure	Current customer share (%)	Rationale for change	Updated customer share (%)
Metering and compliance	<ul style="list-style-type: none"> <li>▼ Customer water ordering,</li> <li>▼ customer water accounting management,</li> <li>▼ customer site surveillance,</li> <li>▼ compliance reporting,</li> <li>▼ meter reading,</li> <li>▼ system management and usage apportionment,</li> <li>▼ licensing issues resolution.</li> </ul>	Operating	100%	Consumptive user is the sole impactor.	100%
Water delivery and other operations	<p>Activities related to releasing water from dams to customers. This includes:</p> <ul style="list-style-type: none"> <li>▼ normal environment and system flows (supplementary flow management).</li> <li>▼ short-term and long-term demand forecasting and resource assessment.</li> <li>▼ Works Approval and other compliance reporting.</li> <li>▼ Use of SCADA and manual work required to release water from dams, weir and regulators.</li> </ul>	Operating and capital	100%	Consumptive user is the major impactor. WaterNSW has provided evidence to suggest recreational users and basic landholder rights are the impactors of approximately 5% of the costs in this activity.	95%

Activity	Description	Category of expenditure	Current customer share (%)	Rationale for change	Updated customer share (%)
Flood operations	<ul style="list-style-type: none"> <li>▼ Flood training</li> <li>▼ Onsite works required flood operations.</li> </ul>	Operating and capital	50%	The consumptive user is the major impactor as the risk of flood occurrence to downstream communities' increases if there is a dam upstream. There are some additional costs involved in managing river levels which could reduce the probability of a flood occurrence compared to an unregulated river, making the broader community a minor impactor.	70-90%
Hydrometric monitoring	<p>This activity involves monitoring the availability and condition of surface water by:</p> <ul style="list-style-type: none"> <li>▼ measuring water level,</li> <li>▼ stream flow,</li> <li>▼ rainfall and key water quality indicators.</li> </ul> <p>This information is used to assist in managing the delivery of water.</p>	Operating and capital	90%	No evidence to support a change.	90%
Water quality monitoring	This activity involves storage water quality monitoring and reporting water quality management plan.	Operating and capital	50%	Consumptive user is the major impactor. WaterNSW undertakes this activity to monitor the impacts extractive water use has on water quality such as cold water pollution levels, pollutants and dam safety. Local water utilities also require a certain water quality standard. The broader community is a minor impactor as this activity also captures monitoring for blue green algae.	70-90%

Activity	Description	Category of expenditure	Current customer share (%)	Rationale for change	Updated customer share (%)
Direct insurances	This includes costs for insurance such as public liability and building and other asset insurance.	Operating and capital	100%	Consumptive user is the sole impactor.	100%
Corrective maintenance	This activity includes maintenance for the breakdown of assets which provide services to customers and other water users.	Operating and capital	100%	Consumptive user is the major impactor. WaterNSW has advised that approximately 5% of some maintenance is required for public access roads (that are not used in water storage and delivery).	95%
Routine maintenance	This activity includes planned or condition-based maintenance of assets which provide services to customers and other water users.	Operating and capital	100%	Consumptive user is the major impactor. WaterNSW has advised that approximately 5% of some maintenance is required for public access roads (that are not used in water storage and delivery).	95%
Asset management planning	This activity includes: <ul style="list-style-type: none"> <li>▼ asset planning and safety</li> <li>▼ Maintenance planning</li> <li>▼ Asset condition auditing</li> <li>▼ Operational risk and incident management.</li> <li>▼ Procurement</li> <li>▼ Dam safety and compliance</li> </ul>	Operating and capital	100%	Consumptive user is the major impactor. WaterNSW has advised that approximately 5% of some maintenance is required for public access roads (that are not used in water storage and delivery).	95%

Activity	Description	Category of expenditure	Current customer share (%)	Rationale for change	Updated customer share (%)
Dam safety compliance	<ul style="list-style-type: none"> <li>▼ Dam surveillance</li> <li>▼ Dam safety inspections, reviews, audits</li> <li>▼ risk assessment</li> </ul>	Operating and capital	50%	The consumptive user is the major impactor of compliance costs of the business. To the extent that some dam safety costs are associated with the flood management function WaterNSW performs, then the broader community is a minor impactor.	70-90%
Dam safety compliance pre-1997 capital projects	Costs based on maintaining 1997 standards of service: <ul style="list-style-type: none"> <li>▼ Dam surveillance,</li> <li>▼ Dam safety inspections, reviews, audits</li> <li>▼ risk assessment</li> </ul>	Capital	0%	This activity is a legacy cost.	0%
Environmental planning and protection	This activity includes: <ul style="list-style-type: none"> <li>▼ strategic and specific planning and assessment,</li> <li>▼ Fish passage,</li> <li>▼ Carbon neutrality</li> <li>▼ Cold water pollution.</li> </ul>	Operating and capital	50%	The consumptive user is the major impactor of compliance costs of the business. To the extent that some dam safety costs are associated with the flood management function WaterNSW performs, then the broader community is a minor impactor.	70-90%
Corporate systems	This activity includes: <ul style="list-style-type: none"> <li>▼ information services,</li> <li>▼ major projects and improvement initiatives.</li> </ul>	Operating and capital	100%	We have sought to allocate the costs based on the weighted average of user and NSW government shares for the remaining activity codes.	80%
Irrigation Corporation District (ICD) rebates	This is a rebate paid to ICDs based on avoided cost incurred in relation to activity 'customer billing and 'metering and compliance'	Operating and capital	100%	Irrigation corporations are the sole impactor.	100%

Activity	Description	Category of expenditure	Current customer share (%)	Rationale for change	Updated customer share (%)
Renewals and Replacement	This activity includes repairs for expected wear and tear and usage of water infrastructure	Operating and capital	90%	Consumptive user is the major impactor. WaterNSW has advised that approximately 5% of some maintenance is required for public access roads (that are not used in water storage and delivery).	95%
Risk Transfer Product	Cost of insurance product to manage revenue volatility arising from tariff structure	Operating	100%	Consumptive user is the sole impactor.	100%

**Source:** Aither, *Rural water cost sharing review Draft Report*, September 2018, pp 70-101



## C Impacts of our draft decisions by valley

This appendix presents the estimated impacts of our draft decisions by valley. It is important to note that the estimated impact of our draft changes to each of the valley's customer share of WAMC and WaterNSW's efficient costs is based on the current allocation of costs over the 4 year period from 2018-2021. Therefore, the estimated impact on the customer share is illustrative only and may differ if costs are allocated differently in future determination periods.

**Table C.1 Impact of our draft decisions on WAMC's customer shares by valley**

Valley	Current (%)	IPART Draft Decision (%)	Increase (decrease) in customer share (%)
Border	71.4	80.0	8.6
Gwydir	66.0	77.3	11.2
Namoi	71.3	81.6	10.3
Peel	71.6	84.8	13.2
Lachlan	73.4	83.1	9.7
Macquarie	72.2	82.8	10.7
Far West	62.2	77.0	14.9
Murray	65.8	77.3	11.5
Murrumbidgee	65.3	76.9	11.5
North Coast	74.9	87.7	12.8
Hunter	77.0	85.5	8.4
South Coast	71.4	78.4	7.0
Inland (Groundwater)	95.3	93.3	(2.0)
Coastal (Groundwater)	97.6	95.6	(2.0)
<b>Total</b>	<b>76.3</b>	<b>83.6</b>	<b>7.3</b>

**Note:** customer prices in the North Coast and South Coast valleys are currently set below full cost recovery. Numbers may not add due to rounding.

**Source:** IPART analysis.

**Table C.2    Impact of our draft decisions on WaterNSW's customer shares by valley**

Valley	Existing (%)	IPART Draft Decision (%)	Increase (decrease) (%)
Border	86.6	91.3	4.6
Gwydir	91.9	90.6	(1.3)
Namoi	46.1	45.1	(1.0)
Peel	84.6	87.0	2.4
Lachlan	89.8	91.2	1.4
Macquarie	89.4	91.2	1.8
Murray	94.5	93.5	(0.9)
Murrumbidgee	91.8	92.9	1.1
Lowbidgee	100.0	100.0	0.0
North Coast	85.2	90.3	5.2
Hunter	86.7	91.1	4.4
South Coast	84.8	90.7	5.9
Fish River	100.0	100.0	0.0
<b>Total</b>	<b>83.5</b>	<b>84.0</b>	<b>0.5</b>

**Note:** customer prices in the North Coast and South Coast valleys are currently set below full cost recovery. Numbers may not add due to rounding.

**Source:** IPART analysis.

## D IPART's history of cost sharing

We developed our cost share ratios at an activity level, designating each activity with a code. Both WaterNSW and WAMC present their costs in line with these activity codes. For each activity code we determine a customer / NSW Government cost share ratio based on the impactor pays principle which is that the party that causes the need to undertake an activity and incur the cost of an activity should pay the cost of that activity. Once we have determined the efficient cost of each activity, we apply the cost share ratios to determine the user and NSW Government shares of the regulated business' total efficient costs. For example, if we determine an activity code has an efficient cost of \$1,000 and that the customer/NSW Government cost share ratio of that activity is 50/50, the customer and NSW Government shares of this cost will be \$500 each.

This appendix provides a brief history of the key developments in our cost sharing framework and ratios, including the key concepts used in our approach.

### D.1 2001 bulk water price determination

In our 2001 bulk water price review, we engaged ACIL Consulting to review (then named) State Water's water management costs and to provide a framework for allocating these costs between users and the NSW Government.<sup>76</sup> ACIL developed a conceptual framework for allocating costs that was based on the 'impactor pays' principle, and that excluded legacy costs.<sup>77</sup> In general, we adopted the principles that underpinned this approach.<sup>78</sup>

Specifically, in our 2001 bulk water price determination, we moved from a 'beneficiary pays' approach to an 'impactor pays' approach. (Box D.1 describes the difference between these approaches.) Our earlier cost share ratios reflected a mixture of the two approaches.

#### Box D.1 The 'beneficiary pays' and 'impactor pays' principles

- ▼ 'Beneficiary pays' – users pay charges on the basis on benefiting from the service.
- ▼ 'Impactor pays' – those ultimately responsible for create the costs, or the need to incur the costs, pay the costs.

In recommending the application of the 'impactor pays' principle, ACIL defined 2 key concepts<sup>79</sup>:

- ▼ **Legacy costs:** These principally current and future costs are attributable to past activities. Current and future water users should not have to meet the expenditure caused by past users.

<sup>76</sup> IPART, *Department of Land and Water Conservation Bulk Water Prices*, October 2018, p 27.

<sup>77</sup> ACIL Consulting, *Review of Water Resource Management Expenditure in the NSW Department of Land and Water Conservation and State Water business*, July 2001, pp 42-43.

<sup>78</sup> IPART, *Department of Land and Water Conservation Bulk Water Prices*, October 2018, p 30.

<sup>79</sup> ACIL Consulting, *Review of Water Resource Management Expenditure in the NSW Department of Land and Water Conservation and State Water business*, July 2001, p xiii.

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- ▼ **Impactor pays:** Non-legacy costs should be allocated to current stakeholders in proportion to the contribution of their current and future actions to the need for these expenditures.

ACIL's approach would fully allocate all legacy costs to the NSW Government, and would allocate all forward looking costs according to the 'impactor pays' principle.<sup>80</sup> For some costs, the 'impactor' would be both the NSW Government and extractive users. Under this framework, WaterNSW's total costs were broken down according to their associated key activities (for example, dam safety compliance and water quality monitoring). Within each of these activities, costs that related to past users were regarded as legacy costs and fully allocated to the NSW Government. Future expenditure that related to current or future users was allocated according to whichever party (users of the community) created the costs or the need to incur the costs (the 'impactor pays' principle).

## Our decision

After considering ACIL's recommendations and stakeholder submissions made in response to our draft report, we came to the following decisions:

- ▼ To determine legacy costs, it is more appropriate to draw a line in the sand at a particular date and to consider only expenditure required to meet standards established at or before that date. We drew a line in the sand at July 1997, so the NSW Government bore all legacy costs incurred before that date.<sup>81</sup>
- ▼ The 'impactor pays' principle should be applied to allocate bulk water costs, but this process requires a significant level of judgement.<sup>82</sup>

## D.2 2006 bulk water price determination

In our 2006 Determination for (then named) State Water, we used the principles for allocating costs between users and the NSW Government that we established in the 2001 Determination (and adopted in the 2005 Determination)<sup>83</sup>. We engaged the Centre for International Economics (CIE) to review the agencies' proposals and to advise appropriate ratios for cost allocation.<sup>84</sup> We also considered stakeholders' views in response to our draft report. While we maintained our general approach to cost shares, we reviewed and changed specific allocations<sup>85</sup>:

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<sup>80</sup> ACIL Consulting, *Review of Water Resource Management Expenditure in the NSW Department of Land and Water Conservation and State Water business*, July 2001, pp 42-43.

<sup>81</sup> IPART, *Department of Land and Water Conservation Bulk Water Prices*, October 2018, p 31.

<sup>82</sup> IPART, *Department of Land and Water Conservation Bulk Water Prices*, October 2018, p 33.

<sup>83</sup> IPART, *Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p.35.

<sup>84</sup> IPART, *Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p.37.

<sup>85</sup> IPART, *Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010*, September 2006, p.36.

- ▼ We agreed with CIE's recommended to continue using the cost share ratios established in 2001 with minimal changes. CIE noted that between 2001 and 2006 there were a number of new regulatory changes such as the establishment of the water sharing plans and the National Water Initiative, however, they concluded that the Tribunals principles for cost allocation are robust enough to apply to any new activities.
- ▼ We reduced the users share for capital projects related to flood mitigation from 100% to 90% recognising the expenditure is primarily to maintain flood mitigation assets, but users also derive some benefit from the flood mitigation works.<sup>86</sup>
- ▼ We increased the user share of costs for hydrometric monitoring from 70% to 90%, because these activities play some role in flood mitigation, rather than the 100% user share that we adopted in our draft determination.<sup>87</sup>

Table below shows IPART's decision on the cost sharing ratios.

**Table D.1 IPART's 2006 findings and decisions on cost shares (%) for State Water**

Product	2001 IPART Determination	State Water submission	CIE recommendation	Tribunal's draft finding	Tribunal's finding
<b>Capital expenditure</b>					
Asset management planning	100	100	70-100	100	100
Plant and equipment	100	100	70-100	100	100
Dam safety compliance capital costs – pre 1997	0	0	0	0	0
Dam safety compliance capital projects – post 1997	50	50	0-50	50	50
MPM capital projects	100	100	70-100	100	90
Structure enhancement capital projects	100	100	100	100	100
OH&S compliance system	50	100	50	50	50
Fish passage works	50	50	0	50	50

<sup>86</sup> IPART, Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010, September 2006, p.40.

<sup>87</sup> IPART, Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010, September 2006, p.39.

Product	2001 IPART Determination	State Water submission	CIE recommendation	Tribunal's draft finding	Tribunal's finding
Cold water impacts mitigation works	50	50	50	50	50
Salt inception schemes	10	10	10	10	10
Fish River Supply Scheme	NA	100	100	100	100
<b>Operating expenditure</b>					
Customer support	100	100	100	100	100
Hydrometric monitoring	70	100	70-100	100	90
Water quality monitoring	50	100	50	50	50
River operations	100	100	70-100	100	100
Dam safety compliance O&M	50	100	50	50	50
Preventative maintenance	100	100	70-100	100	100
Billing & receipts	100	100	100	100	100
Insurance	100	100	50	100	100
Metering	100	100	100	100	100
Salt inception schemes	10	10	10	10	10
Fish River Supply Scheme	NA	100	100	100	100

**Source:** IPART, Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010, September 2006, p 43.

**Table D.2 IPART's 2006 findings and decisions on cost shares (%) for DNR**

Activity	IPART 2001 Determination	DNR submission	CIE recommendation	Tribunal's draft finding	Tribunal's finding
C01-01 Surface water quantity monitoring/reporting/information provision	70,80,0,50	90	70	70	70
C01-02 Surface water state-wide data management	0,0	90	50	50	50
C01-03 Surface water quality monitoring/reporting/information provision	50,50,0,50	63	50	50	50

Activity	IPART 2001 Determinat ion	DNR submissio n	CIE recommendatio n	Tribunal' s draft finding	Tribunal' s finding
C01-04 Surface water ecology/biology information provision	50	63	0	50	50
C01-05 Surface water quality state-wide database management	50,0	63	50	50	50
C01-06 Surface water asset management quantity/quality information provision	70,80,50,50	90	50-70	70	70
C02-01 Groundwater quantity monitoring/reporting/information provision	100,100	100	70-100	100	100
C02-02 Groundwater quality monitoring/reporting/information provision	100,100	100	70-100	100	100
C02-03 Groundwater state-wide corporate database management	100	100	70-100	100	100
C02-04 Groundwater asset management quantity/quality information provision	100,100,10 0,100	100	70-100	100	100
C03-01 Coastal and estuary monitoring and information provision	70,80,50,50	0	0	0	0
C03-02 Coastal and estuary asset management quantity and quality monitoring	70	0	0	0	0
C04-01 Analytical services for water quality programs	50	81	50	50	50
C05-01 Water projects sharing/accounting	50,100	100	0-30	50	50
C05-02 Water assessments	0,10,100	50	0-30	30	30
C05-03 Water balances/accounting	100,100,10 0	100	100	100	100
C05-04 Groundwater balances/accounting	100,100,10 0	100	100	100	100
C06-01 Environmental water provisions (Parts 3 & 5)	NA	100	0	0	0
C06-02 Limits to availability of water (Parts 5 & 8)	NA	100	70-100	100	100
C06-03 Rules for managing access licences (Parts 5 & 9)	NA	100	100	100	100
C06-04 Access dealing rules (Parts 5 & 10)	NA	100	100	100	100
C06-05 System operation rules (Part 12)	NA	100	100	100	100
C06-06 Monitoring and Reporting (Parts 5 & 13)	NA	100	0	50	50
C06-07 Plan amendments (Part 14)	NA	100	50	50	50



Activity	IPART 2001 Determinat ion	DNR submissio n	CIE recommendatio n	Tribunal' s draft finding	Tribunal' s finding
C07-01 Water sharing plan development	100,100,100	100	50	70	70
C07-02 Water use plans		100	50-70	70	70
C07-03 Drainage plans		0	0	0	0
C07-04 Floodplain plans	0	0	0	0	0
C07-05 Floodplain harvesting plans	100	100	70-100	100	100
C07-06 Environmental water management planning	0	100	0	0	0
C07-07 Water savings planning		100	0	0	0
C07-08 Delivery capacity rights planning	100,100,100	100	70-100	100	100
C07-09 Wetland recovery plan major initiative	0	100	0	0	0
C07-10 NSW wetland policy implementation		80	0	0	0
C07-11 NRC reviews and support of water sharing plans		100	0	50	50
C07-12 CMA support for environmental water programs		50	0	0	0
C07-13 River health and water quality plans	0	90	0	0	0
C07-14 Impact of dams on water quality	0	0	0	0	0
C07-15 Blue-green algae operational planning	0,0,0	0	0	50	50
C07-16 Bacterial, chemical, salinity and other regional operational planning	0	0	0	0	0
C07-17 Interstate and national commitments	50	20	0	50	50
C08-01 River management works planning	100	100	50	50	50
C08-02 River bank and river bed remediation	100	100	50	50	50
C09-01 Head office systems and administration	80,100	100	100	100	100
C09-02 Regional administration	80,100,100	100	100	100	100
C09-03 Head office register administration	100,100,100	100	100	100	100
C09-04 Licence cleansing	100,100,100	100	100	100	100
C09-05 Town water supply entitlements	100,100	100	100	100	100
C09-06 Compliance	100,100	100	100	100	100
C09-07 Systems development		100	100	100	100

Activity	IPART 2001 Determination	DNR submission	CIE recommendation	Tribunal's draft finding	Tribunal's finding
C10-01 Water Act 1912 consents transactions	100,100,100,100,100	100	100	100	100
C10-02 Water Management Act 2000 consents transactions	100,100,100,100,100	100	100	100	100
C11-01 Metering and billing water usage	100,100	100	100	100	100
C11-02 WRM business development	100	100	70	70	70
C11-03 Financial administration	50,80	80	70-100	100	100
C12-01 Metering and monitoring of water use systems on unregulated rivers and groundwater	90,90	100	70	90	90
C12-02 IMEF	0	100	0	0	0
C12-03 Groundwater monitoring network for water sharing plans and extension of surveillance and salinity network	100,100	100	70	70	70
C12-04 Integrated corporate water and ecological databases	80,50	50	30	50	50
C12-05 Water and wetland recovery management	0	100	0	0	0

**Note:** In its proposal DNR submitted new activity codes. The IPART 2001 Determination column maps the 2001 Determination cost shares against DNR's submission. For example, activity code C01-01 is a consolidation of 4 activity codes in the 2001 Determination, hence 4 different cost share ratios are allocated within the IPART 2001 Determination column.

**Source:** IPART, Bulk water prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010, September 2006, p.42.

### D.3 2017 State Water price determination

In the 2017 WaterNSW price review, IPART made the decision to maintain the cost share ratios determined in 2001 and amended in 2006. This was consistent with WaterNSW's proposal to maintain the existing customer shares as applied by the ACCC in its 2014 Decision.<sup>88</sup>

In 2012, the NSW Government asked IPART to conduct a review into bulk water charges to identify options for determining the NSW Government's cost share for bulk water charges in NSW. IPART recommended the continuation of the existing approach to determining NSW Government cost shares, using the cost allocation ratios determined in 2001 and 2006 until 1 July 2017. IPART recommended a review of the cost share ratios every second pricing determination.<sup>89</sup> Given this, IPART engaged consultant Frontier Economics to review the cost shares framework proposed by WaterNSW for the 2017 determination period.<sup>90</sup> Frontier

<sup>88</sup> IPART, WaterNSW Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021, June 2017, p. 97.

<sup>89</sup> IPART, Review of rural water charging systems – Final Report, August 2012, p.8.

<sup>90</sup> Frontier Economics, Review of WaterNSW cost shares: Report prepared for IPART, December 2016.

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Economics report identified a number elements of how the application of the impactor pays principle and legacy costs in the current cost sharing framework may limit the effectiveness of the framework and its ability to meet IPART's objectives.<sup>91</sup>

To improve the cost sharing framework, Frontier Economics recommended that IPART adopt a service-based cost sharing framework. However, they outlined a number of pre-conditions required for their proposed service-based cost sharing framework to be implemented. This included:

- ▼ A range of detailed information covering:
  - Description of WaterNSW's services in order to allocate costs to each of them
  - A detailed register of dedicated and shared assets and activities, and
  - A clear and well-documented process (including specification of an appropriate causal allocator), for allocating the costs of shared assets and activities across impactors and services.
- ▼ Potential changes to the current information collection and billing systems
- ▼ Potential legislative, policy or regulatory changes to enable the allocation of costs to unbilled impactors, and
- ▼ Broader consultation and stakeholder engagement to ensure that the cost sharing framework is both a long-term and sustainable approach.<sup>92</sup>

Given these pre-conditions and time constraints during a price review, IPART decided that it was not feasible to implement aspects of Frontier's recommendations in the 2017 determination period. We made the decision to conduct an extensive review of the cost sharing framework included the cost share ratios before the 2021 determination.<sup>93</sup>

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<sup>91</sup> Frontier Economics, Review of WaterNSW Cost Shares, December 2016, pp 53-55.

<sup>92</sup> Frontier Economics, Review of WaterNSW Cost Shares, December 2016, p 51.

<sup>93</sup> IPART, WaterNSW Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021, June 2017, pp 101-102.

## E Water management and rural bulk water services

We determine prices for monopoly water management services for WAMC and monopoly rural bulk water services for WaterNSW. WAMC's prices are also currently set under a 4-year determination period, but from 1 July 2016 to 30 June 2020 (the 2016 Determination). WaterNSW's prices are currently set under a 4-year determination period, from 1 July 2017 to 30 June 2021 (2017 Determination).

IPART aims to set prices that allow both WAMC and WaterNSW to recover customers' share of the efficient costs of providing monopoly services. Prices that reflect customers' share of the efficient cost provide price signals to customers that encourage the efficient use of these services.

For both WAMC's 2016 Determination and WaterNSW's 2017 Determination, we started by making a decision on the scope of the monopoly services provided by the respective businesses, which were then subject to our pricing functions. We then set prices based on: a) our understanding of the efficient costs of the activities involved in providing these services and b) our cost share ratios which specify what percentage of each activity is to be recovered from customers through regulated prices. This appendix summarises WAMC's and WaterNSW's monopoly services, which are subject to our price determinations.

### E.1 WAMC services and customers

WAMC is the legal entity that is responsible for water management in NSW. Water management services involve protecting water users' property rights through management of the water entitlement and licensing system. WAMC's key activities include:<sup>94</sup>

- ▼ developing Water Sharing Plans
- ▼ determining volumes of water available for allocation
- ▼ management of registers and trading
- ▼ monitoring water quantity, quality and environmental health, and
- ▼ collecting data on water take.

There are three categories of WAMC's prices that we set in the 2016 Determination:<sup>95</sup>

- ▼ **Water management prices** – annual prices which recover the costs of water planning and management and apply to all categories of water access licences. These prices include entitlement (\$ per ML of entitlement) and water take (\$ per ML of water take) prices, and a minimum annual charge.

<sup>94</sup> IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 July 2016*, June 2016, p 35.

<sup>95</sup> IPART, *Review of prices for the Water Administration Ministerial Corporation from 1 July 2016*, June 2016.

- ▼ **Consent transaction charges** – which recover the costs of one-off services such as amending water access licences, performing water allocation assignments and issuing works approvals.
- ▼ **Meter service and reading charges** – annual charges for maintaining and reading water meters.

WAMC's water management services are currently delivered on behalf of WAMC by the Department of Industry (Water), WaterNSW, and the Natural Resource Access Regulator (NRAR).

## E.2 WaterNSW's services and customers

WaterNSW was formed on 1 January 2015 under the *Water NSW Act 2014* (NSW) (the Act). The Act provided for the former State Water Corporation to become WaterNSW. It also abolished the former Sydney Catchment Authority (SCA) and transferred its functions to WaterNSW.

WaterNSW supplies raw water to, and develops and delivers raw water infrastructure solutions for, rural NSW and the Greater Sydney area.<sup>96</sup> Cost-shares discussed in this Issues Paper refer to services provided by WaterNSW to its rural customers (ie, the former State Water Corporation component of WaterNSW).

In rural NSW, WaterNSW maintains, manages and operates major infrastructure to deliver bulk water to licensed water users on the State's regulated rivers. There are about 6,300 customers in 14 regulated river systems. WaterNSW owns and operates 20 dams and more than 280 weirs and regulators to deliver water for town water supplies, industry, irrigation, stock and domestic use, riparian use and environmental flows. It provides services to various customers including irrigation corporations, country town water supply authorities, farms, mines and electricity generators.<sup>97</sup>

The scope of WaterNSW's services has evolved over time, as has the type of users of these services and the nature of their use. The roles and responsibilities of WaterNSW are prescribed by the Act. Under section 6 of the Act, WaterNSW is required to meet the following primary objectives:<sup>98</sup>

- ▼ capture, store and release water in an efficient, effective, safe and financially responsible manner
- ▼ supply water in compliance with appropriate standards of quality
- ▼ ensure that declared catchment areas and water management works in such areas are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment
- ▼ provide for the planning, design, modelling and construction of water storages and other water management works, and

<sup>96</sup> WaterNSW, *WaterNSW Annual Report 2015-16*, 2016, pp 6-7.

<sup>97</sup> WaterNSW, pricing proposal to IPART, June 2016 p 12.

<sup>98</sup> *Water NSW Act 2014*, section 6(1).

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- ▼ maintain and operate the works of WaterNSW efficiently and economically and in accordance with sound commercial principles.

Other objectives of WaterNSW include: to be a successful business; exhibit a sense of social responsibility towards the community and regional development; and conduct its operations in compliance with the principles of ecologically sustainable development.<sup>99</sup>

WaterNSW provides services in the Murray-Darling Basin (MDB) and Coastal valleys. WaterNSW is also responsible for the Fish River Water Supply Scheme (FRWS), which sources water from Oberon Dam and supplies bulk water to four major customers (EnergyAustralia, Lithgow City Council, Oberon Council and WaterNSW Greater Sydney) and approximately 280 smaller customers.<sup>100</sup>

WaterNSW also recovers a portion of the NSW Government's contributions to the Murray Darling Basin Authority (MDBA) and the Border Rivers Commission (BRC) through its water prices. The MDBA and the BRC have responsibility for coordinating and managing water resource management and water storage and delivery-related activities where they involve more than one state, with the costs of managing and maintaining assets under these arrangements jointly paid for by the signatory states.

WaterNSW's rural bulk water charges for its monopoly services comprise:

- ▼ **Water charges**, for the storage and delivery of water on regulated rivers, which:
  - are set on a valley basis
  - are generally comprised of two-part tariffs: \$ per ML of water entitlement and \$ per ML of water taken, and
  - for some valleys (ie, Border, Murray and Murrumbidgee), include the addition of MDBA and BRC costs.
- ▼ **Miscellaneous charges**, to recover the cost of non-routine services. They include meter service charges, which WaterNSW may levy on users of WaterNSW-owned meters on regulated rivers, to recover the costs of maintenance and administration related to WaterNSW-owned meters.

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<sup>99</sup> *Water NSW Act 2014*, section 6(2).

<sup>100</sup> WaterNSW pricing proposal to IPART, June 2016, p 11.

## Glossary

2010 Determination	<i>Review of bulk water charges for State Water Corporation from 1 July 2010 to 30 June 2014, June 2010 (Determination No. 2, 2010)</i>
2016 Determination	<i>Water Administration Ministerial Corporation Maximum prices for water management services from 1 July 2016, June 2016 (Determination No. 2, 2016)</i>
2016 determination period	The period from 1 July 2016 to 30 June 2020, as set in the 2016 Determination (WAMC)
2017 Determination	<i>WaterNSW prices for rural bulk water services from 1 July 2017, June 2017</i>
2017 determination period	The period commencing 1 July 2017 to 30 June 2021, as set in the 2017 Determination (WaterNSW)
ACCC	Australian Consumer and Competition Commission
ACCC's Pricing Principles	<i>Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010, July 2011</i>
Beneficiary pays	Where the costs of a service or activity are allocated to those who benefit from the service or activity
BRC	Border Rivers Commission
CSO	Community Service Obligation
Customer share	The share of the revenue requirement that is recovered from the customer, determined according to the 'impactor pays' principle. We have decided to refer to what has previously been known as the 'user share of costs' as the 'customer share of costs', given that there are users of rural bulk water services (eg, the community at large), that do not contribute to the recovery of WaterNSW's NRR
Dol – Water	Department of Industry and Water (formerly the Department of Primary Industries Water)
Entitlement	ML of entitlement under the <i>Water Act 1912</i> (NSW) or unit shares under the <i>Water Management Act 2000</i> (NSW)



FRWS	Fish River Water Supply Scheme
Government share	The share of the revenue requirement that is recovered from the NSW Government, determined according to the 'impactor pays' principle.
Greater Sydney area	Water catchments that service WaterNSW storages including the Blue Mountains, Shoalhaven, Warragamba, Upper Nepean and Woronora catchments
Impactor pays	Where the costs of a service or activity are allocated to those who create the need to incur the costs
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act	<i>Independent Pricing and Regulatory Tribunal Act 1992 (NSW)</i>
Legacy cost	Costs of activities or services that would still be required even if there was no demand for the regulated service
MDB	Murray Darling Basin
MDBA	Murray Darling Basin Authority
ML	Megalitre
NRAR	Natural Resources Access Regulator
NRR	Notional revenue requirement. Revenue requirement set by IPART that represents the efficient costs of providing WaterNSW's regulated monopoly services and/or WAMC's water management services
NSW	New South Wales
SCA	Sydney Catchment Authority (now part of WaterNSW)
State Water	Former State Water Corporation (now part of WaterNSW)
WAMC	Water Administration Ministerial Corporation
Water Act	<i>Water Act 2007 (Cth)</i>
WaterNSW	WaterNSW is the organisation responsible for managing raw water supply across NSW by bringing together the Sydney Catchment Authority (SCA) and State Water Corporation (State Water) (at 1 January 2015)