Goulburn-Murray Rural Water Corporation

Submission to Price Review 2016

(Water Plan 4)

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1 Executive Summary

Goulburn-Murray Water (GMW) is Victoria's largest rural water provider, responsible for storing, managing and delivering about 70 per cent of the state's water to a 68,000 square kilometre region – the equivalent of about one third of the state.

The organisation delivers water to more than 14,000 gravity irrigators and more than 650 irrigators on pumped systems, along with more than 1,100 domestic and stock customers, more than 10,000 regulated and unregulated water diverters and more than 8,000 groundwater customers.

We are also delivering the Connections Project, a once-in-a-lifetime $2 billion project funded by the State and Commonwealth governments and the Melbourne water businesses to modernise, upgrade and improve the water delivery systems of the irrigation network in Northern Victoria.

This submission to the Price Review 2016 being conducted by the Essential Services Commission (ESC) details the proposed capital and operating expenditure required to deliver services and meet service standards over the period 2016/17 to 2019/20. It also explains how and why tariff changes are proposed in the Price Review 2016 period and details specific customer impacts and proposed prices. All dollar figures in this submission are in $2015/16, as stipulated by the ESC guidance paper.

All proposals have been developed following extensive consultation with customers and stakeholders.

Summary of this submission to the Price Review 2016

- We will continue to efficiently deliver our core services - irrigation and drainage, diversions and bulk water - in line with agreed service standards with some revised and new standards being proposed. The proposed changes will not impact expenditures.
- During the Price Review 2016 period we will continue to deliver on key initiatives commenced in the current regulatory period to allow us to more effectively and efficiently deliver customer services; specifically organisational efficiency programs, tariff strategy development and implementation, staff development programs and customer focussed initiatives.
- The proposals contained in this submission provide for a financially and operationally sustainable business.
- Because the Connections Project is still being implemented and currently subject to a Mid Term Review we have made some assumptions that may need to be refined.
- Operating expenditures will build on the cumulative efficiencies included in the 2013 Water Plan and incorporate further efficiency savings from the Business Transformation Program. Expenditure will slightly decrease during the Price Review 2016 period.
- There will be small increases in the average annual capital expenditure from the current regulatory period. These are needed to address high risk retail assets and undertake large dam safety projects.
- During the Price Review 2016 period we will achieve revenue increases of less than CPI. In the Blueprint[1] we committed to increases of CPI plus 1.5 per cent, however during the Price Review 2016 period on average less than CPI movements will be achieved.

[1] GMW Blueprint April 2013 described the key challenges and initiatives proposed by GMW developed in consultation with our customer.

- Significant reforms of gravity and diversions tariffs are proposed and the implementation of the associated tariff strategies will mean changes for some customers' bills. We have minimised these customer impacts by transitioning the most significant changes throughout the Price Review 2016 period.
- Reviews are also being undertaken in drainage and water districts to simplify tariffs.
- We have developed these proposals through consultation, which began in late 2014 with Water Services Committees. Extensive consultation occurred in relation to the proposals in the draft submission, including via mail outs, a dedicated webpage, fact sheets, 25 public forums which attracted 289 customers and 101 written responses to requests for feedback.

We have transformed our organisation during the current regulatory period resulting in efficiency savings and revenue and price changes well below our approved 2013 Water Plan.

During the Price Review 2016 period we remain committed to efficiently delivering customer services by continuing to drive productivity and changing the capability and capacity of our organisation to reflect the modernisation of the gravity system.

We have also refocussed to meet the changing needs of our customers and the changing delivery infrastructure. These changes will continue and impact on proposed service standards, expenditures and price proposals in this submission.

GMW is committed to putting our customers first and our greater focus on service delivery and efficiency is reflected in the service and price proposals in this submission.

1.1 Customer Consultation

Customers are the centre of our business and it is for this reason we have changed our approach to consultation during the current regulatory period. We now have a more consistent and ongoing engagement strategy and in preparing this submission there has been extensive consultation.

This includes the ongoing business wide consultation undertaken with a wide variety of our customers and stakeholders through forums such as GMW's stakeholder breakfasts, industry meetings and customer surveys.

In relation to the Price Review 2016 process, we met with our 13 Water Services Committees (WSCs), the urban water businesses and Environmental Water Holders to gain feedback. In these forums we sought customer feedback on proposed service standards, operating and capital expenditure, demands and pricing. Further, in consulting on the draft of this submission we:

- Mailed all of our customers providing them with a summary of the key proposals, inviting them to attend public forums and provide written feedback;
- Developed a webpage providing online information to the general public;
- Released a series of fact sheets;
- Ran 25 customer forums, attracting 289 customers, providing those not actively engaged via the WSCs the opportunity to understand the proposals in the draft submission and provide their feedback, this included 3 sessions with 36 large account customers (see Table 1 for further detail);
- Further engaged the WSCs at their annual workshop where during the breakout sessions for gravity irrigation and diversions key issues in relation to pricing were discussed, and;
- Placed articles in our irrigator e-news with invitations to provide feedback as well as in regional newspapers.

Table 1 – Summary of customer forums in relation to the draft submission

Location	Sessions	Number of customers
Tatura	1 for major account gravity customers	14
Tatura	1 for major account diversion customers	6
Cohuna	1 for major account gravity customers	16
Cobram	3	11
Kyabram	3	32
Wangaratta	2	12
Shepparton	3	17
Rochester	3	11
Kerang	2	32
Swan Hill	1	23
Newbridge	1	6
Pyramid Hill	3	39
Kyabram	1 (additional)	62
Various	6 all day drop in opportunities at GMW regional offices	8
Total	**25 (excluding all day drop in opportunities)**	**289**

The feedback received via these different mechanisms covers a variety of issues and perspectives.

Significant feedback was received in relation to the proposal to move to a uniform Goulburn-Murray Irrigation District (GMID) Delivery Charge. While some customers raised concerns, others were supportive. For example, a large agricultural business operating across multiple districts in the GMID, and other irrigation areas, noted that the current district pricing makes it difficult to understand and compare pricing within the GMID and with other rural water providers.

Stakeholder views reflected the need to ensure that irrigation *"operators remain competitive on a global scale*" noting that GMW's water plan supported "*attracting investment within the agricultural sector*" and "*would allow customers to consider expansions and other business development opportunities due to the reduced water related fees*"

Some Water Service Committee members expressed the view that "*GMW had consulted with WSC in 2013 and it was agreed by the WSC Chairs that there would be a single price across all areas. Since that time GMW has started to share its staff and equipment across areas boundaries gaining efficiencies.*" Members expressed their concerns that these efficiencies would be lost if area boundaries were re-established.

Customers provided feedback that supported and reflected the changing nature of our business stating that "*GMW is not the same business it was 5 years ago. The business is smaller than it used to be – it doesn't make sense to operate it as a series of small independent districts*".

Customer's issues and concerns with the uniform pricing are outlined in Table 56, along with the other concerns and issues raised about pricing, service standards and expenditures.

Table 2 - Summary of feedback received and GMW's consideration

Issue / nature of feedback	GMW's consideration
Gravity Irrigation Tariff Strategy	
• Some customers (around 16 at the major account and customer forums) did not support a uniform GMID Delivery Charge and raised the following concerns: o It results in a lack of cost	• GMW is investing in and operating the modernised irrigation system on an integrated, region wide basis, with a significant portion of its costs (65%) occurring on a system wide basis. This is a change from the previous approach of

Issue / nature of feedback	GMW's consideration
reflectivity, leading to inefficient decision making, and cross subsidisation ○ It should not be used to manage future price shocks ○ It does not result in significant efficiencies for GMW.	operating on an irrigation district basis and supports the transition to a uniform price. • Recognising the GMID wide operation of the modernised irrigation system and recovering costs over the system as a whole protects customers from price shocks and enables GMW to remain financially viable. • The introduction of the uniform price will drive cost savings of between $0.85M and $1M per year through lower labour costs related to pricing, budgeting and customer service.
Diverters Tariff Strategy	
• Some smaller customers were concerned that the proposed changes would increase their bills but with no change in service.	• The new tariffs are more cost reflective (with costs being driven primarily by the number of service points) and will therefore promote the economically efficient decisions. • GMW uses a risk based approach to ensure compliance with management rules and plans meaning it generally focuses on monitoring larger customers. While this may not be visible to smaller customers, it benefits them by ensuring they have access to their entitlements.
Bulk water pricing	
• Further detail was sought in relation to the charges incurred by the environment and how these are determined. • Central Highland Water was concerned with the size of the proposed bulk water prices increases for the Bullarook basin.	• The current considerations around pricing of water for the environment and the proposed pricing approach for the Price Review 2016 period are outlined in section 11.12 of this submission. • GMW is working with Central Highland Water in relation to its issues and subject to the outcomes of this further consultation may need to provide supplementary proposals to those in this submission.
Service standards	
• Some customers did not understand the services they receive and expressed concern in relation to proposed price increases (particularly small diversion customers). • Concern about a proposed change to a service standard for gravity irrigation relating to flow rates.	• GMW has sought to clarify the services provided, particularly in relation to diversion Service Point and Access Fees. • The feedback received about the proposed service standard for gravity irrigation meant this standard is no longer being proposed.
Expenditures	
• Concern that GMW has not spent its proposed capital expenditure in the current regulatory period and that it should reduce its proposed expenditures to levels it can deliver. • Support for the operational efficiencies being driven by the Business Transformation Program, but not at the expense of service standards. • Greater transparency sought about	• GMW's capital expenditure will increase in 2015/16 and 2016/17 and it has planned the mix of internal and external resources required to enable delivery without effecting business as usual activities. • Operational efficiencies will continue to be sought at the same time as meeting service standards. • A variety of initiatives have led to lower operational expenditure including an organisational restructure leading to a reduction in labour costs, a review of

Issue / nature of feedback	GMW's consideration
the nature and magnitude of the savings and who is benefiting, particularly as prices appear to be increasing.	specific contracts and services as well as other cost saving measures.
Connections Project	
• Greater transparency sought about the impact of the Connections Project on the proposed capital and operating expenditures in the next regulatory period and beyond.	• In the short term GMW is participating in the Mid Term Review for the Connections Project. When its results are provided the assumptions in this submission may require further refinement. • GMW has assumed: o That work is not performed where the Connections Project is to be rolled out. o Not undertaken maintenance where channels are planned to be decommission; and o Delivery share reductions based on delivery of the project. o GMW has noted that there are risks associated with these assumptions in its planning process.

1.2 Connections Project

GMW's Connections Project is building a stronger and more sustainable future for irrigated agriculture across the GMID. It's investing more than $2 billion of State and Commonwealth government funding to create a network that delivers water when and where it's needed.

The Connections Project involves three key areas:

- Upgrading backbone channels and reducing the network from 6,300 km of channel to 3,500 km;
- Reconnecting properties to the upgraded backbone channel and in many cases creating individual pipeline connections rather than the inefficient local spur channel, and;
- Several special projects including the East Loddon Pipeline and Shepparton East projects.

The Connections Project will continue to be implemented during the four year life of the Price Review 2016 and during this time the more efficient delivery methods will become 'business as usual'. Proposed service standards therefore reflect this to ensure the commitment to achieve a delivery efficiency of 85 per cent by the end of the next regulatory period is met. This will reflect an increase on the 2013/14 delivery efficiency rates of 80%.

Because the Connections Project is still being implemented its full impact is still being determined. In the short term, as GMW is currently participating in a Mid Term Review to assess the project's status, there are uncertainties and risk in relation to specific project outcomes. The Mid Term Review is being conducted by an independent panel and is part of the Commonwealth's contractual obligations. When its results are provided the assumptions in this submission may require revision. However, there are inherent uncertainties involved with this project over the medium to long term. This reflects that it is the largest project of its nature in Australia, and the world, and technology is being introduced on a scale never completed before. Further, the project is dependent on the timely agreement with customers in relation to on-farm and in-channel works.

To enable the completion of this submission, we have made several assumptions about the impact of the Connections Project on expenditures. These include that over the Price Review 2016 period:

- Maintenance costs as the Connections Project is progressively delivered have been estimated to reflect project implementation and delivery.

- There will be no need to replace any new assets.
- There will be no need to undertake any capital works on non-backbone channels.

The submission has also incorporated assumptions about the impact of the Connections Project on service points and delivery shares into the demands forecasts. These include:

- Service points will decrease during the period and there will be less higher functionality service points, and;
- Current data from the Connections Project also indicates a substantial reduction of expected delivery share terminations from initial business case estimates, due mainly to improved economic and resource conditions and the extension of the backbone beyond the business case projections.

Again, these assumptions may need to be reviewed following the Mid Term Review.

1.3 Service Standards

Service delivery is core to our business and standards reflect how our customers want us to undertake customer service, administer licensing, deliver water, respond to bursts and leaks, store and harvest water and manage resources.

In this submission to the Price Review 2016 we have proposed changes to 10 service standards to make them more meaningful or adjust targets to reflect sustained historical performance. It also proposes to remove four service standards where they are duplicated by other standards or cannot be met because of regulatory requirements and add seven service standards that will create more accountability in relation to customer service and maintenance outcomes.

The proposed new service standards are:

- 90 per cent of change of ownership applications will be processed within 10 business days;
- 100 per cent of customer complaints are responded to within 10 business days;
- 50 per cent of phone calls are resolved during the first phone call in 2016/17 with the target increasing by two per cent each year;
- No more than five unplanned supply interruptions that are greater than 12 hours in pumped irrigation districts;
- Notification provided to customers in pumped irrigation districts on system restoration times within 2 hours of an unplanned outage 100 per cent of the time;
- 100 per cent of season determination announcements for regulated systems will be made on time, and;
- 100 per cent of risk of spill announcements will be made on time.

None of these proposed changes have an impact on operating or capital expenditures.

1.4 Operating Expenditure

We are forecasting operating expenditure will be $24.1M less than approved in the 2013 Water Plan. This reflects the cumulative efficiencies incorporated into the 2013 Water Plan expenditures, further efficiency savings being driven by the Business Transformation Program and some one-off events during the current regulatory period.

During the Price Review 2016 period our proposed operating expenditure is $398.1M or an average of $99.5M per year. The proposed expenditure reduces slightly year on year from 2016/17 over the regulatory period.

Operating expenditure is the ongoing costs required for GMW to operate delivery networks, maintain assets and manage and administer the business. As noted above, at this stage it is assumed there is no change in expenditure as a result of the Connections Project.

1.5 Capital Expenditure

We are forecasting capital expenditure of $77.0M for the current regulatory period, which will be $11.3M less than the ESC approved. Expenditure was lower than planned in 2013/14 and 2014/15 as GMW reviewed and improved its capital planning process to ensure the development of robust capital expenditure estimates.

During the Price Review 2016 period total capital expenditure of $126.7M is proposed. The completion of works on high risk retail assets and large dam safety projects is driving higher expenditure compared to the current regulatory period. Of this proposed expenditure, $85.3M is for irrigation and drainage services and will be used to complete works such as channel remodelling, rock armouring and drainage subways. $4.3M is proposed for diversion services which will be used for projects such as meter upgrades. $37.1M is proposed for bulk water services and includes the major safety upgrades at Tullaroop dam.

For the purpose of this submission, this does not include any expenditure associated with the Connections Program which is a ring fenced project funded by the Government. It has also been assumed there will be no need to replace any new assets or undertake capital works on the non-backbone channels.

At this stage, relatively constant capital expenditure is forecast for the Price Review 2020 period. For irrigation assets we are currently undertaking a detailed exercise to examine their future replacement costs. Many irrigation assets will start to reach the end of their useful lives around 2035 and require renewal, with a further cluster of assets requiring renewal around 15 years later. With this in mind, we are examining the benefit of investing in assets ahead of their predicted failure to extend their asset life. Therefore, while relatively constant business as usual expenditure is forecast, this may not adequately provide for the works required to reduce the peaks and timing of future irrigation asset renewals.

1.6 Benchmarking

GMW has undertaken a benchmarking exercise to understand how its revenue, costs and average bills compare to other rural water service providers. Because of the differences between businesses the results are not always directly comparable and for this reason we have analysed various measures to provide an overall picture of how well we compare.

A comparison of total operating costs per customer of eight water authorities in 2013/14 shows we have the fourth lowest costs and our expenditure is significantly lower than other benchmarked authorities.

The average bill comparison for gravity irrigators shows 80 per cent of all the water authorities have bills between $30 and $60 per Mega litre and five of the six GMW irrigation districts fall within this range. The comparison in the pressurised districts shows the average bill of all water authorities is between $65 and $90 per Mega litre and our three pressurised districts are in the bottom half of this range.

1.7 Demand

We have developed demand forecasts taking into account demands in the current regulatory period as well as the influence of tariff reforms, the Connections Project and external factors such as the Murray-Darling Basin Plan and climate change.

Irrigation delivery volumes are forecast to decline during the Price Review 2016 period under the influence of drier conditions and decreasing availability of carried over allocation. This variability in resource availability reinforces the importance of our largely fixed tariff structure, which provides greater revenue certainty to match GMW's largely fixed costs.

Many of the forecast demands are relatively independent of the proposed capital and operating expenditure during the next regulatory period. The greatest influence on demand comes from the Connections Project, which is changing delivery share and service point

compositions across the GMID.

Water entitlements held by irrigators, diverters and bulk entitlement holders are expected to remain constant. The exception is those created for the three Melbourne retail water corporations, the Victorian Environmental Water Holder and the Commonwealth Environmental Water Office from the water savings achieved by the Connections Project.

There is also expected to be some minor increase in some groundwater entitlements.

1.8 Revenue

The overall revenue requirement for the four years of the Price Review 2016 period is $493M. This is made up of a return on capital of $57M, depreciation of $38M and operating expenditure of $398.3M. GMW will recover this revenue requirement through tariffs during the Price Review 2016 period.

1.9 Price control

The hybrid revenue cap form of price control is proposed to continue in the Price Review 2016 period. This means we can alter prices to increase revenues to levels approved by the ESC, but these price changes must be limited to plus or minus 10 per cent in any year, subject to significant tariff reform being introduced and customer consultation undertaken.

We consider that this provides the best balance of the risks we face, while continuing to provide us with incentives to be efficient and innovative as well as providing flexibility to implement ongoing tariff reform. It also allows us to manage the impacts of any price changes on our customers.

1.10 Tariffs

Overall, revenue will decrease by CPI minus 0.3 per cent per year over the Price Review 2016 period; this also means that prices, on average, will decrease by approximately the same amount. Revenue (and approximate average price) reductions for different services is shown in Table 3**Error! Reference source not found.**.

Table 3 – Average revenue increase/decrease per year

Service	**Average revenue/ price change 2016 - 2020**
Irrigation	-1.5%
Drainage	-6.5%
Domestic and stock	2.7%
Surface water diversions	2.3%
Groundwater diversions	-2.7%
Bulk water services	1.8%
Customer service and billing	5.9%
Total	**-0.3%**

More predictable and stable pricing will be delivered in the Price Review 2016 period as we propose to move to a uniform GMID Delivery Charge under the Gravity Tariff Strategy, which mean irrigators in all six of our irrigation districts will pay the same Infrastructure Access and Use Fees. The strategy was developed after extensive consultation with our customers and will protect them from price shocks caused by large capital renewals, natural disasters or a reduction in delivery shares.

With the Connections Project creating equitable service levels across the districts, the uniform pricing approach will allow us to reflect this similar service through one fee. It also allows us to reduce overall costs by between $0.85M and $1M a year once implemented because operating each district as separate business units and allocating costs to each district complex, expensive and relatively arbitrary. We acknowledge there are advantages to a district pricing regime. However, these advantages are significantly diminishing with modernisation and the narrowing of cost differences between districts. We believe that the advantages of a district wide uniform price outweigh the advantages of a district price structure.

One of the most significant changes associated with the uniform GMID Delivery Charge will be to the Infrastructure Access Fee, which has the greatest impact on bills. To minimise customer impacts the fee will not converge to a uniform fee until 2019/20.

The impact of these fee changes will mean bill reductions of CPI - 15 per cent for large gravity irrigators in the Shepparton Irrigation District in the first year of the Price Review 2016 period and further reductions of CPI - 3 per cent in the next three years.

In the remaining districts there will also be less sizable bill reductions for large gravity irrigators in the first year of the period in Loddon Valley, Central Goulburn and Torrumbarry, while bills in Rochester will rise by around CPI + 1% whilst Murray Valley will remain constant over the regulatory period.

During the draft submission consultation, particularly at the customer forums, some customers raised concerns in relation to these proposed price reforms. These concerns include:

- A uniform price will not be cost reflective, will lead to inefficient decision making and cross subsidisation with some users paying for benefits not directly received;
- A uniform price should not be used to deal with price shocks;
- A uniform price does not drive cost savings;
- A uniform price reduces service level accountability;
- There is no connectivity between the irrigation districts and therefore no clear driver for a uniform price, and;
- A uniform price should not be introduced when the outcomes of modernisation are still unknown.

GMW considers a uniform GMID Delivery Charge reflects an appropriate balancing of the objectives provided for in the ACCC's pricing principles. In particular, pricing which will achieve cost reflectivity at a GMID level to reflect the minimum level of service provided, and as a result the promotion of the efficient use of water infrastructure / water, as well as simplicity, transparency and lower administrative cost. This is set out in Table 4.

Table 4 – Summary of how the ACCC Pricing Principles are achieved

ACCC Pricing Principle	How the principle is achieved
Promote the economically efficient use of water infrastructure assets	Given the historical infrastructure basis of district pricing, the move to a uniform price will not reduce the signals for efficient water infrastructure use. This is further supported with the Connections Project providing for a standardisation of service levels and an increasing extent of common operating costs.
Ensure sufficient revenue for the efficient delivery of the services required	A uniform price will allow GMW to more easily monitor its revenue recovery and balance the risks of reducing delivery shares across more customers.
Give effect to the principles of user pays for water storage and delivery in irrigation systems	At an aggregate level, there will be no change in the level of cost recovery from users in respect of water storage and delivery in irrigation systems.
Achieve pricing transparency	A uniform price will be simpler to explain and

ACCC Pricing Principle	How the principle is achieved
	implement, and GMID-wide reporting will maintain the current transparency of costs and revenues.
Facilitate water use and trade in water entitlements	The transition will not materially affect efficient water use or water markets.

GMW asked Deloitte Access Economics to undertake an analysis of the reasons it supports a uniform price for gravity irrigation districts, and indicate whether they are reasonable and consistent with Commonwealth Water Charge Infrastructure Rules. Deloitte concluded that the transition to a uniform price reflects a sound consideration of the trade-offs between cost reflectivity, appropriate pricing signals and administrative cost and simplicity. Deloitte's final report is attached to this submission at Appendix B.

GMW is also implementing a new diversions tariff structure over the Price Review 2016 period. This better reflects how costs are incurred and better meets the ACCC's pricing principles. In particular, the costs of regulating access are primarily driven by the number of service points. Aligning the charge with the way costs are incurred provides an appropriate incentive for customers to rationalise unnecessary service points, and therefore promotes the efficient use of infrastructure.

We have also started tariff reviews for our drainage and water district services with the key objective to simplify the current tariff structures. These reviews and the resulting tariff strategies will commence their implementation during the Price Review 2016 period. Customer consultation will be a key part of the review.

2 Background and Purpose

This Chapter provides background about Goulburn-Murray Water (GMW) and the purpose of this submission to the Price Review 2016. It describes the Fundamental Commitments set out in Corporate Strategy, how we have met these in developing this submission and how they will be met during the next regulatory period.

2.1 Our Business

GMW is Victoria's largest rural water provider and is responsible for delivering, managing and storing water across a 68,000 square kilometer area. The region takes in about a third of the state and stretches from Great Dividing Range to the south, the River Murray in the north and from Corryong in the east to Nyah in the west.

2.1.1 Governance

GMW is a statutory corporation owned by the Victorian Government

An independent Board of Directors, responsible to the Minister for Water, undertakes the governance of the business. The Board operates under the provisions of Part 6 of the *Water Act 1989* and reports annually to the Minister for Water and the Treasurer.

2.1.2 Fundamental Commitments

The organisation is committed to enhancing outcomes for customers and stakeholders and driving exceptional performance. Underpinning this approach to performance is three fundamental commitments, which lay the foundation for strategic priorities, outcomes and initiatives across the organisation. These are:
Partnering with our customers;
Creating the opportunity to increase production in Northern Victoria over the next 20 years, and;
A high performing organization.

GMW believes these commitments will drive stable prices and support a productive agricultural district and this submission has been developed with these commitments at the forefront.

2.1.3 Our Services

As Australia's largest rural water authority GMW provides the retail and wholesale services set out below across northern Victoria. Most of these services are prescribed and therefore subject to regulation by the Australian Competition and Consumer Commission (ACCC) and the Essential Services Commission (ESC), see section 2.2 for further detail. GMW also provides non-prescribed services, which are not regulated.

Services are provided to a diverse range of customers, from those with large agricultural interests through to small one acre stock and domestic customers,

Retail services

Irrigation services

- Manage six major gravity irrigation districts, delivering water and drainage services to 14,000 customers, and;
- Manage three pumped irrigation schemes delivering water to 680 properties by a pipeline.

Water Districts services

- Water is delivered to customers in several piped and channel fed stock and domestic schemes.

Diversion services

- Water is allocated and delivered to customers on regulated river systems;
- Manage licenses for diverters to access water resources in unregulated streams and groundwater aquifers, ensuring equitable sharing of the resource between customers and the environment;
- Account manager overseeing access compliance and resource management, and;
- In this area we act under delegated authority from the Minister.

Flood protection

- Manage the Loch Garry regulator, which provides flood protection services to farmers.

Customer service and billing

- Provide customer service and billing services for the above services.

Water registry

- Provide water registry services to holders of water entitlements including data on water trading to maintain the integrity of ownership data.

Wholesale, bulk water services

Headworks management services

- Manage 16 storages to harvest, store and supply water to irrigators, stock and domestic customers, the environment and urban water corporations;
- Provide services to the Murray-Darling Basin Authority (MDBA) as the appointed construction authority for Victoria, and;
- Provide a wide range of non-prescribed services at GMW managed storages to support amenity and recreational activities including waterway management, house-boat licencing and regulation, boat ramps, barbecues and toilets.

Resource management services

- Water Resource Manager for northern Victoria, making seasonal determinations for all regulated river systems in the region including irrigators supplied by Lower Murray Water;
- Deliver major catchment services including maintenance of minimum passing flows for river systems, and;
- Deliver resource management services so that groundwater and unregulated surface water is shared equitably and sustainably between diverters and the environment. These functions support our diversion services.

Natural resource management

- Provide natural resource management services to the Victorian Government and catchment management authorities. This is a non-prescribed service.

2.1.4 Context

GMW has undergone substantial change throughout the current regulatory period and this will continue during the next regulatory period. The changes impact services, expenditure and price proposals in this submission. These are described below.

The most significant change is the Connections Project, which is a $2 Billion modernisation of the irrigation network in the GMID. The project was formerly the Northern Victoria Irrigation Renewal Project (NVIRP) and was integrated into GMW in 2012. The project is funded by the Commonwealth and Victorian governments and is forecast to run until 2018. It is the largest project of its nature in Australia and the world, and is modernising the infrastructure for delivering and storing water. This will deliver significant benefits in terms of the overall delivery efficiency of the system and water savings.

Given the unique nature and size of the project, it also has associated risks. In the short term as GMW is currently participating in a Mid Term Review to assess the project's status, there are uncertainties in relation to specific project outcomes. Over the medium to long term there

are inherent uncertainties reflecting the introduction of new technology on a scale not previously implemented. This means the impact on maintenance, operations and whole-of-life asset costs will continue to emerge as the modernised network is integrated into GMW's systems and operational issues are understood. Further, uncertainties also exist in terms of the project being dependent on the timely agreement with customers in relation to on-farm and in-channel works in order to achieve outcomes.

Other significant changes include:

- As a part of the Business Transformation Program GMW has undergone a reorganisation that has a greater focus on customers and efficient service delivery.
- A part of the Business Transformation Program is also a commitment to implement cost reductions business wide and to reduce operating expenditure by $20M per year by 2018.
- Tariff structures are becoming simpler and changing to ensure they better reflect infrastructure costs.

The shifting focus of the business to become more customer and efficiency orientated is reflected in the service and price proposal for the next regulatory period.

2.2 Purpose of the Submission to the Price Review 2016 and Requirements

This submission provides customers, and the ESC, with a clear understanding of the proposed capital and operating expenditure required to meet agreed service standards and obligations, and the resulting tariffs required to meet these costs. It justifies and explains these proposals and provides detailed information for customers, the community and ultimately the ESC to use when determining appropriate tariffs for the Price Review 2016. These proposals have been developed in consultation with customers and stakeholders.

2.2.1 Requirements

The Minister for Water makes and issues the Statement of Obligations (the statement) to all regulated entities under the *Water Industry Act 1994*.[2] The statement specifies GMW's obligations when performing its functions and exercising powers. GMW is required to make the statement available to the public on its website – www.gmwater.com.au

The statement sets out GMW's obligations in preparing and delivering its price submission to the ESC. It requires the price submission include:

- Outcomes to be delivered in the regulatory period with respect to:
- Standards and conditions of service and supply
- Meeting future demands on our services
- Complying with the obligations, in the statement, a regulatory order and other obligations under legislation;
- A description of how GMW proposes to deliver these outcomes;
- Revenue requirements in the regulatory period, and ;
- Proposed prices to be charged for each of the prescribed services.

The statement also requires GMW to consult on a draft submission with customers and stakeholders. Particular requirements in relation to stakeholders are that GMW must:

- Submit its draft submission to the Minister, Treasurer and each regulatory agency, no less than three months prior to the submission of the final water plan to the ESC;
- Make any variations to the draft plan as requested by the Minister, and;
- Have regard to any comments provided by a regulatory agency.

In meeting the above requirements GMW must also comply with any guidelines issued by the ESC. In August 2014, the ESC issued its Guideline on Price Submission for GMW's Price Review 2016, focussing on the pricing submission as it relates to the *Water Charge*

[2] It is understood the statement is being reviewed and may possibly be updated, however, this is not anticipated to have any impact on GMW's obligations.

Infrastructure Rules 2010 and the ACCC pricing principles. It also released in April 2015 further guidance on the pricing submission as it relates to services regulated under the *Water Industry Regulatory Order* (groundwater diversions and some non-infrastructure miscellaneous services).

Infrastructure related services (irrigation, surface water diversions and bulk water) are regulated under the *Water Charge Infrastructure Rules 2010* and the ACCC's pricing principles. The ESC has been accredited by the ACCC to review and approve GMW's prices for these services and oversee the related service standards.

Under Rule 3 of the *Water Charge Infrastructure Rules 2010,* the next regulatory period is defined as four years in duration starting on 1 July 2016 and concluding on 30 June 2020. This is the period covered by this submission to the Price Review 2016.

The ACCC's pricing principles require prices be set to:

- Promote the economically efficient use of water infrastructure assets;
- Ensure sufficient revenue for the efficient delivery of the required services;
- Give effect to the principles of user pays for water storage and delivery in irrigation systems;
- Achieve pricing transparency, and;
- Facilitate efficient water use and trade in water entitlements.

In addition, groundwater diversions and non-infrastructure related miscellaneous services, which make up a small percentage of GMW's overall revenue, are regulated by the ESC under the *Water Industry Regulatory Order*. The WIRO pricing principles require prices be set to:

- Enable customers to easily understand prices;
- Provide signals about the efficient costs of providing services to customers while avoiding price shocks where possible, and;
- Take into account the interests of customers, including low income and vulnerable customers.

2.2.2 Our Response

GMW has complied with the requirements and obligations set out above in preparing its submission to the Price Review 2016.

In particular, the submission meets the above requirements by setting out proposed service standards and targets (Chapter 4), the operating and capital expenditures needed to meet these outcomes (Chapter 5 and 6), demands (Chapter 8), the required revenues (Chapter 9) and the prices which will need to be charged (Chapter 11). Each chapter has been drafted taking into account the framework and information requirements specified by the ESC in its Guideline.

Further, as detailed in Chapter 3, there has been extensive consultation with customers in preparing the submission to the Price Review 2016. A copy of the draft submission was also provided to the Minister, Treasurer and regulatory agencies that did not raise any issues in relation to the proposals contained in the draft submission.

Tariffs included in this submission to the Price Review 2016 meet the ACCC pricing principles and the *Water Industry Regulatory Order* principles as set out in Chapter 11.

3 Customer Consultation

This Chapter outlines how GMW engaged with customers in developing this submission, the feedback received and how it has taken this into account in finalising its proposals.

3.1 Overview

Customers are the centre of GMW's business and the organisation has changed its approach to customer consultation during the current regulatory period. There is now a more consistent and ongoing engagement strategy, both in relation to price submissions and more generally.

Ongoing business wide consultation is undertaken with a wide variety of customers and stakeholders through forums such as GMW's stakeholder breakfasts, industry meetings and customer surveys. For example, in 2014 we engaged with 24 of our largest retail customers about a variety of issues including those relating to supply and customer service improvements. Through these broader engagement opportunities feedback is used to inform and continuously improve outcomes for customers.

Further, in preparing this submission to the Price Review 2016 there has been extensive consultation about tariffs and proposed changes, along with service standards and expenditure. This consultation is outlined below.

3.2 Consultation with retail customers

3.2.1 Customers

GMW provides retail services as set out in section 2.1.3, meaning we have the following customers.

Irrigation district customers

- Gravity irrigation
- Pumped irrigation
- Drainage

Water Districts and Loch Garry customers

- Pumped irrigation for stock and domestic purposes
- Loch Garry flood protection

Licensed Diverters

- Regulated surface water diversions
- Unregulated surface water diversions
- Groundwater diversions

3.2.2 Initial consultation

In preparing the draft submission to the Price Review 2016 a series of consultation sessions were held in November and December 2014 to outline the process, timelines and guidance from the ESC.

From February 2015 various proposals were outlined and customer feedback sought on:

- Service standards – the outcomes to be delivered;
- Capital expenditure – how the capital program was developed and prioritised as well as the magnitude of expenditure proposed;
- Operating expenditure – the magnitude of the expenditure proposed and how efficiencies were to be sought while maintaining levels of service;
- Demands – the approach used to establish demand forecasts and the forecasts proposed, and;
- Pricing – the approach to setting prices in the light of the Blueprint and previous tariff strategy discussions.

Consultation was held with all 13 of GMW's Water Services Committee's (WSC)[3] through:

- Regular committee meetings, and;
- A day long forum with the chairs and members of WSCs in March 2015. Materials were sent out prior to this forum to enable informed discussion. On the day, further information was provided and WSC members engaged actively in discussing service standards, operating and capital expenditures as well as demand.

At the forum a variety of questions were asked to gather customer feedback and assist GMW in preparing the draft submission. The following illustrates the nature of these questions:

- Is this service target appropriate? Does it provide the level of service required?
- We are proposing to refine this target, e.g. from 95% to 80%, is this acceptable?
- We are proposing to remove this standard, do you have any concerns with this?
- Is there anything else we should do to help reduce the level of complaints?
- Is the methodology used to derive the capital expenditure estimates for the Price Review 2016 period adequate?
- Is the proposal to concentrate creation of access tracks and fencing channels to where remodeling is planned supported?
- Is the proposed level of operating expenditure and associated savings adequate? Are there any particular areas where additional focus is required?
- What drives demand for water?
- Do the entitlement, service point and delivery share estimates and assumptions make sense?
- Following release of the draft submission to the Price Review 2016, GMW undertook additional consultation over June, July and August 2015 in relation to its service standards, expenditure and price proposals.

As a part of this process a copy of the draft submission was provided to the Minister, Treasurer and relevant regulatory agencies.

Customers and the WSCs were consulted to ensure they understood the proposals and had the opportunity to provide further feedback. This consultation included:

- The release of a series of fact sheets, which set out the proposals included in the draft submission and sought feedback. Fact sheets were developed for each service, including irrigation and drainage, diversions and bulk water.
- A mail out to customers providing them with a summary of the key proposals in the draft submission to the Price Review 2016, inviting them to attend public forums to discuss their views and providing the opportunity to send through written feedback (see Table 5 for a summary of the extent of written feedback received) .
- Forums providing customers not actively engaged via the WSCs the opportunity to understand the proposals in the draft submission and provide their feedback (253 customers attended these forums - see Table 6 for details of the locations and number of these sessions as well as the number of customers who attended).
- Three sessions attracting 36 large account customers (see Table 6 for details).
- Further engagement with WSCs at their annual workshop where during the breakout sessions for gravity irrigation and diversions key issues in relation to pricing were discussed.
- Articles in our irrigator e-news with invitations to provide feedback.
- Articles in regional newspapers explaining the proposals in the draft submissions and how customers could provide feedback.
- A webpage providing online information to the general public.

[3] Of these, six are based in major gravity irrigation districts, four represent regional diversions, two water districts and the last represents customers serviced by the Loch Garry Flood protection scheme. The WSCs are made up of customers and ensure all retail customers have a direct route of communication through the committees to the business and that the business understands their needs.

Table 5 – Summary of the extent and nature of customer feedback

		Issues covered in feedback			
Medium	**Number**	**Service standards**	**Operating expenditure**	**Capital expenditure**	**Pricing**
Email	52	33	30	29	37
Mail	46				
Phone	3*				
Other	3				
Total	**101**				

* Separate to the draft submission, 145 calls were received in relation to the diversion price increases for 2014/15

Table 6 – Summary of customer forums in relation to the draft submission

Location	Sessions	Number of customers
Tatura	1 for major account gravity customers	14
Tatura	1 for major account diversion customers	6
Cohuna	1 for major account gravity customers	16
Cobram	3	11
Kyabram	3	32
Wangaratta	2	12
Shepparton	3	17
Rochester	3	11
Kerang	2	32
Swan Hill	1	23
Newbridge	1	6
Pyramid Hill	3	39
Kyabram	1 (additional)	62
Various	6 all day drop in opportunities at GMW regional offices	8
Total	**25 (excluding all day drop in opportunities)**	**289**

3.2.3 Feedback

The customer feedback received through these various mechanisms was largely related to tariff and pricing issues, however, there was also some discussion around proposed service standards and expenditures. The following chapters outline the specific customer feedback provided and how it has been taken into account, with a summary of the nature of this feedback provided in Table 7.

Table 7 – Summary of feedback received

Issue	Nature of feedback
Irrigation tariff strategy – particularly the proposal to transition to a uniform price	Some customers (around 16 at the major account and customer forums) did not support a uniform price approach and raised the following concerns: Results in a lack of cost reflectivity, leading to inefficient decision making, and cross subsidisation Should not be used to manage future price shocks Does not result in significant efficiencies for GMW. Queries about what makes up a small or large customer.
Diversion tariff strategy – particularly the proposal to base access fees on the number of service points	Smaller customers were concerned that the proposed changes would increase their bills but with no change in service. Queries about what makes up a small or large customer.
Bulk water	Further detail was sought in relation to the charges

Issue	Nature of feedback
	incurred by the environment and how these are determined. Central Highland Water was concerned with the size of the proposed bulk water prices increases for the Bullarook basin.
Service standards	Broad support for the service standards proposed, including several proposed changes. Some customers did not understand the services they receive and expressed concern in relation to proposed price increases (particularly small diversion customers). Concern about a proposed change to a service standard for gravity irrigation relating to flow rates (which was taken into account and not proposed). A request for a service standard relating to the number of manual interventions required for the modernised and automated gravity irrigation system.
Expenditures	Broad support for the capital and asset management processes underpinning the proposed capital expenditure. Concern that GMW has not spent its proposed capital expenditure in the current regulatory period and that it should reduce its proposed expenditures to levels it can deliver. Support for the operational efficiencies being driven by the Business Transformation Program, but not at the expense of service standards. Greater transparency sought about the nature and magnitude of the savings and who is benefiting, particularly as prices appear to be increasing. Requests for increased expenditure on particular assets in particular locations.
Connections project	Greater transparency sought about the impact of the Connections Project on the proposed capital and operating expenditures in the next regulatory period and beyond.

The Minister, Treasurer and relevant regulatory agencies did not raise any issues in relation to the proposals contained in the draft submission.

3.3 Consultation with bulk water customers

3.3.1 Customers

GMW provides bulk water customers, the urban water businesses and environmental water holders, with bulk water storage capacity and harvesting services as well as natural resource management and catchment management services.

3.3.2 Initial consultation

In preparing the draft submission, bulk water customers were invited to consultation sessions targeting specific areas of interest:

- A workshop was held in April 2015 for urban water businesses to outline proposals on service standards, operating and capital expenditure and assumed demands and likely price movements. The interactive workshop allowed customers to provide their view on the proposals.
- A workshop was held for environmental water holders, the Department of Environment, Land, Water and Planning, the Victorian Environmental Water Holder, the Commonwealth Environmental Water Holder, and the regional CMAs, to discuss proposed plans and priorities for the Price Review 2016 and also tariff reform.

Where customers could not attend the workshops there was direct consultation on a face-to-face basis.

3.3.3 Further consultation

Following release of the draft submission, further consultation occurred. This included a mail out to bulk water customers providing them with a summary of the key proposals in the draft submission and details of where the full submission could be found. Individual one-on-one meetings were also held to discuss specific issues where requested.

A further workshop led by the Department of Environment, Land, Water and Planning discussed the appropriate arrangements for pricing of environmental water. This also included the Victorian Environmental Water Holder and focussed on the matters set out in an issues paper seeking to refine the proposed pricing of bulk water for holders of environmental entitlements, including for different levels of service. These considerations are consistent with the letter from the Minister.

3.3.4 Feedback from bulk water customers

The urban water businesses were supportive of the proposed changes to the service standards about maximising harvesting opportunities and meeting customer demand. In relation to new service standards about making seasonal determination and risk of spill announcements within defined timeframes, customers noted that while these were useful, they also expected the seasonal determination announcements to be of high quality, reliable and transparent and for spill risks managed. While GMW does not propose to include additional standards to this effect, it took on board this feedback and committed to seeking improved transparency and provision of information about seasonal determinations and risk of spill assessments.

Bulk water charges represent a small proportion of total input costs for urban water corporation customers (e.g. about 2 per cent for Goulburn-Valley Water). Therefore, the stable forward operating and capital expenditure programs proposed in the draft submission were generally supported.

However, in some basins, the proposed bulk water price increases were forecast to be about CPI + 10 per cent per year, largely driven by costs not being recovered historically, and the urban water businesses sourcing water from those basins raised concerns about the magnitude of these increases. In particular, Central Highland Water provided a submission in which it noted its high dependency on the bulk water supplies from GMW and its concern about the proposed pricing for the Bullarook basin, which has the highest bulk water price of all basins and after several years of high price increases is facing further significant price increases (CPI + 10 per cent per year). Central Highland Water stated that this could potentially impact the financial viability of this resource for its customers into the future. It suggested that GMW should review the input costs for this basin to ensure they are accurate and benchmark them against other similar service providers, as well as considering alternative cost allocation and pricing approaches to achieve a more equitable pricing outcome.

GMW notes this feedback and concerns. It is continuing to work with Central Highland Water in relation to the issues raised; including the input costs incurred in the Bullarook basin and subject to the outcomes of this further consultation may need to provide supplementary information and proposals to this submission.

The one issue raised consistently by urban water businesses was the basis for charging members of the public for recreational use of headwork facilities. Currently a range of facilities used by the general public are provided at GMW's storages such as toilet blocks, barbecues and boat ramps. Some of the costs of these services are recovered through a charge levied on urban water businesses which they then recover through their retail water charges. This is a proxy charge on the community for the benefit of being able to use these facilities and the urban water businesses expressed concern about the recovery of these costs from their customers. While acknowledged as an issue for ongoing consideration there are no changes proposed to the current pricing approach.

The key issue for environmental water holders was the pricing arrangements. These pricing issues primarily relate to the delivery of water and they continue to be considered, including through a process being facilitated by the Department of Environment, Land, Water and Planning. While these considerations are ongoing, any final conclusions which differ from the proposals included in this price submission will be provided as a supplementary submission. As set out in further detail in Chapter 11, the proposed pricing for the next regulatory period reflects the supply arrangements negotiated for 2014/15.

Through the consultation with retail irrigation and drainage customers it also became clear that they were seeking to understand in more detail how the prices for environmental water were set and what the proposed prices were for the next regulatory period. They did not feel there was sufficient transparency around these prices for them to understand how the bulk water costs and delivery costs were being shared between users.

Consultation is occurring to determine a longer term, more sustainable and transparent approach to setting prices for the delivery of water for the Environmental Water Holders.

4 Service Standards and Targets

This Chapter outlines key service standards proposed during the Price Review 2016 period and the basis for these standards; including customer, regulatory and legislative requirements. The Chapter also sets out proposed changes to specific service standards required to ensure the changing needs of customers and stakeholders are met.

4.1 Overview

Service delivery is core to GMW's business. The existing service standards reflect how customers want the organisation to deliver:

- Customer service.
- Licensing administration.
- Water delivery.
- Response to bursts and leaks.
- Water storage and harvesting.
- Resource management.

As well as meeting customer expectations, service standards link to regulatory and legislative obligations.

Service standards specify the quality, availability, reliability and safety of the service customers can expect to receive. Current approved service standards are articulated in the 2013 Water Plan, the ESC's Rural Water Customer Service Code and included in GMW's Customer Charter.

The service standards for the current regulatory period have been in place for two years and have been largely met. Further, to ensure the Fundamental Commitment of Partnering with our Customers continues to be met, GMW has implemented measures to understand what customer's value, their demand for services and what is required to improve satisfaction. In developing this submission there has been extensive consultation on proposed service standards.

With the support of customers the organisation is proposing several changes to the service standards which will:

- Make the standards more meaningful or reflective of sustained historical performance;
- Provide greater customer service accountability, and;
- Remove standards which are duplicated or cannot be met.

During the current regulatory period, the Customer Service Code and Debt Management and Hardship Procedures were reviewed in consultation with customers and refined to reflect feedback and industry best practice.

4.2 Service Obligations

GMW has substantial obligations and duties under legislation, including under the *Water Act 1989* and the statement issued by the Minister for Water. These obligations drive service standards and expenditure.

4.2.1 Water Act 1989 Obligations

Significant statutory duties under the *Water Act 1989* are set out in Table 8.

Table 8 – *Water Act 1989* key duties

Part and Section	Obligation
Part 4	**Allocation of water**
s43A	Appointment as resource manager
s51 et al	Diversion licences managed on behalf of Minister (delegated under

Part and Section	Obligation
	s306)
s64GA & s64GB	Authorities to be responsible for seasonal determinations
s64L et al	Power to grant water-use licences
Part 5A	**Victorian Water Registry**
s84W	Authority must record in water register
Part 6	**Water Corporations**
Part 6B	Duties of Water Corporations
Part 6C: s122ZL	Functions of storage managers
Part 8	**Water Districts**
s163	Duty to provide, manage, operate and protect water supply systems
Part 11	**Irrigation Districts**
s221	Duty to provide, manage and operate irrigation and associated drainage systems
s222	Duty to deliver water to each serviced property in its district

4.2.2 Statement of Obligations

A range of services and functions are delivered as required by the statement issued by the Minister for Water under Section 4I (2) of the *Water Industry Act 1994*. Table 9 sets out key obligations.

Table 9 – Statement of Obligations - Key Obligations

Obligation	Description
2-1 Water Plan	Prepare a Water Plan and deliver this to the ESC following consultation with the Minister.
4 Customer and Community Engagement	Transparent process to engage customers and community in planning processes.
5 Managing Risk	Develop and implement plans, systems and processes to identify, assess, prioritise and manage its risks.
5-3 Dam Safety	Develop and implement processes to identify, assess, manage, and prioritise improvements to, and periodically review the safety of, dams.
6-6 Water Allocation and Reserve Rules	Develop, publish and review the rules for allocating available water for the current year, and reserves for subsequent years, and contingency plans for managing severe water shortages.
7-1 Managing Assets	Develop and implement plans, systems and processes to manage its assets in order to maintain agreed service standards, deliver water efficiently, minimise whole of lifecycle costs and enhance environmental outcomes and amenity where service standards are not compromised.
7-2 Bulk Supply Systems	Develop and implement programs to improve the efficiency of bulk water supply, where benefits exceed costs, and enhance ecological benefits of waterways and wetlands where they are used to supply water.
7-3 Licensing Administration Functions	Exercise delegated powers and perform licensing administration functions in accordance with the terms and conditions of the instrument of delegation and in an effective and efficient manner in accordance with any guidelines or policies issued by the Minister for that purpose.
7-4 Metering	Prepare and implement Metering Action Plans.

The statement sets guiding principles about continuously reviewing and improving performance, and implementing innovative solutions which optimise the way water systems are managed and water is delivered. GMW's approach aims to support enhanced

environmental outcomes and amenity in urban and rural landscapes, and provide efficient fit-for-purpose water products for its customers.

4.2.3 Other Legislative Requirements

Core activities are also determined by ensuring compliance with other legislative obligations, including:

- Safe Drinking Water Act 2003
- Environment Protection Act 1970
- Aboriginal Heritage Act 2006
- Equal Opportunity Act 1995
- Occupational Health and Safety Act 2004
- Accident Compensation Act 1995
- Terrorism (Community Protection) Act 2003.

4.2.4 Obligations relating to our business functions

Each of the organisation's core services must comply with statutory duties specified in the *Water Act 1989* and the relevant clauses in the statement. Key duties by business function are set out below.

Irrigation services

- Duty to supply serviced properties under s221 and s222 of the Water Act 1989.
- Granting water use licences under s64L of the Water Act 1989.
- Provision of water registry functions under s84W of the Water Act 1989.
- Customer and Community Engagement under clause 4 of the Statement.
- Managing Assets under clause 7-1 of the Statement.

Water Districts

- Duty to manage systems and supply water under s163 of the *Water Act 1989.*

Diversion services

- Issuing, monitoring and renewing licences issued under s51 of the Water Act 1989 on behalf of the Minister (delegated under s306).
- Licensing Administration functions under clause 7-3 of the Statement.
- Metering under clause 7-4 of the Statement.

Bulk water (headworks storage)

- Storage manager under Part 6C and s122ZL of the Water Act 1989.
- Dam Safety under clause 5-3 of the Statement.
- Safe Drinking Water Act 2003
- Environment Protection Act 1970

Resource Management

- Resource manager under s43A of the Water Act 1989
- Responsibility for seasonal determinations - s64GA and s64GB of the Water Act 1989
- Water allocation and reserve rules under clause 6-6 of the Statement.

4.3 What we delivered in the current regulatory period

During the first two years of the current regulatory period a number of key promises made to our customers were delivered and service standards were largely met. Driving this result was the organisation's commitment to listen, understand, and anticipate what was important to customers and to ensure services reflected customer's needs. This is in line with the Fundamental Commitments and Strategic Outcomes detailed in the Corporate Strategy.

A customer experience improvement program was also established, which focused on using real-time customer insights to drive improvements. This is an ongoing program which will

continue to evolve and incorporate new learning and build improved service levels into the next regulatory period.

Initial changes under the program included streamlining common customer transactions, simplifying billing information, improving content on our website, developing targeted customer communication for critical events such as end of season and pricing, and launching a 'plain English' campaign to reduce the complexity of the language used in customer communications. The Customer Charter and Debt Management Procedures were reviewed and refreshed to reflect customer focused approaches.

A 'Future Service Strategy' is also being developed for customers in the GMID. This critical project involves undertaking initial research to understand the external environment and factors that impact customer' demand, business needs and service requirements now and in the future. Informed by this research, a strategy will be developed to align the business services and delivery with the needs of customers. It is anticipated this will be used to refine services and service standards during the Price Review 2016 period and inform the development of submissions to subsequent regulatory periods.

4.3.1 Service delivery over current regulatory period

With good allocations across all systems and a return to drier conditions, GMW services have been in high demand with irrigation water deliveries increasing by 202 per cent from 2008/09 to 2012/13. This increase resulted in a spike in demand of services detailed in Table 10.

This demand challenged some areas of the business, particularly those that had reduced resources during the millennium drought, although as set out in the following section, service standards set for the current regulatory period were largely met.

Table 10 - Services delivered 2009/09 to 2013/14

	Irrigation Deliveries (GL)	Water Orders (total)	Water Orders per day (average)	Water orders on web	Business transactions
2008/09	578 GL	106,579	700	33%	16,677
2009/10	770 GL	131,851	490	43%	15,243
2010/11	497 GL	65,759	250	51%	9,916
2011/12	1,268 GL	158,173	585	51%	15,527
2012/13	1,751 GL	223,826	813	56%	17,075
2013/14	1,440 GL	175,751	495	57%	16,571

4.3.2 Service standards during the current regulatory period

GMW's performance against service standards in the current regulatory period is outlined in Table 11, which also details the proposed service standards for the Price Review 2016 period. In addition, for each service standard the relevant obligation which relates to that service standard is also outlined.

The following sections describe our performance in the current regulatory period for each of the services standards outlined in Table 11.

Table 11 – Current and proposed service standards and performance

	Price Review 2013					Price Review 2016				
Standard	**2013/14**		**2014/15**		**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**Obligation**
	Target	Result	Target	Result						
General Customer Service										
Licensing and administration										
Processing allocation trade applications within 5 business days	90%	96%	90%	98%	90%	90%	90%	90%	90%	Victorian Water Act - Part 5A Victorian Water Register S33x, S33AI, 84W
Processing water share applications within 10 business days	95%	79%	95%	85%	95%	95%	95%	95%	95%	Victorian Water Act - Part 5A Victorian Water Register
Processing of Licence transfers within 10 business days	95%	22%	95%	54%	95%					Victorian water Act – Part 5 Division 2 – Licence to construct Works etc. S74, S65
Processing change of ownership applications within 10 business days						90%	90%	90%	90%	Customer Expectation
Customer service										
Complaints to Energy Water Ombudsman Victoria (per 1,000 customers)	0.17	0.19	0.17	0.18	0.17	0.17	0.17	0.17	0.17	Essential Service Commission customer service code S3
Customer complaints to GMW (per 1,000 customers)	2.00	3.82	1.90	3.78	1.80	3.0	3.0	3.0	3.0	Essential Service Commission customer service code S3
Telephone calls answered within 30 seconds	95%	75%	95%	87%	95%	80%	80%	80%	80%	Essential Service Commission customer service code
Customer complaints responded to within 10 business days						100%	100%	100%	100%	Essential Service Commission customer service code S3
First call resolution						50%	52%	54%	56%	Essential Service Commission customer service code
Gravity Irrigation										Victorian Water Act – Part 11 Division 2 – Functions, powers and duties of authorities S221
Water Delivery										
Efficiency achieved as a % of delivered	78%	79.5%	78.5%	79%	79%*	80.5%	82%	83.5%	85%	
% of orders delivered on day requested	91%	91%	92%	92%	93%	93%	93%	93%	93%	
% of orders within +/- 10% of flow rate for 90% of time	80%	70%	80%	TBA	80%	80%	80%	80%	80%	
% of orders within +/- 40mm of supply level 90% of time	80%	82%	80%	TBA	80%	80%	80%	80%	80%	
Maintenance										
Maintenance requests responded within target (% Priority 1-2)	90%	75%	90%	74%	90%	90%	90%	90%	90%	
Unplanned service interruptions (> 12 hours)	5	5	5	3	5	5	5	5	5	
Drainage irrigation										
Availability of surface drainage	98%	100%	98%	100%	98%	98%	98%	98%	98%	
Availability of sub-surface drainage	98%	96%	98%	97%	98%	98%	98%	98%	98%	
Pumped Irrigation										Victorian Water Act – Part 11 Division 2 – Functions, powers and duties of authorities S221
Irrigation water orders delivered on day requested	98%	98%	98%	98%	98%	98%	98%	98%	98%	
Number of pipeline bursts and leaks (per 100km of pipeline)	17.5	15.9	17.0	15.9	16.5					
Number of unplanned supply interruptions greater than 12 hours						5	5	5	5	
Efficiency achieved as a % of delivered	92%	84.1%	92%	84.0%	92%	92%	92%	92%	92%	
Notification provided to affected customers on system restoration within 2 hours of unplanned outage						100%	100%	100%	100%	
Water Districts										Victorian Water Act – Part 8 Water Supply - S163
Number of pipeline bursts and leaks (per 100km of pipeline)	5	3.6	5	10.5	5					
Unavailability of stock and domestic supply systems for continuous periods in excess of 96 hours	1.5%	0	1.5%	0	1.5%					
Number of supply interruptions for continuous periods in excess of 96 hours						0	0	0	0	
Efficiency achieved as a % of delivered	85%	86.4%	85%	85.9%	85%	85%	85%	85%	85%	
Diversions										Victorian Water Act – Part 3 Water Supply Protection, S27-S33H, S49 – S65AAA, S65-S83
Groundwater levels managed to agreed minimum targets in management plan	90%	100%	90%	100%	90%					
Groundwater resource monitoring data is collected in accordance with management plan requirements and is readily accessible to our customers. Monitoring data made accessible within two weeks of data being submitted by the monitoring contractor						90%	90%	90%	90%	
Groundwater seasonal allocation announcements to be announced in accordance with relevant management plan	100%	100%	100%	100%	100%					
Customer access to groundwater is managed through seasonal allocations which are announced in accordance with relevant management plans						100%	100%	100%	100%	
Response to access or supply queries within one business day	90%	95%	90%	95%	90%					

	Price Review 2013					Price Review 2016				
Standard	**2013/14**		**2014/15**		**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**Obligation**
	Target	Result	Target	Result						
Access to unregulated stream flows is managed in accordance with restriction triggers in Local Management Rules. Number of validated concerns per 1000 customers						2	2	2	2	
Bulk water										
Availability of Storage Capacity as a % of design storage capacity	100%	100%	100%	100%	100%					Victorian Water Act – Part 6 Water Corporations 6c:s122ZL
The ability of each regulated system to deliver water to meet customer demand as a percentage of time						99%	99%	99%	99%	Victorian Water Act – Part 6 Water Corporations 6c:s122ZL
Availability of storages to deliver water on demand to customers as a % of time.	100%	100%	100%	100%	100%					Victorian Water Act – Part 6 Water Corporations 6c:s122ZL
The ability of each regulated system to maximise harvesting opportunities up to 100% of the design storage capacity as a percentage of time						100%	100%	100%	100%	
Regulated Rivers minimum river flow regimes > or equal to specified minimum flows as a % of time.	98%	99%	98%	99%	98%					
Minimum flow requirements for regulated waterways as specified in the relevant bulk entitlements are satisfied as a % of time						98%	98%	98%	98%	
Unregulated rivers meet agreed targets or natural flow 90% of the time.	90%	99%	90%	95%	90%					
Seasonal determination announcements for regulated systems to be made within defined timeframes each month						100%	100%	100%	100%	Victorian Water Act – Part 4 Allocation of Water 43, 43A
Risk of spill announcements for relevant regulated systems to be made within defined timeframes each month						100%	100%	100%	100%	
Service standard does not continue or is new										
Blue text represents revised or new service standards										

*Efficiency data still to be validated by Thiess Services

General Customer Service

Results for 2013/14 and 2014/15 largely indicate positive performance outcomes against established targets.

As outlined above, the organisation has been focusing on improving customer experience during the current regulatory period. An important part of this is to understand where expectations were not being met. A program was implemented which proactively sought complaints from customers to identify opportunities for improvement. This is evidenced by 3.82 complaints per 1000 customers in 2013/14 and 3.78 in 2014/15, which while higher than the target of two, but lower than the industry standard of 6.46, has provided critical information to assist in improving services. For example, customers were previously required to send original copies of application forms before they could be accepted and processed. After reviewing the complaints about this approach the process was changed and the organisation now accepts scanned copies of application forms via email.

Despite seeing an increase in complaints, there has not been an increase in the number of complaints to the Energy and Water Ombudsman Victoria.

As a part of the improved customer service program, a centralised call centre was implemented, supported by a new data management system, which measures performance from the time the line is connected to a call centre staff member, rather than when it is connected to interactive voice response (IVR). The IVR provides more responsive customer service by providing callers with more targeted responses to issues. However in 2013/14 only 75 per cent of calls were answered by a call centre member within 30 seconds as callers now are connected to the IVR and then if needed a call centre staff member. It is proposed this service standard is changed in next regulatory period to align with the industry standard of 80 per cent which reflects what is considered an appropriate cost / benefit trade-off.

GMW also challenged itself in the current regulatory period to process water share applications more quickly than in the past. Under the Council of Australian Governments Water Standards, 90 per cent of water share applications should be processed within 20 business days, but the organisation proposed a target of 10 business days. This target was successfully met in 2014/15 following good progress toward the target in 2013/14.

In the current regulatory period the timeframes for the permanent transfer of groundwater and surface diversion bundled licenses were also aligned with the water share application timelines. However, regulatory requirements for licence transfers, which include a site inspection for water resource assessment before approval can be granted, mean these applications take on average 88 days to finalise. Section 4.3 sets out proposed changes to the customer service standards for groundwater and surface diversion services.

Gravity Irrigation

Irrigation deliveries were relatively high in the first two years of the current regulatory period and most service standards were met or exceeded with broadly similar results in 2013/14 and 2014/15.

A new standard was introduced in current regulatory period to measure the consistency of flow rates in gravity irrigation (percentage of orders within +/- 10 per cent of flow rate for 90 per cent of the time), reflecting improved service levels as a result of modernising the delivery network. When this was proposed little data was available to determine a target for this standard and this is reflected in the results, with 70 per cent consistency being achieved against a target of 80 per cent in 2013/14.

This is an area of continuous improvement and as the modernised system is implemented out-of-date assets will be consolidated and new infrastructure integrated into the business. This will occur throughout the Price Review 2016 period. GMW is also analysing the operational and maintenance requirements across the whole-of-life cycle of the new technology that supports the modernisation and is considering how this can continue to improve performance during the next regulatory period.

Maintenance requests for channels were impacted by occupational health and safety obligations associated with 'Dial Before You Dig' obligations required before any excavation could be carried out to repair channel bank leaks. This will be an ongoing requirement and during the Price Review 2016 period it is planned to review processes to ensure targets are achieved in the future.

Pumped Irrigation

All except one of the Pumped Irrigation District service standards were met in 2013/14 and 2014/15. The standard not met was caused by an ageing meter fleet on the pumped irrigation systems and meant 84.1 per cent efficiency and 84 per cent efficiency in 2013/14 and 2014/15 were achieved against a target of 92 per cent. A program to upgrade meters is being implemented and expenditure has been allocated in the Price Review 2016 period for further upgrades.

Water Districts

All Water District service standards were met in 2013/14, with all three standards exceeding their targets. In 2014/15 the standard relating to the number of pipeline bursts and leaks (per 100km of pipeline) was not met.

Diversions

All Diversions service standards were met in 2013/14, with two standards exceeding their targets. This was also the case in 2014/15.

Bulk Water

All bulk water service standards were met in 2013/14 and 2014/15.

4.4 Proposed Service Standards for Price Review 2016 period

4.4.1 Approach to setting standards

The key principles applied in reviewing and setting service standards for the Price Review 2016:

- Take into account actual performance over the current regulatory period;
- Only increase a standard where we have strong customer support to do so;
- Link increases in expenditure to increased performance;
- Ensure standards are relevant and directly linked to customer service outcomes;
- Consider against our business strategy including technological advancements;
- Anticipate future needs of customers, and;
- Are included in a revised Customer Charter.

Proposed service standards for the Price Review 2016 follow the principles of aiming to maintain current high levels of service and implement improvement where these link to investment in process automation and efficiency gains.

The proposed customer service standards are set out below and in Table 11, with general business wide service standards also detailed. These were the subject of customer consultation during the development of this submission. The changes noted below were generally supported, although in general there was not significant feedback in relation to the proposed services standards.

This submission proposes to:

- Refine 10 service standards to make them more meaningful and/or adjust the targets to reflect historical/forecast performance;
- Remove four service standards where they are duplicated by other standards or cannot be met given regulatory requirements, and;
- Add seven new service standards to provide greater customer service accountability and apply the maintenance approach used in gravity irrigation to pumped irrigation and water districts.

These changes do not have any impact on proposed operating or capital expenditures and are set out in detail in the following sections.

4.4.2 Proposed Service Standards for Price Review 2016 period

General Customer Services

A number of core customer service standards apply to GMW's entire customer base. These standards set our performance targets for how customer enquiries are responded to, along with complaints and the efficient management of administrative processes customers rely on. They also reflect the organisation's increased focus and commitment to customer service.

In the Price Review 2016 period it is proposed the service standard for processing of licence transfers within 10 business days is removed. This was a new standard introduced in the current regulatory period under the assumption that groundwater and surface water licences would be unbundled to align with those in regulated systems. This did not occur so the target has not been achievable. During consultation on service standards with WSCs no objections were raised about this service standard being removed, providing an alternative standard was established (see below).

Customers highlighted a need for a stronger focus on minimising the time taken for processing administrative changes to ownership information. Lengthy processing can delay customers gaining access to water on newly purchased land – a significant issue if water is needed for livestock or crops. In response to this suggestion GMW proposes establishing a service standard that 90% of applications are processed within 10 business days. This applies to customers with properties in the irrigation districts, diverters and Water Districts.

It is proposed the customer complaints to GMW (per 1000 customers) target is adjusted in the Price Review 2016 period to be three in every 1000 customers. This is an increase from the current regulatory period, but is significantly lower than the Victorian rural water average of six. It also reflects the active promotion of the organisation's complaints process with staff in an effort to improve responsiveness.

A further two customer service standards are also being proposed in response to customer consultation. These are:

- Customer complaints responded to within 10 business days, and;
- First call resolution.

Both these standards aim to measure responsiveness to customers and are in line with industry standards. Performance against these new standards can be measured without any additional investment and we believe they will drive business efficiencies and increase customer satisfaction. Both standards were supported by the WSCs, particularly the first call resolution standard.

Gravity Irrigation services

Throughout the Price Review 2016 period a significant focus will be on the integration of a modernised system and as a result service standards for gravity irrigation remain relatively unchanged from the current regulatory period. As the system continues to be modernised and automated there will be opportunity to learn, tune the system and implement processes to meet service standards. Maintaining the current service standards was supported by WSCs and was tested through discussion about possible changes to the consistency targets (percentage of orders within +/-). As a result of customer feedback these changes are not being proposed.

A key change is the commitment by the end of the Price Review 2016 period to achieve a delivery efficiency of 85 per cent, following progressive increases in the previous years. This is consistent with the basis for the modernisation program and had broad customer support following consultation with the WSCs.
A request was received for a service standard relating to the number of manual interventions required for the modernised and automated gravity irrigation system. GMW considers that this is one input to achieving the proposed delivery and consistency targets in the Price Review 2016 period. Given this, it is not proposed to create a service standard but rather to monitor

the number of manual interventions and where there is seen to be value by the WSC's that this is reported to them.

Pumped Irrigation services

For the Pumped Irrigation Districts, it is proposed to remove one service standard associated with pipeline bursts/leaks and introduce two new standards reflecting customer need for supply certainty and information when unplanned outages occur. This was recommended and supported by the Pumped Irrigation WSC and takes into consideration the critical need of perennial and annual horticulture crop types for water supply, particularly in the hotter summer months.

A review of these standards identified pipeline bursts/leaks per 100km is not a direct customer service outcome. While these are important internal metrics for capital planning that will continue to be reported, service outcomes are largely driven by delivery efficiency and response to supply interruptions. As outlined above, new service standards are proposed to replace this standard.

The introduction of a supply interruption target for pumped irrigation is in response to customers' need for system certainty and reliability. Customers indicated that it is crucial the length of unplanned outages are minimised in order to manage the impacts on their crops. This proposed target is in line with GMW's current performance and industry standards and is relevant where pump or pipeline failures result in complete service outages.

While the organisation strives for no supply outages, WSCs said a notification service standard requiring affected customers to be informed of when the system has been restored would be valuable. It would enable customers to make informed decisions and respond accordingly. As a result, a notification of restoration service standard has been proposed.

Water District services

Water Districts supply non-potable water to domestic and stock customers. The piped systems are generally of recent construction so are stable in terms of levels of service. As a result, service standards are proposed to largely remain as in the current regulatory period.

For the same reasons as Pumped Irrigation Districts, the service standard in relation to pipeline burst/leaks per 100km has been removed from this service.

The service standard about disruption of service has been amended to refer to supply interruptions rather than unavailability, which aligns with other pumped services and simplifies the reporting.

Diversion services

GMW's primary role in providing service to diversion customers is to manage licensed access to surface water and groundwater resources to protect the rights of all users including the environment. GMW operates and maintains very few assets in this area other than owning and maintaining flow meters. The service standards therefore link to the key role of managing licences and, through this role, services which ensure access to water is maximised and resources are managed sustainably.

During the current regulatory period a significant review of diversion service delivery and costs was completed through the Diverters' Tariff Strategy. A committee of customer representatives was appointed to lead the process and reviewed in detail the services that diversion customers require and the costs of providing those services.

This work has meant GMW can refine service standards to ensure they meet the service needs of customers. As can be seen in Table 11, three new service standards are proposed for the Price Review 2016 period. Two of these reflect refinement of existing standards. They were all developed in consultation with customers.

Managing access to unregulated stream flows in accordance with restriction triggers in Local Management Rules was identified as a critical element of service for unregulated surface

water customers. This standard ensures GMW is accountable for managing customer access to unregulated surface water during low flow periods and links the new access component of tariff for unregulated surface water customers. It replaces the current standard 'Unregulated rivers meet agreed targets or natural flow 90 per cent of the time', which was included under the bulk water service standards.

Due to limited telemetry on unregulated rivers to enable comprehensive real time performance measurement against this standard, a service standard is proposed that measures the number of verified concerns about water access during restriction periods. The WSC supports this change which will drive compliance with stream flow triggers included in established Local Management Rules. Information about verified complaints and concerns will be recorded and reported on the Complaints Management System. There is no cost impact for the amendment of this service standard.

A further amendment is the service standard about monitoring groundwater levels to manage groundwater resources. This was previously described as 'Groundwater Levels managed to agreed minimum targets in management plan'.

Monitoring groundwater levels ensures GMW meets agreed minimum resource monitoring targets in established management plans and that appropriate groundwater resource management is being undertaken on behalf of, and for the benefit of, all users. The proposed target ensures the organisation's management plan resource monitoring obligations are met as well as seeking improvement to data access and availability for customers. While the intent is similar to the current regulatory period, the amended standard reflects a clearer service outcome (linked to tariffs) and is supported by the WSC.

The service standard relating to groundwater seasonal allocations remains unchanged apart from some improved wording to better reflect the service customers' receive and pay.

There is no price impact on customers as these service standards reflect current service provided to customers.

The current standard 'Response to access and supply queries within one business day' was proposed to be removed. After consultation with the WSC it was agreed that while the standard could be removed, the intent in terms of timely responses to queries and complaints should be captured in the general customer service standards and apply to all customers, not only diversion customers. This is reflected in the service standard around customer complaints being responded to within 10 business days.

Bulk Water services

The primary function of all bulk water storages on regulated water systems is to harvest and deliver water in accordance with established rules through Bulk Entitlements.

GMW is committed to ensuring each regulated system can maximise harvesting opportunities and has the capacity to deliver bulk water on demand to meet customers' needs. These objectives are met by maintaining the storages in good condition and efficiently operating the bulk water delivery network. Providing minimum flows in accordance with those specified in bulk entitlements also benefits customers by providing a reliable level of access to regulated waterways and assisting to maintain good water quality.

It is proposed that service standards relating to bulk water are refined in the Price Review 2016 period. This will provide clarity and confidence in the service commitments. These standards were the subject of consultation with our urban water business customers at dedicated workshop in April 2015 and consultation about the draft of this submission.

The service standards relating to bulk water harvesting and deliveries have been amended to place greater emphasis on each regulated system's ability to harvest and deliver bulk water, rather than individual storages, to better reflect operations in each catchment. The service

standards have been refined based on what is important to customers in terms of maximising harvesting opportunities and being able to meet bulk water demand from the storages.

The proposed targets for bulk water service standards by necessity must be set very high due to the criticality of the services to meet customer needs. It is proposed the target for the ability of each regulated system to deliver water to meet bulk water customer demand has be reduced from 100 per cent to 99 per cent. This recognises the increasing demand for bulk water outside the traditional irrigation season and the potential impact of planned maintenance activities on meeting all bulk water demands.

There has only been a minor wording amendment to the service standard relating to minimum flow requirements for regulated waterways with no change in the intent or commitment from the current standard.

New standards associated with seasonal determination and risk of spill announcements by the Resource Manager provide essential information to customers and the water market about water availability. This information is critical to customers as it provides confidence and certainty to plan business activities associated with water use and trade. While seasonal determination and risk of spill announcements are provided as required, service standards relating to the role of the Resource Manager are new to the Price Review 2016 period.

In making timely announcements about seasonal determinations and risk of spill assessments, GMW is committed to using the best available information and applying a technically rigorous process to the assessment of water availability for our customers. In the consultation with bulk water customers on these service standards, they noted that while timeliness was important, so too was the quality and reliability of the announcements. While not proposing to introduce a service standard to meet these requirements, improved transparency and provision of information about seasonal determination and risk of spill assessments will be sought to ensure customers and the wider water market have full confidence in each announcement.

There is no price impact on customers as a result of these proposed changes to the service standards.

4.5 Customer Service Charter

GMW's Customer Charter was first published in 2007 in response to the introduction of the Customer Service Code for Victorian Rural Water Businesses by the ESC.

The Charter sets out:

- The standard of service customers can reasonably expect to receive and the criteria against which our performance can be measured, and;
- Customers' responsibilities in accepting the service provided to ensure that these actions don't affect other customer rights and service levels.

Under the ESC's Customer Service Code GMW has the following obligations:

- A customer charter must be developed to inform customers about supply services and licensing activities performed and the respective rights and responsibilities of customers and the business.
- The Customer Charter must be periodically reviewed to ensure it accurately reflects operations and services and the regulatory environment in which GMW operates.
- Before adopting or varying the Customer Charter, GMW must consult with customers.

4.5.1 Review of the Customer Charter

A comprehensive review of the Customer Charter was completed during the current regulatory period. The review was completed in consultation with WSCs and resulted in several changes to ensure it aligned with GMW's Fundamental Commitments, strategic outcomes and debt management provisions.

The review did not propose any changes to the service standards or targets set in the current regulatory period, but feedback provided by WSCs during February and March of 2014 included:

- The addition of a new preface which provides a clear statement of the overarching service commitments made to customers;
- Simplification of language and removal of technical jargon to support the organisation's commitment to plain English communication;
- The addition of a new section 'Understanding your Water Entitlements and Licences' to help customer's knowledge of water products, and;
- Incorporating clear statements about the processes followed when dealing with account payment difficulties and non-payment, reflective of the requirements of the 2012 amendments to the ESC's Customer Service Code.

These changes were endorsed by the ESC and published in July 2014.

4.5.2 Price Review 2016

It is proposed the current Customer Charter is retained during the Price Review 2016 period. It will be reviewed annually to incorporate relevant changes to legislation and regulation and to reflect changing customer expectations. The Customer Charter will also be updated to reflect the agreed service standards and targets for the Price Review 2016 period. Customer consultation through the WSCs is a core component of the annual review.

4.6 Debt Management and Hardship Procedures

GMW's Debt Management and Hardship Procedures set out the rights and responsibilities of the organisation and customers when managing outstanding debt. They establish transparent, fair and equitable debt management principles for customers to help them understand the organisation's approach.

The procedures are available to the public on GMW's website and include information about:

- Actions in response to non-payment;
- Rights of customers under debt management or a flexible payment plan;
- Protocols for entering into a flexible payment plan or debt management process;
- The debt management process;
- Interest charges, and;
- The process for assessing and responding to customers in financial hardship.

These procedures are all reviewed annually.

4.6.1 Review of the Procedures

A review of the procedures was completed during the current regulatory period to comply with new requirements set out in the ESC's Customer Service Code.

Customer consultation was gathered through WSCs and feedback was supportive of GMW's approach. In particular feedback was positive about:

- Treating customers as commercial operators who receive services as inputs to their business enterprises;
- Including consistent, transparent and fair rules for customers who may be experiencing financial hardship based on rules established by organisations who are specialists in making these assessments;
- Adopting a process which standardised eligibility criteria such as taking into account whether the customer was in receipt of Centrelink benefits, and seeking recommendations from rural financial counsellors, and;
- Separating provisions for hardship management from debt management and limiting special considerations to those in true 'hardship'.

These changes were incorporated into the final Procedures.

4.6.2 Price Review 2016

It is proposed the Debt Management and Hardship Procedures be retained in the Price Review 2016 period and be reviewed annually.

Improvements are planned during the next regulatory period to improve communication with customers and enable more proactive notifications around debt management. This means there will be a stronger focus on proactive reminders about outstanding accounts. An example of this is the pilot program of SMS messaging which has been highly successful in reducing customers entering debt management cycles and this will be incorporated in the next regulatory period.

5 Operating Expenditure

This Chapter sets out proposed operating expenditure for the Price Review 2016 period as well as providing details in relation to GMW's performance against approved expenditure during the current regulatory period.

5.1 Overview

GMW's Business Transformation Program and the increased focus on efficiency is allowing a lower operating expenditure in the Price Review 2016.

This builds on the operating expenditure savings in the current regulatory period – operating expenditure is forecast to be $24.1M less than approved by the ESC reflecting the commitment to reducing total operating costs by $20M per year by 2018. These savings are additional to the efficiencies GMW incorporated into its 2013 Water Plan.

During the Price Review 2016 period proposed operating expenditure is $398.3M, or an average annual expenditure of $99.6M. This reflects no significant new external obligations, no change in expenditure as a result of proposed service standards and ongoing efficiencies being achieved.

Operating expenditure is the ongoing costs required to operate delivery networks, maintain assets and manage and administer the business and the proposed expenditure is driven by the need to continue to provide reliable retail (irrigation and diversion) services to customers and to undertake operations, management and risk mitigation works for the bulk water services.

Because the Connections Project is still being implemented its full impact is still being determined. In the short term, as GMW is currently participating in a Mid Term Review to assess the project's status, there are uncertainties and risk in relation to specific project outcomes. When results of the review are provided the assumptions in this submission may require revision. However, there are inherent uncertainties involved with this project over the medium to long term. This reflects that it is the largest project of its nature in Australia and the world and technology is being introduced on a scale never completed before. Further, the project is dependent on the timely agreement with customers in relation to on-farm and in-channel works.

5.2 Operating expenditure in the current regulatory period

Forecast operating expenditure will be $24.2M less over the current regulatory period than approved, as set out in Table 12. This is additional to the cumulative efficiencies already incorporated into the 2013 Water Plan expenditures ($1M in 2013/14, $2M in 2014/15 $3M in 2015/16) and is largely driven by the Business Transformation Program and increased focus on efficiency.

Table 12 – Operating expenditure in the current regulatory period ($M)

	2013/14	2014/15	2015/16	Total
Approved	104.4	107.8	105.9	318.1
Actuals / forecast	97.6	93.8	102.5	293.9
Variance	**- 6.8**	**-14.0**	**-3.4**	**-24.2**

Approved operating expenditure was not constant in the current regulatory period, with higher expenditure in 2014/15 reflecting higher MDBA contributions GMW was required to pay for works on storages.[4] While these higher contributions were ongoing, the incremental

[4] The MDBA contributions reflect the charges set by the Ministerial Council, and passed on via the State Government, for work on the MDBA bulk water storages. These are forecast annually and subject to variation. This is prescribed expenditure. Separate to this we also act as the Construction Authority for the MDBA and undertake the required capital works on the bulk water storages. This is non-prescribed expenditure and is reimbursed in full by the MDBA.

productivity savings and reductions to operations and maintenance cost led to a reduction in approved operating expenditure in 2015/16.

The following sections outline why the actual / forecast expenditure is lower than the approved expenditure.

5.2.1 Business Transformation Program

GMW's Business Transformation Program aims to deliver a reduction in total operating expenditure of $20M per year by 2018. It is a business wide initiative delivering savings from prescribed and non-prescribed services.

By the end of the current regulatory period (2015/16) $8.4M of annual savings are expected across the business of which $7.1M is from prescribed services and built into future expenditure (see section 5.3.2). The remainder of the $20M target will be identified during the Price Review 2016 period.

Key aspects of the Business Transformation Program that have led to lower operational expenditure include:

- An organisational restructure and reduction in full-time staff has saved $3.7M;
- A review of specific contracts and services has resulted in lower on-going costs of $1.6M, and;
- Other cost savings of $1.8M.

The organisational restructure followed a critical review of the workforce to determine appropriate resizing. It also refocussed labour resources to deliver on the changing needs of customers, particularly with a changing asset base and the increasing use of automated systems. The restructure resulted in a reduction of 59 staff from across the business and full-time staff equivalents reduced from 730 in 2013/14 to 671 in 2015/16[5]. There have also been a significant number of vacancies across the organisation as the restructure has occurred.

Significant aspects of the new corporate structure and changes to labour included:

- Commencing the realisation of the modernisation benefits by reducing the workforce required for manual operations and maintenance activities and beginning to replace it with a smaller workforce responsible for the operations and maintenance of the automated aspects of the network. The Connections Project will deliver all of the automation and the majority of metering of the backbone channel network by the end of the current regulatory period;
- Removal of the Diversions Support Team established to provide support to Diversions customers. Under the new corporate structure support is provided to all customers whether they are diversions or irrigation and drainage customers;
- Reducing the number of management and corporate support positions in the business, e.g. finance, records and reception and corporate governance;
- Identification of areas where investment in particular skills was required, including ICT and Asset Management;
- Creation of a single business unit, Customer Operations, to ensure coordinated and efficient programs of work for customer facing staff;
- Expansion of the Customer Relations team from two to 12 staff creating a dedicated field based team who provide specialist knowledge and services to customers and proactively resolve issues, and;
- Creation of a 'Call Centre' to help customers receive first point resolution to a range of queries and enhance the understanding of customer needs.

[5] This reduction in staff includes the non-prescribed part of the business

5.2.2 Operating Expenditure in the Current Regulatory Period – By Service

Irrigation and drainage services

In order to deliver irrigation (gravity, pumped and water districts) and drainage services and meet the agreed customer service standards we undertake a variety of network operation and maintenance activities. Over the current regulatory period expenditure on irrigation is forecast to be $10.0M less than planned (see Table 13).

Table 13 – Irrigation and drainage operating expenditure in the current regulatory period ($M)

	2013/14	2014/15	2015/16	Total
Approved	63.7	64.4	63.4	191.5
Actuals / forecast	58.9	60.0	62.6	181.5
Variance	**-4.8**	**-4.4**	**-0.8**	**-10.0**

Note: Actual figures include allocated costs from Government contributions and Domestic and Stock.

In 2013/14 and 2014/15 the significantly lower actual expenditure reflects vacant positions that were not being filled, impacting on labour costs. Contracted services costs were also lower, including a Strategic Partnership with Rubicon, which enabled efficient provisions of operations and maintenance services for the automated backbone network.

Examples of where savings have been achieved include:

- The labour savings referred to in section 5.2.1 and the vacancies noted above;
- Utilisation of remote system monitoring and alarm management;
- Utilisation of the automated backbone network to assist in targeting maintenance requirements and correcting performance issues with the channels, improving customer service outcomes;
- Annual proactive maintenance programs associated with electronic meters and automated regulators;
- Introduction of 'field computing' for operational staff to assist in the capture of data and the reduction of manual data entry processes, and;
- Rationalisation in the Shepparton Irrigation Region of surplus service points, with 44 outlets removed.

During the current regulatory period GMW has operated and maintained sections of the gravity backbone network which have been modernised and automated as well as sections of the non-backbone network which are still non-automated. This is a transition period that will continue in the Price Review 2016 period. While operating expenditure savings have been realised, operating a hybrid network means the full extent of savings will not be realised until after the next regulatory period. Further, while modernisation will drive efficiencies and cost savings, it also introduces new costs that need to be taken into account. For example, planned and reactive maintenance associated with the automated network including replacement of batteries and sensors.

Diversion Services

Expenditure is also forecast to be less than approved over the current regulatory period in providing diversion services, including account management, site and access compliance and resource management (see Table 14).

Table 14 – Diversions operating expenditure in the current regulatory period ($M)

	2013/14	2014/15	2015/16	Total
Approved	9.3	9.3	9.2	27.8
Actuals / forecast	5.8	4.9	5.5	16.2
Variance	**-3.5**	**-4.4**	**-3.7**	**-11.6**

Note: Actual figures include allocated costs from Government contributions and Domestic and Stock.

A key driver of the lower than planned expenditure is labour savings. These reflect a variety of changes to how diversion services are provided, including:

- Removal of the specific Diversions Support Team;
- The development and implementation of risk based Local Management Plans in preference to more costly statutory management plans, and;
- The streamlining and automating of various licensing processes and procedures as well as the extension of licence terms.

Bulk water services

During the current regulatory period expenditure on bulk water services is forecast to be $3.0M below approved expenditure (see Table 15).

This expenditure enables the operations and maintenance of assets, which are owned by the MDBA and the State Government and service delivery to customers. GMW makes contributions for works undertaken at MDBA bulk water storage assets to ensure they remain operational and meet dam safety requirements. These contributions reflect the charges set by the Ministerial Council and are passed on via the State Government. Separate to this, GMW also operates and maintains the state owned bulk water storage assets. Table 15 sets out the expenditure on State and MDBA and bulk water assets.

Various operations, maintenance and risk mitigation works were completed during the current regulatory period. As part of the transformation process, it was deemed prudent to invest in asset management plans for the State Government assets, which are now well underway and will promote efficient asset investment in the future. The raising of the national terrorism alert from low to medium during 2014 meant additional surveillance was required at many dams with associated cost, although overall budgets were still met. Some minor efficiencies were achieved through labour savings by amalgamating and streamlining operations and maintenance teams and in 2014/15 there were a large number of vacancies that were not filled.

In 2013/14 there was a significant increase in the MDBA contribution required, while in 2014/15 there was a significant decrease in the contribution required.

Table 15 – Bulk water operating expenditure in the current regulatory period ($M)

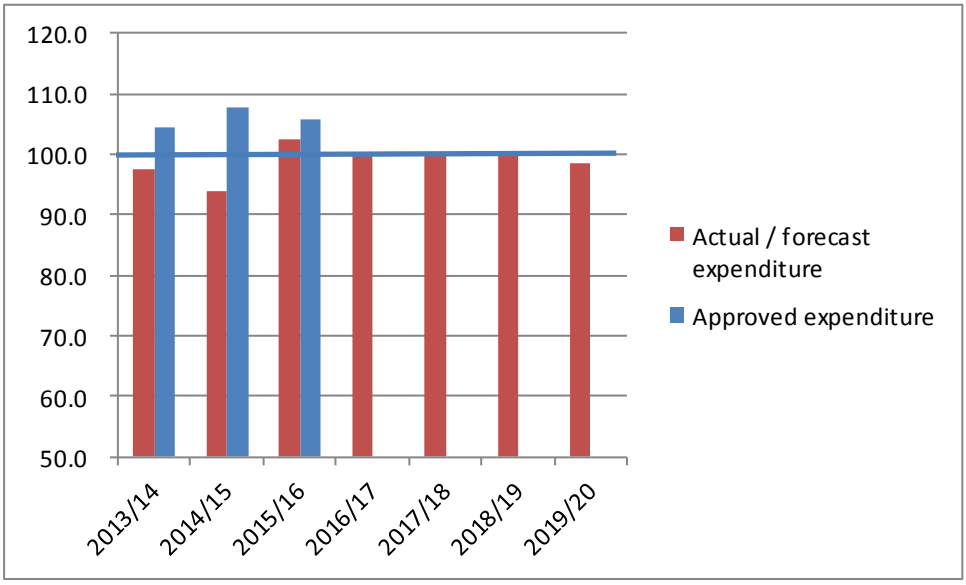
	2013/14	2014/15	2015/16	Total
Total				
Approved	27.2	29.9	29.3	86.4
Actuals / forecast	29.0	24.6	29.8	83.4
Variance	**1.8**	**-5.3**	**0.5**	**-3.0**
State Government assets				
Approved	16.2	15.7	15.1	47.0
Actuals / forecast	14.9	14.0	15.6	44.5
Variance	-1.3	-1.7	0.5	-2.5
MDBA assets				
Approved	11.0	14.2	14.2	39.4
Actuals / forecast	14.1	10.6	14.2	38.9
Variance	3.1	-3.6	-	-0.5

Note: Actual figures include allocated costs from Government contributions and Domestic and Stock.

5.3 Operating Expenditure in the Price Review 2016 Period

Operating expenditure for the Price Review 2016 period is lower than the approved expenditure in the current regulatory period and reflects efficiency savings being achieved at GMW. The Price review 2016 expenditure has been developed taking into account forecast baseline expenditure in 2014/15, including one off events, and relevant changes to business as usual expenditure and efficiencies. The blue line in Figure 1 shows that over the Price Review 2016 period forecast operating expenditure is lower than approved expenditure in the current regulatory period. Further detail is set out in sections 5.3.1 to 5.3.2.

Figure 1 – Operating expenditure - current and next regulatory period ($M)



5.3.1 Baseline Operating Expenditure in 2014/15

In 2014/15 expenditure was $93.9M, which is $13.9M lower than approved and reflects the various saving initiatives and reasons for lower than planned expenditure detailed in section 5.2.

The current regulatory period has been one of considerable change for the business resulting in significant change to operating expenditure, both the timing and magnitude of expenditure.

The actual expenditure in 2014/15 reflects several one off events that are not expected to continue in 2015/16 and the next regulatory period, including:

- Vacancies not being filled under the Business Transformation Program, organisational restructure and further departmental restructures, leading to lower labour costs of around $8.7M6;
- Lower contracted services costs, including for irrigation services, and;
- Significantly lower ($3.6M) contributions made to the Murray Darling Basin Assets. This reflects a decision in 2014/15 to lower the contributions with all states while negotiations are ongoing with the New South Wales government about the magnitude of their contributions. At this stage it is expected that contributions will return to forecast levels in the future years.

While the 2014/15 forecast has been used to inform the forecast operating expenditure for the Price Review 2016, this has also been informed by ongoing expenditure required to meet service standards.

5.3.2 Efficiency Savings

Prescribed savings of $7.7M are forecast in 2016/17 relative to ESC approved operating expenditure in 2014/15. This reflects savings from a variety of initiatives, including the organisational restructure and reduction in full-time staff and will be achieved without service standards being comprised. These savings are also additional to the savings GMW incorporated into the 2013 Water Plan (i.e. $1M in 2013/14, $2M in 2014/15 and $3M in 2015/16). This benefits customers through lower prices.

During the Price Review 2016 period operating expenditure is forecast to reduce slightly year on year.

[6] Total vacancies in the prescribed business were around 83 FTE

While GMW is aiming to achieve greater prescribed service savings during the Price Review 2016 period these have not yet been identified and have not been included in proposed expenditure over the period of the plan. GMW faces several risks which may increase expenditures over the next four years and considers on balance it is prudent to not include these further savings. These risks include additional costs which may occur in relation to the Connections Project, e.g. the need to do additional silt and weed removal to ensure the channels are able to meet improved delivery efficiency standards and possibly the need to maintain existing assets and a hybrid network for longer if the timeframes associated with the project are not realised. Additional risks include environmental revenue not being realised.

When additional savings have been identified (likely during the Price Review 2016 period) GMW will discuss with customers whether:

- The efficiency savings are passed back to customers through lower prices at the annual price review;
- Whether these savings are put back into the business and used to address specific service and customer issues, or;
- Whether debt is reduced.

5.3.3 Proposed Changes to the 2014/15 Baseline

The changes proposed to customer service standards during the Price Review 2016 period will not impact on expenditures and there are no new external obligations. As a result, other than the efficiency savings for prescribed services noted above (which reflect a change in the way existing business as usual activities are undertaken to meet the service standards and obligations), there are no changes to expenditure which reflect new or additional activities or activities which are no longer required.

In relation to the impact of the Connections Project and modernising the backbone network, at this stage it is assumed there will be no impact on operations and maintenance costs for the Price Review 2016 period. As noted above, this may need to be altered following any recommendations from the Mid Term Review.

5.3.4 Operating Expenditure in the Price Review 2016 period – Overall

Proposed operating expenditure is $398.3M in the Price Review 2016 period or an average annual expenditure of $99.6M. The proposed annual expenditure in Table 16 is comparable with the actual / forecast average annual spend in the current regulatory period of $98.0M. It takes into account there are no impacts associated with service standards and no significant new external obligations as well as the ongoing efficiencies achieved.

Table 16 – Proposed operating expenditure in the Price Review 2016 period ($M)

	2016/17	2017/18	2018/19	2019/20	Total
Total	100.1	99.9	99.8	98.5	398.3

The proposed expenditure is driven by the need to continue to provide reliable retail services to all customers which meet customer service standards as well as the need to undertake operations, management and risk mitigation works for the bulk water services.

During the Price Review 2016 period key business wide activities include:

- Implementation of the Irrigation and Diverters Tariff Strategies and development of the Drainage and Water Districts Tariff Strategies;
- Developing a ‘roadmap’ for our Water Management System which monitors and manages the irrigation systems and enables customer interactions such as water ordering. The roadmap will ensure there is a stable operating environment and productivity outcomes occur through timely and informed decisions about new technologies, and;
- Strengthening organisational capability through specialised training and the introduction of key roles to support our business direction (e.g. optimising the benefits from the introduction of technology based field mobility solutions).

The Department of Environment Land Water and Planning has advised GMW its environmental contribution for the Price Review 2016 period will continue to be based on a set percentage of our revenue. This is assumed to be $1.6M per year operating expenditure,

consistent with the current regulatory period. We have also assumed ESC licence fees of $0.08M per year.

5.3.5 Operating Expenditure in the Price Review 2016 Period – By Service

Table 17 sets out the proposed expenditure during the Price Review 2016 period for each of GMW's major services. The proposed expenditure is declining slightly.

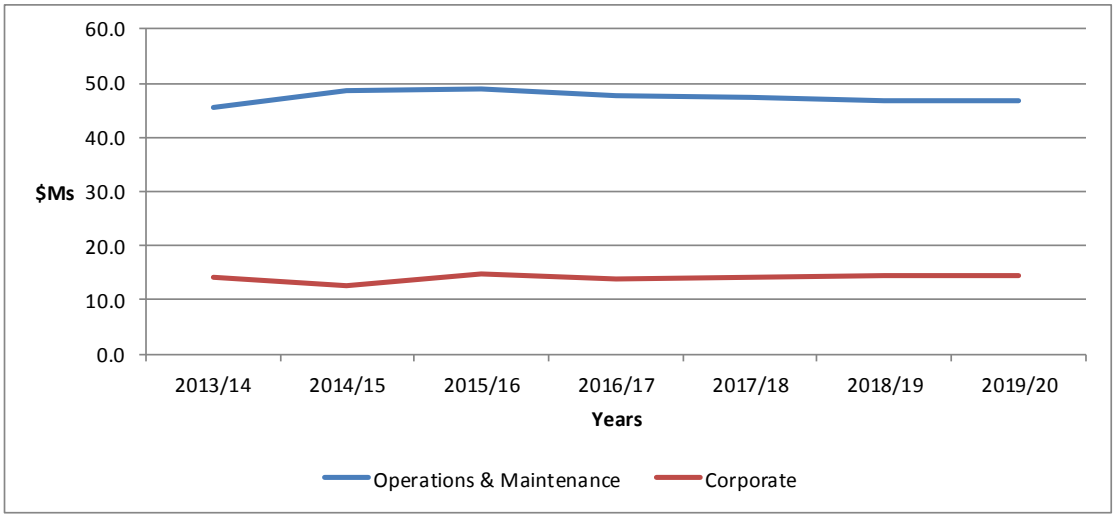
Table 17 - Operating expenditure in the Price Review 2016 period – by service ($M)

	2016/17	2017/18	2018/19	2019/20	Total
Irrigation and drainage services	60.2	60.5	60.1	59.1	239.9
Diversion services	5.3	5.3	5.2	5.3	21.1
Bulk water services – State assets	16.0	15.7	16.2	15.9	63.8
Bulk water services – Contributions for MDBA assets (prescribed)	14.2	14.2	14.2	14.2	56.8
Customer service and billing	4.4	4.3	4.1	4.0	16.8
Total	100.1	99.9	99.8	98.5	398.3

Irrigation (Gravity, Pumped and Water Districts) and Drainage Services

Operating expenditure to deliver and maintain irrigation networks during the Price Review 2016 period will reduce slightly. Initiatives from the current regulatory period such as field mobility computing will be continued to deliver effective service provision. In addition, there will be some targeted activities to stem arrowhead weed growth in eastern operational areas and a new chemical treatment of aquatic weeds will be trialled.

Figure 2 – Actual and forecast irrigation and drainage operating expenditure ($M)



In relation to pumped irrigation services, over the Price Review 2016 period we will in conjunction with customers review the Nyah and Tresco networks to evaluate opportunities for improvement. Both of these pipeline districts were constructed in the 1960s and 1970s and are approaching an asset life where significant capital investment is required to ensure consistency of supply. While capital expenditure is proposed in Nyah and Tresco during the later years of the Price Review 2016, the optimal management strategy and work packages will be the subject of customer consultation. As a result, beyond a small allowance to establish the preferred management strategy ($0.25M over the first two years of the next regulatory period for Nyah and $0.15M for Tresco) no changes are proposed to operating expenditure for these areas.

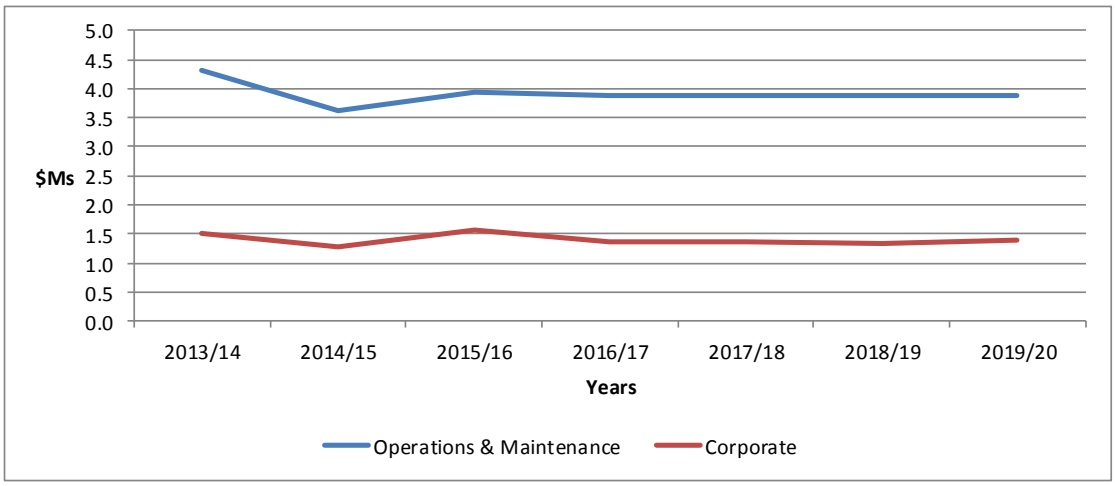
Diversion Services

Customer consultation has led to proposed changes to diversion customer service standards in the Price Review 2016 period. The changes ensure standards better reflect the services provided by GMW and the components of the tariff strategy. As a result, proposed operating expenditure for the next regulatory period will be lower than in the current regulatory period. During the Price Review 2016 period it will remain constant (see Figure 3).

Core activities to meet these service standards will continue to include account management, site and access compliance and resource management. The operational requirements are expected to remain the same (with no drought being forecast) contributing to the stable operating expenditure. During the Price Review 2016, resource management will focus on aligning groundwater and unregulated planning arrangements with requirements of the Murray-Darling Basin Plan.

A key initiative in the Price Review 2016 period is to improve choice and flexibility through reform in entitlement management and consequently water trading opportunities for unregulated and groundwater diverters. This is proposed to be funded from the expenditures used in the current regulatory period to undertake the licence renewal and resource management initiation.

Figure 3 – Actual and forecast diversions operating expenditure ($M)

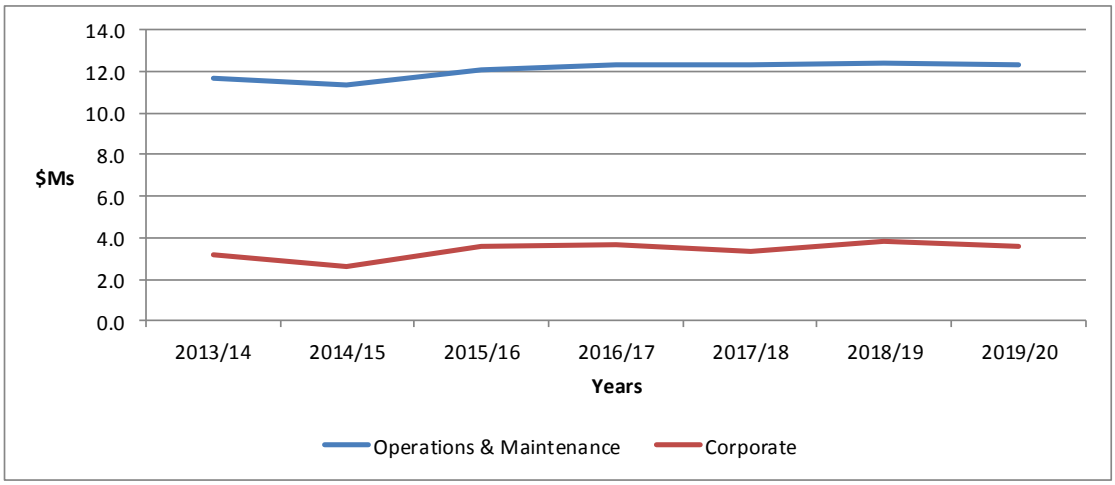


Bulk Water Services

During the Price Review 2016 period the bulk water operational and maintenance expenditure will be similar to the current regulatory period and assumes there will be no floods or emergencies over the period (see Figure 4). It also assumes there will continue to be a window for outages to undertake asset inspections and maintenance of bulk water assets during the non-irrigation period, when there are no requirements for environmental water releases.

Key activities during the period include continuing risk mitigation works, with the completion of the SCADA upgrade project at Torrumbarry Weir and another will be started at Dartmouth. This will complete the SCADA upgrade program along the River Murray. There will also be an increase in communications bandwidth to dam sites to allow the use of operational systems and software links back to Tatura, which will result in labour efficiencies. The lock at Torrumbarry will be refurbished during the Price Review 2016 period. In addition, an ongoing program of proactive periodic maintenance works will continue on State Government storages. In the Price Review 2016 period the larger of these works include structural repairs on the Western Waranga Main Channel, overhaul of service gates and outlet valves, diving inspections and erosion protection works. This will enable the reliability of service delivery to customers.

Figure 4 – Actual and forecast bulk water (State assets) operating expenditure ($M)



Feedback from Water Services Committee

Feedback received during a full-day forum with all WSCs included:
GMW should concentrate on core services such as water delivery and undertaking works that enhance this, including maximising channel performance;
Ensure channel capacity is maintained and more expenditure should occur to address silt, weeds, maintenance of channel fences, etc;
WSCs would like a greater understanding on what and where the expenditures are occurring in order to meet services standards;
Savings achieved should not occur at the expense of service standards, and;
Savings should deliver price reductions.

5.3.6 Operating Expenditure in the Price Review 2016 period – Key Inputs

Labour

Labour expenditure has been a key focus of the Business Transformation Program with ongoing reductions in full-time staff during the current regulatory period achieving efficiencies.

In the Price Review 2016 period there will be further full-time staff savings. In 2016/17 full-time staff will be reduced by 25, resulting in 541 full-time positions[7]. This will be achieved by not filling vacancies in some areas of the business where the positions are no longer required, expected retirements and ongoing efficiencies in service delivery and corporate support. In 2017/18 and 2018/19 there will be increases of four full-time staff each year to reflect Connections Project support staff no longer externally funded. In 2019/20 there will be a reduction of eight full-time staff, reflecting the final implementation of the Gravity Tariff Strategy and recognition of the $0.85M per year saving from the uniform GMID Delivery Charge.

In addition, the proposed labour expenditure includes assumed wage increases of 3 per cent each year as was recently negotiated (an increase of 0.8 per cent a year above assumed inflation of 2.2 per cent).

Energy

Energy expenditure is minimal in our business, totalling about $1.5M per year and primarily relates to pumping costs for irrigation services and ongoing operations of buildings and facilities.

[7] Reduction based on 2015/16 budgeted FTE

In 2013/14 through Procurement Australia the contract for supplying electricity to large sites was renegotiated and other sites are being transitioned as contracts expire. GMW will also review whether improved contractual outcomes can be achieved utilising State Government contracts.

Information Technology

It is proposed Information Technology expenditure will remain constant during the Price Review 2016 period, as outlined in Table 18. The proposed expenditure will ensure reliable systems that drive improvements and facilitate more efficient service delivery, consistent with the Information Technology Future State Strategy.

Table 18 – Information Technology expenditure in the Price Review 2016 period ($M)

	2016/17	2017/18	2018/19	2019/20	Total
ICT expenditure	6.0	6.0	6.0	6.0	24.0

The Price Review 2016 period expenditure is higher than approved in the current regulatory period, which was an average of $2M per year. During the Business Transformation Program all ICT expenditure was centralised, including that associated with the delivery of specific services and that which had not previously been classified as ICT expenditure. This explains some of the difference between the approved expenditure in the current regulatory period and proposed expenditure in the next regulatory period. In addition, the handover of ICT assets associated with the Water Management System from the Connections Project has led to higher expenditures. In particular, there have been additional labour and licensing costs to operate and maintain these assets.

In developing the ICT Future State Strategy, independent benchmarks were sourced to inform future ICT expenditure proposals. GMW was compared against other government, corporate and commercial medium sized businesses using a 2013/14 CEB[8] benchmarking report. Proposed operating expenditure is just above the median benchmark for IT operating expenditure per business entity full-time staff member ($8,500) and is within the 50th percentile of costs. When the specialised nature of Water Management System assets are taken into account the organisation's ICT expenditure benchmarks well and is efficient.

5.3.7 Competitive Procurement

The procurement function within the business has recently been centralised under the Business Transformation Program with the objective of bringing greater commercial focus and control to procurement practices across the business to realise efficiencies. The centralised team is responsible for all contract and procurement matters and is progressively reviewing and refining the supporting policies and procedures as well as systematically identifying all expenditures externally procured and prioritising the larger contracts for renegotiation.

As a part of these considerations work is progressing towards implementing the State Government's recently announced procurement reforms. While not mandatory, GMW is committed to realising the benefits available under these reforms, and in particular implementing the complexity and capability framework. This will enable the implementation of fit for purpose contracting approaches and achieve efficient pricing for the contracted services.

The future savings from these activities have not yet been realised and as a result are not included in proposed operating expenditures for the Price Review 2016. However, gains from improved procurement practices will be a significant contributor to achieving the $20M per year by 2018. When these efficiencies are realised, as outlined in section 5.3.2, customers will be consulted about whether they are passed back to in the form of lower prices or put back into the business through additional expenditures or reducing debt.

5.3.8 Cost Allocation

Operating expenditure is allocated to the services supplied on:

[8] CEB is a member-based advisory company.

- A direct charge basis – where costs that relate directly to a specific service are allocated in full to that service, e.g. the cost of undertaking remodelling works for gravity irrigation services is fully allocated to gravity irrigation services, and;
- An indirect charge basis – where costs which are not directly related to a specific service are allocated based on a driver.

Where possible, the direct charge basis is applied and where this is not practical the indirect charge basis is used.

In applying the indirect charge basis GMW:

- Allocates operational management overhead (the costs associated with supervisory management of operational staff) on the basis of the activities that the manager's workforce is undertaking. This is achieved by a labour on-cost that is applied to the manager's staff hourly charge out rate, and;
- Allocate corporate overhead costs (the costs associated with the provision of corporate services such as Finance) on the basis of the pro-rata of operating and capital expenditure across the services supplied. There are some exceptions to this, where a more specific allocation approach is used. For example in people and performance costs are allocated based on labour expenditures.

5.4 Operating Expenditure in the Price Review 2020 Period

At this stage, operating expenditure in the Price Review 2020 period is expected to remain constant relative to the expenditure forecast in 2019/20. There are several issues which could impact on this, including any further efficiencies achieved through the Business Transformation program, the outcomes of the Mid Term Review for the Connections Project and the forecast capital program.

6 Capital Expenditure

This Chapter sets out proposed capital expenditure for the Price Review 2016 period as well as providing details in relation to performance against approved expenditure during the current regulatory period.

6.1 Overview

Capital expenditure reflects the ongoing expenditure required to renew the retail (irrigation and diversion), wholesale (bulk water storage) and other business assets (including ICT assets, and facilities). It also reflects the expenditure required to meet compliance requirements, particularly in relation to dam safety, as well as those which are occurring to improve business service. For the purpose of this submission, it does not include any expenditure associated with the Connections Program.

Capital expenditure of $77.0M is forecast for the current regulatory period, which will be $11.3M less than the ESC approved. Expenditure was lower than planned in 2013/14 and 2014/15 as we went through a process to review and improve our capital planning process to ensure the development of robust capital expenditure estimates.

During the Price Review 2016 period proposed capital expenditure is $126.7M, or an average annual expenditure of $31.7M per year. While this is higher than the actual / forecast for the current regulatory period of $25.7M, it is modest relative to the size of the organisation and the value of the asset base ($7.9 billion based on a 2014 review of asset replacement costs). The increase reflects more expenditure to address high risk retail assets, and large dam safety projects to meet compliance requirements, as well as the need to continue to provide reliable service delivery to customers within a stable price path. Underpinning this is ICT expenditure, some of which will drive future operational efficiencies.

The Price Review 2016 period includes four major projects, three of which are the dam safety upgrades. The Tullaroop Dam Safety Upgrade Project, which commenced in the current regulatory period will be completed, as well as the Buffalo Dam Spillway Gate and Hoist Project and the Buffalo Dam Safety Program will start. Construction of the Cohuna Weir Fishway will also be undertaken during the next regulatory period.

Modernisation of the retail assets through the Connections Project is changing the nature of the asset base from traditional long life passive assets to ones which include a substantial proportion of active, relatively short life technology based assets. As part of the Commonwealth Contractual obligations, GMW Connections is currently participating in a Mid Term Review, which will assess the status of the project. At this stage, during the Price Review 2016 period, we are assuming the Connections Project delivers the planned outcomes within the agreed timeframes. Further, there will be no need to replace any of these new assets during the period and there will be no need to undertake any capital works on non-backbone channels. These assumptions may need to be refined to incorporate any recommendations of the Mid Term Review.

During the current regulatory period project management, capital planning and asset management processes, policies and governance structures were reviewed and improved. The asset management review included benchmarking performance against global standards to ensure best practice and developing a system to appropriately address asset maintenance and renewal requirements. The new approaches and governance arrangements, introduced as a part of the Business Transformation Program, have helped refine the capital spend in the current regulatory period and guided the proposed program in this submission to ensure it is prudent and efficient.

For the purposes of this submission, capital expenditure as per our Accounting Policy for Capital and Operational Expenses is defined as expenditure that:

- Is relatively large, i.e. greater than $2000 per item;
- Relates to an asset that generates future economic benefits by providing service potential;

- Involves an asset that is owned and funded by our business, and;
- Has an expected lifespan greater than 12 months.

The definition includes expenditure for the refurbishment and enhancement of existing assets which extends the original life of the asset.

6.2 Capital Expenditure in the Current Regulatory Period

The 2013 Water Plan included forecast capital expenditure of $93.1M. This comprised a combination of GMW funded projects (via its customers) and activities that were funded by external third parties (e.g. via grants) as shown in Table 19.

Table 19 – Total forecast capital expenditure in the current regulatory period ($M)

	2013/14	2014/15	2015/16	Total
GMW funded	23.7	36.1	28.5	88.3
Externally funded	0.9	1.5	2.4	4.8
Total	24.6	37.6	30.9	93.1

The GMW funded expenditure of $88.3M was the focus of the 2013 Water Plan process and was reflected in prices. As a result only this expenditure is examined below.

During the current regulatory period expenditure is forecast to be $11.3M lower than the ESC approved capital expenditure (see Table 20). Overall, the changes in expenditure have not impacted on service standards as can be seen in Chapter 4. At a high level, the overall and annual variances have been driven by:

- The introduction of new governance arrangements, including a restructure of teams to align the responsibility for both planning and delivery of capital works, and the introduction of a Project Approval Committee to review and approve all proposed expenditure;
- These new arrangements have led to delays in expenditure and reprioritisation of projects and programs of work, particularly in relation to irrigation and drainage and bulk water services, with the actual delivery of the planned works now occurring towards the end of the current regulatory period. Works were reprioritised using the new Asset Criticality Assessment Tool which better reflects the actual physical condition of the assets and a more risk based approach to asset management;
- In 2013/14 resources were diverted from delivery of irrigation capital projects to the Connections Project to assist in meeting essential milestones, moving planned expenditure from 2013/14 to 2014/15, and;
- In 2014/15 irrigation capital projects were delivered to scope but for reduced unit rates.

Table 20 – Capital expenditure in the current regulatory period ($M)

	2013/14	2014/15	2015/16	Total
Approved	23.7	36.1	28.5	88.3
Actuals / forecast	10.8	22.5	43.7	77.0
Variance	- 12.9	- 13.6	15.2	-11.3

Significant expenditure is forecast in 2015/16 and has mostly been approved under the new governance and capital planning process. GMW has delivered capital programs of this size in the past, including externally funded expenditure, and is satisfied sufficient delivery capacity exists to deliver this program of works.

6.2.1 Capital Expenditure in the Current Regulatory Period – By Service

In the current regulatory period, capital expenditure primarily relates to retail and bulk water services. The capital expenditure for retail services includes works to maintain asset reliability and levels of services within the gravity and pumped irrigation and drainage areas, surface diversions and groundwater. The bulk water capital expenditure includes works to maintain levels of service, asset reliability to ensure harvesting of flows within major storages and to comply with obligations such as the ongoing commitment to dam safety upgrades.

A breakdown of the variances across each of the services is provided below in Table 21 to Table 23.

Irrigation, which includes gravity and pumped districts as well as the water districts, and drainage services are closely linked. Overall, actual expenditure will reflect approved expenditure for current regulatory period. As outlined above, in 2013/14 the introduction of new governance and project approval arrangements caused some delays in irrigation and drainage service expenditure and in 2014/15 the scope of the program was delivered but with changes in the unit rates resulting in less expenditure than forecast.

A further important issue in relation to irrigation expenditure is the change to the program basis of expenditure, driven by asset risk and criticality. This has impacted the mix and scope of works undertaken, as outlined below, and as can be seen in Table 24:

- **Backbone remodelling –** This program was revised to reflect an increasing amount of inside bank remodelling, which is more expensive than the planned outer bank remodelling, and updated unit rates. The revision was done in consultation with operational staff and WSCs and given the criticality of works to access tracks, fencing and rock armouring works, budgets were reallocated from these other programs to address the most critical channel assets.
- **Replacement of crossing and culverts** – This program was also revised to include all structures. The Asset Criticality Assessment Tool was then applied to the larger program to determine the required spend across all structures, resulting in increased expenditure.
- **Access tracks and fencing –** This work is now undertaken in alignment with backbone remodelling works, reflecting the efficiencies in undertaking the works at the same time. As a result, less access track and fencing work was undertaken over the current regulatory period than originally planned, with the expenditure reprioritised towards backbone remodelling.
- **Rock armouring –** as with the access track and fencing program, the rock armouring program has been aligned with the backbone remodelling program to achieve operational efficiencies. As part of the reshaped program the quantity of rock armouring was reduced and restricted to sections of channels with sufficient profile to ensure cost effective placement of rock.

Table 21 – Irrigation and drainage capital expenditure ($M)

	2013/14	2014/15	2015/16	Total
Approved	13.1	19.2	19.6	51.9
Actuals / forecast	8.0	16.1	20.4	44.4
Variance	- 5.1	-3.1	0.8	-7.4

Overall, the surface water and groundwater diversions expenditure will be below that approved in the current regulatory period which was largely focused on upgrading a portion of the metering fleet to meet National Metering Standards introduced by the Federal Government. Significant funds were also set aside to address metering sites not safe for staff to access to read and maintain the meter. Expenditure in 2013/14 was lower than planned as delivery of the metering program was delayed pending the resolution of the interpretation of obligations and requirements under the National Metering Framework and Victorian implementation plan. The delay in expenditure has not impacted the level of service provided to diversion customers.

Expenditure has occurred at metering sites with occupational health and safety risks. The sites have been reconfigured to meet safety objectives while also being upgraded. Other sites have been prioritised on volume of use with those using more water ranking higher. Some of the first year underspend will be directed from meter upgrades to address issues at the small number of structures associated with the surface diversion service. This is the reason for the projected step up in expenditure in 2015/16.

Groundwater diversion expenditure will be significantly underspent during the current regulatory period after a review of Shepparton Shallow Groundwater found it would not need to be metered. This was approved by the State Government in 2014.

Table 22 – Diversion services capital expenditure ($M)

	2013/14	2014/15	2015/16	Total
Approved	1.6	2.2	2.1	5.9
Actuals / forecast	0.3	1.5	2.1	3.8
Variance	- 1.3	- 0.7	0.0	- 2.1

The bulk water expenditure will be substantially below approved expenditure for the current regulatory period. While there were some delayed contracts and start times of projects, such as the Goulburn Weir Anchor Testing, this is mainly due to the delayed start of the Tullaroop Dam Safety Upgrade project and the cancellation of Mildura Merbein Salt Interception Scheme (see Table 24):

- **Tullaroop Dam Safety Upgrade –** more detailed investigations were required than originally envisaged resulting in a delay in the implementation of the project. However, it has provided a more robust options study and detailed design processes to address the dam safety risk issues. The project is expected to be mostly complete within the current regulatory period (forecast cost of $6.2M) with some carryover into the first year of the Price Review 2016 period. The estimated total cost of the works is now $10.2M and the increased expenditure of $2M is directly related to an increase in the scope of the main embankment works.
- **Mildura / Merbein Salinity Interception scheme –** the MDBA partnered with GMW to deliver Stage 1 of this scheme, which was completed in the current regulatory period. Implementation of Stage 2 was also expected to occur during the current regulatory period with joint funding, however, the MDBA funding was removed and it was agreed that Stage 2 would not proceed. As a result GMW's contribution of $5.2M did not occur.

Table 23 – Bulk water capital expenditure ($M)

	2013/14	2014/15	2015/16	Total
Approved	9.0	14.7	6.8	30.5
Actuals / forecast	2.6	4.9	13.6	21.1
Variance	- 6.4	- 9.8	6.8	- 9.4

Table 24 details the significant capital projects and programs in the current regulatory period which are discussed above in terms of their variances against approved expenditure. While there have been some under and over expenditure for specific projects and programs, and reprioritisation of expenditure, overall expenditure is less than approved.

Table 24 – Significant Projects and Programs ($M)

Project or program	Current regulatory period approved expenditure - total	Current regulatory period actual expenditure - total	Variance
Tullaroop Dam Safety Upgrade	8.8	6.2	-2.6
Mildura Merbein Salinity Interception Scheme	5.2	0.4	-4.8
Irrigation – backbone remodelling	5.0	12.2	7.2
Irrigation – road culvert and crossing replacement	6.7	8.9	2.2
Irrigation – access tracks and fencing	13.9	2.7	-11.2
Irrigation – rock armouring	2.6	4.1	1.5
Storage management program	3.2	3.2	0
Total	**45.4**	**37.8**	**-7.6**

6.3 Capital Expenditure in the Price Review 2016

Maintaining a stable price path for customers, meeting agreed levels of service and mitigating the major risks of asset failures have been the key drivers in developing capital expenditure in this submission. In an overall top-down sense, a multi-criteria assessment has been applied to ensure appropriate distribution of expenditure is justified across the business. From a bottom-up perspective, the expenditure associated with each service has also been reviewed and prioritised to ensure it is justified in terms of timing and cost. Further detail is provided in section 6.3.3.

The proposed capital expenditure of $126.7M is modest relative to the size of the organisation and asset base. It is slightly higher than the scale of actual capital expenditure in the current regulatory period. This reflects issues driving lower expenditures in the current regulatory period as well as the carryover of the Tullaroop project into the Price Review 2016 period and an increase in budget provision for asset replacements in Nyah and Tresco (discussed below).

6.3.1 Forecast Expenditure – By Service

The proposed expenditure in the Price Review 2016 period by service is detailed in Table 25. Proposed expenditure is higher in 2016/17 than subsequent years because of several key irrigation and drainage and bulk water projects. These reflect a combination of projects which carryover between the regulatory periods and address high risk assets, for example key high risk structures in the winter works period.

Table 25 – Capital expenditure in the Price Review 2016 period by service ($M)

	2016/17	2017/18	2018/19	2019/20	Total
Irrigation and drainage services	25.5	22.1	20.5	17.2	85.3
Diversion services	1.4	1.0	1.0	0.9	4.3
Bulk water services	14.6	7.3	8.7	6.5	37.1
Total	**41.5**	**30.4**	**30.3**	**24.6**	**126.8**

Irrigation (gravity, pumped and water districts) and drainage expenditure

Proposed irrigation expenditure in the Price Review 2016 period is $85.3M, of which $78.1M relates to gravity irrigation services with drainage, pumped irrigation and Water Districts making up the remainder. This expenditure will enable GMW to supply serviced properties with consistent flow rates and orders at the time requested, with minimum interruptions to service that result from asset failures.

The majority of irrigation and drainage capital expenditure is made up of four programs which replace or rehabilitate channel and drainage network assets at the end of their useful life. These programs were reviewed and revised in the current regulatory period to better reflect like works and improve efficiencies in managing and delivering the works (as outlined above). They comprise of:

- The **Linear Works Program** associated with channels and drains, such as channel remodelling, rock armouring, access tracks and fencing;
- The **Structural Works Program** which includes renewing road culverts/bridges, occupational crossings, subways, syphons;
- The **Electrical and Mechanical Works Program** such as pump stations, and;
- Other works such as meter replacements, facility upgrades, spray equipment.

Each of these programs of work is based on the unit rates and predicted quantities of each treatment type. The unit rates reflect the most recent actual rates (based on works undertaken in 2013/14 and 2014/15) and are therefore viewed as a good predictor of cost. The predicted quantities are based on asset condition and risk as informed by the Asset Management Information System.

The **Linear Works Program** comprises:

- **Channel Remodelling works –** these involve physical remodelling of the channel banks to ensure channels can provide customers consistent supply levels without flooding onto

adjacent property. They also provide a significant benefit to channel bank lives. Modernisation via the externally funded Connections Project is mainly focussed on installing new regulators and outlets on the backbone channels, not remodelling the channels themselves. We have developed a prioritised program of remodelling works using data from the Asset Management Information System based on the location, capacity, condition and risk associated with the assets.

- **Access and Fencing works –** following modernisation of the backbone, access to the automated regulator sites will be a high priority to enable proactive maintenance of the regulators and quick response times for reactive maintenance. This will enable continuity of service and the benefits of modernisation to be realised. Access will also allow for spraying of weeds in channels to maintain their effective working order and again ensure that the enhanced service levels from modernisation are realised. Stock damage is the greatest contributor to deterioration of channels and fencing will extend the lives of channels. When completing other channel works (i.e. prioritised remodelling works), access and fencing will be carried out so as to achieve efficiencies.

- The **Structural Works Program** provides capital expenditure to replace and refurbish structures, such as road crossings, channel syphons and drainage subways. The expenditure reflects standard unit rates for a program of expected works but the specific assets to be replaced under this program will be selected using data from the Asset Management Information System, based on location, capacity, condition and risk. A focus of all renewals is that the asset solution adopted provides the lowest whole of life cost outcome whilst meeting service and safety obligations.

The irrigation and drainage expenditure is therefore made up of a large number of standard activities at multiple locations rather than a few large items and will ensure the continued delivery of service to customers. During the Price Review 2016 period the actual works to be undertaken will be established using a criticality assessment aligned with the corporate risk framework and refined/enhanced through consultation and input from local operators and customer representatives.

The Cohuna Weir Fishway is the only major project in the irrigation and drainage expenditure in the Price Review 2016 period. In 2005, we reconstructed the old Cohuna Weir but no fishway was constructed. We agreed at the time with the North Central Catchment Management Authority, and the relevant government departments, that the statutory provision of fish passage could be deferred until a later date. This was in part due to the legislation changing at the time of design completion and in part due to the lack of fish studies to inform the design of a fishway. These studies have now been completed and there is now a requirement from both the Catchment Management Authority and local community to construct a fishway.

The $2 billion cost of the Connections Project will continue to be funded from external sources, with up to $900M projected to be spent on this project during the Price Review 2016 period. This capital expenditure does not form part of this submission. In addition, the proposed irrigation expenditure does not allow for works beyond the backbone on the assumption these channels will be removed by the Connections Project or upgraded if the backbone is extended. Further, it has been assumed there will be no need to replace any of the new backbone assets in the next regulatory period. These assumptions may need to be updated following the Mid Term Review. As demonstrated above, capital works and maintenance programs have been integrated / reviewed with the Connections Project to minimise risks of duplication or conflict.

Minimal capital expenditure is proposed for the Woorinen pumped irrigation district and the three water districts as these are relatively newly constructed schemes. However, there has been an allowance made of $1.2M for critical works in the Nyah pumped irrigation district and $0.8M in the Tresco pumped irrigation district. This system has several components that are reaching the end of their useful lives and pose a significant risk to service delivery if not addressed. This expenditure will address the most critical of these works that will need to be completed by the end of the next regulatory period. Further to this, the optimal asset

management strategy and works packages for the district will need to be established in consultation with customers. This will occur over the Price Review 2016 period.

Diversion expenditure

Diversions expenditure of $4.3M is proposed in the Price Review 2016 period, primarily for the installation of meters. This expenditure will be used to finalise the state-wide metering program (in support of the State Metering Policy), following finalisation of the interpretation of requirements during the current period.

Bulk water expenditure

Bulk water expenditure of $37.1M is proposed in the Price Review 2016 period which includes three significant dam safety projects as well as business as usual activities comprising small-medium scale on-going renewals. This will ensure GMW's ability to harvest and store water in provision of bulk water service targets.

The three significant projects are:

- **Tullaroop Dam Safety Upgrade –** as noted above, this expenditure started in the current regulatory period and will be completed in the next regulatory period. Taking into account the increased costs, expenditure in this submission is forecast to be $4M in 2016/17.
- **Buffalo Dam Safety Upgrade –** this involves works to provide an 'As Low as Reasonable Practicable' dam safety risk by increasing the spillway capacity. The total estimated cost of the project is $14.8M during the next two regulatory periods. It is recognised that works of this type and size will require extensive options assessment, concept and detailed design phases and therefore this work has been spread over three years in Price Review 2016 Plan period with an expenditure of $1.5M and the following regulatory period with an expenditure of $13.3M. These works form part of the longer term Dam Improvement Programme and are scheduled based on the current priorities.
- **Buffalo Spillway Gates and Hoists –** this project is to be undertaken during the current regulatory period and the first year of the Price Review 2016 period and involves replacing the existing hoist systems on the spillway flood gates along with refurbishment of the flood gates themselves. The total cost of the work is estimated at $2.9M.

These projects have associated business cases through which the expenditure estimates have been developed. The small-medium scale on-going renewal projects are informed by recent comparable projects which provide the most reasonable estimate of expenditure.

Corporate capital expenditure

During the Price Review 2016 period capital expenditure of $15.5M has been proposed for ICT assets. This will ensure the organisation's increasing reliance on automation is supported by reliable systems and will drive improvements in data management and systems to facilitate more efficient service delivery.

The major capital ICT programs for the next regulatory period are:

- Data Centre infrastructure ($1.8M) – this covers the provision and ongoing renewal of GMW's Data Centre as well as disaster recovery;
- Network infrastructure ($1.9M) – this cover maintenance and renewal of the network infrastructure supporting the connectivity within and between corporate sites;
- Client Computing and Virtual Desktop Infrastructure ($1.7M) – this includes the renewal of client computing assets and expansion of Virtual Desktop Infrastructure to extend the asset life of desktop assets;
- A series of capital programs have been developed to support the renewal of critical business systems:
- Financial Systems Renewal Programme ($0.6M)
- Assets Application Renewal Programme ($0.775M)
- Water Management Systems Renewal Programme ($1.3M)
- Customer Relationship Management Systems Renewal Programme ($1.3M)
- Human Resources Systems Renewal Programme ($1M)
- Other capital programmes supporting the renewal of essential business applications covering compliance and reporting functions, including:

- Spatial Application Renewal Program ($0.9M)
- Corporate Records Systems Renewal Program ($0.75M)
- Reporting Systems Renewal Programme ($0.15M)
- An additional programme titled “Big Data” ($0.65M) has been created to support the collection and analysis of multiple data sets and structures to provide valuable new business insights which will lead to better informed business decisions, and;
- Other expenditure relating to unified communications (including telephony) and the maintenance, rationalisation and renewal of various business systems.

6.3.2 Forecast Expenditure – Major Projects and Programs

The capital expenditure program in the Price Review 2016 period comprises a large number of small-scale projects, rather than a smaller number of large projects. As outlined above, and in Table 26, there are four major projects during the next regulatory period with total expenditure of $9.4M (noting total expenditure over the life of the projects is $30.3M). Each of these major projects is supported by a business case which considers the project drivers, options, expenditures (capital and operating) and delivery approaches. These business cases are subject to the relevant capital governance processes (see section 6.5).

In providing irrigation and drainage services, there are also several large composite programs of expenditure detailed above and outlined in Table 26.

Table 26 – Major projects and programs in the Price Review 2016 ($M)

	Total over Project life	2016/17	2017/18	2018/19	2019/20	Driver
Major Projects						
Tullaroop Dam Safety Upgrade - construction of buttress across embankment and additional instrumentation	10.2	4.0	-	-	-	Compliance
Buffalo Spillway Hoists and Gate Refurbishment	2.9	1.5	-	-	-	Renewals
Buffalo Dam Safety Upgrade - increase spillway capacity	14.8	-	0.2	0.5	0.8	Compliance
Cohuna Weir Fishway - construction of new vertical slot fishway	2.5	0.0	1.1	1.1	-	Compliance
Major Programs						
Channel remodelling - renewal of backbone channels	18.2	5.6	4.0	4.4	4.2	Renewals
Access tracks and fencing - construct access tracks and fencing	12.6	3.3	3.2	3.3	2.9	Improved service
Structures - replacement and refurbishment of crossings and syphons on backbone	29.9	9.2	7.9	6.5	6.4	

6.3.3 Forecast Expenditure – By Driver

Capital expenditure by cost driver is shown in Table 27 and Table 28.

During the Price Review 2016 period, renewal expenditure to maintain the services delivered by existing assets is the most significant driver of capital expenditure across the business. This is consistent with the current regulatory period.

Compliance expenditure to meet obligations imposed on the business, e.g. dam safety and other requirements under the statement forms a smaller component of expenditure during the next regulatory period. This is almost matched by the improved service expenditure, which reflects the benefits noted above from the more efficient delivery of the access track and fencing program. It is noted that these works have been classified as an improvement to service but were captured as renewals during the current regulatory period.

Consistent with historical expenditure, growth is funded externally (e.g. extension of the surface drainage network) and there are no such expenditure in this submission.

Table 27 – Capital expenditure in the current regulatory period by driver ($M)

	2013/14	2014/15	2015/16	Total
Renewals	8.1	17.3	31.5	56.9
Compliance	1.0	3.1	8.2	12.3
Improved service	1.7	2.1	4.0	7.8
Growth	-	-	-	-
Total	**10.8**	**22.5**	**43.7**	**77.0**

Table 28 – Capital expenditure in the Price Review 2016 period by driver ($M)

	2016/17	2017/18	2018/19	2019/20	Total
Renewals	31.3	22.8	22.6	17.9	94.6
Compliance	6.5	4.0	4.0	3.6	18.1
Improved service	3.7	3.6	3.6	3.1	14.0
Growth	-	-	-	-	-
Total	**41.5**	**30.4**	**30.2**	**24.6**	**126.7**

6.3.4 Feedback from Water Services Committee

The proposed capital expenditures were the subject of consultation at a day long forum with the chairs and members of all WSCs in relation to the draft of this submission. Feedback from the workshop included:

- The majority of members endorsed the risk based methodology for establishment for the retail capital program and the process for identifying the highest risk assets due for replacement within each of the irrigation districts;
- Some customers did not have a strong preference in relation to the methodologies used for geographic distribution of works (such as based on water use, delivery shares or total asset value within an irrigation area). Whereas others were concerned that there are inequities between irrigation districts in terms of total spend compared to the asset base;
- They want clear alignment of the works program between the Connections Project and retail water delivery services to ensure prudent and efficient capital spend, and;
- The single tariff (GMID delivery charge) issue is a major concern.

6.4 Prioritisation of Expenditure

In an overall top-down sense, a multi-criteria assessment has been applied to ensure an appropriate prioritisation of expenditure is justified across the business. From a bottom-up perspective, the expenditure associated with each service has also had its own prioritisation approach applied to ensure they are prudent and efficient.

From a bottom-up perspective, the prioritised irrigation and drainage and diversion expenditure developed for the 2013 Water Plan has been reviewed and the existing priorities assessed against current asset criticality ratings and operational requirements. In developing the 2013 Water Plan an expenditure program was forecast across the next regulatory period, reflecting the organisation's commitment to delivering a period of stable and predictable

pricing for customers. As a result, the proposed capital expenditure in this submission is consistent at a total level with the commitment in the Blueprint to provide customers with some certainty about future plans for the business and to inform future decisions they may be making. However, there has been some movement of proposed expenditures within and between services. This reflects changed priorities, asset criticalities and better information e.g. greater focus on channel remodelling over standalone access track and fencing works, or reallocation of budget from assets that are likely to be decommissioned as a result of modernisation and the Connections Project.

The proposed expenditure is supported by a list of asset based works to reflect current condition and risk assessment. It is likely there will be some variation in the specific assets and scope of works. This is necessary to allow for real change in asset condition outside of that predicted by the current asset data. Under current project approval processes the proposed budgets are considered to be available provided a robust business case is approved.

The bottom-up bulk water expenditure has been developed using the following approaches for the dam safety and renewals aspects of the planned works:

- The Dam Safety Upgrade Program reflects the Dams Portfolio Risk Assessment process undertaken in 2007 which provided a prioritised sequence of dam safety works to achieve a defined risk outcome. An update of the portfolio risk assessment will be completed early in the next regulatory period which could change future priority of dam safety upgrade projects.
- The renewals expenditure was developed by reviewing the prioritised projects for Price Review 2016 period as established when the 2013 Water Plan was developed. The outcomes from annual and comprehensive dam safety inspections were also assessed for emerging issues to be addressed during the next regulatory period. It is intended to undertake re-assessment of the dams program at the start of the Price Review 2016 period using the recently developed decision and priority system for dam infrastructure.

The ICT capital expenditure in this submission was developed around a series of programs aligned to the recently developed ICT Future State Strategy which will ensure all infrastructure and systems are secure, fit for purpose and rationalised where possible without being “gold plated” resulting in an efficient use of the capital budget.

The bottom-up proposed capital expenditure was assessed using a top-down multi-criteria assessment tool that took into account the following criteria:

- Compliance – Projects that have compliance as a driver are highly weighted;
- Risk – Projects that address a higher corporate risk are scored higher;
- Strategic Alignment – Projects that align with the Fundamental Commitments are scored higher;
- Investment – Projects that give a quicker return on investment or have a low whole of life cost are scored higher, and;
- Maturity – Projects that are well understood, developed and ready to implement are scored higher than those that are more conceptual.

From the multi-criteria assessment a full list of prioritised projects and programs across the business has been developed for this submission.

6.5 Project Governance Framework

A new project governance structure, supported by improved capital planning and project management processes was introduced during the Business Transformation Program.

This new project governance framework ensures a consistent approach to project delivery (e.g. design, cost estimation, scheduling, and business case development to demonstrate value for money, change management, risk management, project management reporting and forecasting) and assigns responsibility for the various life cycle functions on a best-for-project basis.

Key aspects of the framework were the establishment of the enterprise Program Management Office (PMO) and the Project Approval Committee (PAC) to provide appropriate governance, oversight and direction in relation to the management of project and program portfolio expenditure. The PAC has oversight of all of projects to ensure they are properly prioritised, planned, managed and evaluated to ensure delivery of agreed business benefits and outcomes. The PMO sets the standards and governance for project management in GMW. It oversees project approvals and provides support functions including project review, validation, evaluation and documentation. The PMO also supports the enterprise project management system, manages the project management community of practice and administers the PAC.

As a result, the project approval process now provides an additional layer of governance over the capital spend to ensure all proposed capital works are prudent and efficient for the business and customer.

An extensive review of asset management has also been completed with results benchmarked against global industry standards. Significant work has been initiated to move towards industry best practice to ensure a mature asset management system.

The mix of works actually delivered through the current regulatory period was impacted by changes to the organisational structure and a review of asset management. The reorganisation of team structures has put a greater planning focus of the lifecycle of the assets. This ensured a consistent approach to the assessment of the risks associated with asset failures and the generation of works such as the remodelling, access and fencing programs which can be delivered in a prudent and efficient manner.

An asset management improvement program has been established with various initiatives being pursued to further improve asset management practices. Some of these initiatives are longer term and rely on extensive engagement across the organisation, such as the development of specific asset management plans for all asset classes. These plans will produce detailed evidence based expenditure requirements and, when coupled with modelling tools allowing efficient scenario testing of intervention strategies and techniques, will inform best 'whole of life' investment decisions and expenditure profiles. The results from this work may alter the scope of works to be delivered to provide the best value spend of capital to meet service obligations.

6.6 Capital Delivery Mechanism

Rigorous arrangements have been adopted to ensure capital works programs are delivered to drive the best outcomes in terms of price, quality and timeliness.

We adopt a mix of internal resources, design consultants and external contractors to deliver the capital works programs. Project scoping, planning, limited engineering design and project management of design and construction phases have generally been undertaken by internal resources, with individuals working across the full cycle of capital projects and maintenance programs. This ensures development and retention of critical intellectual capital in-house to manage the network infrastructure.

Specialist consultants are generally engaged to complete engineering concept and detailed design work for defined projects. This is mainly through a consultancy panel agreement ensuring competition is maintained in procurement while facilitating a streamlined process for awarding specific packages of work. Contracts include appropriate risk sharing arrangements.

An internal construction workforce of about 35 staff is maintained. This workforce is generally engaged on irrigation infrastructure works but is also capable of responding quickly to changes in priorities, including emergency response activities. Additional construction contractors are engaged on an as-needs basis to complete works of a specialist nature or when workloads exceed the internal resource capacity. External contractors are engaged through competitive market practices for specific packages of work.

It is recognised that there is a substantial increase in delivery capacity required in 2015/16 and 2016/17. With this in mind, the mix of internal and external resources has been planned

to allow these peaks to be delivered without effecting business as usual activities. Further, the peaks in 2015/16 and 2016/17 are dominated by a number of larger key projects which will mostly be delivered by external contractors.

6.7 Capital Program for Price Review 2020 Period

A broadly consistent capital expenditure program is at this stage forecast through until the end of the Price Review 2020 period in 2023/24 (see Table 29). This approach is based on maintaining business as usual across the asset base and the rolling forward the revised dam safety program.

Table 29 – Capital expenditure in the Price Review 2020 period by service ($M)

	2020/21	2021/22	2022/23	2023/24	Total
Irrigation and drainage services	22.4	21.3	19.7	17.4	80.8
Diversion services	1.6	1.5	1.5	1.6	6.2
Bulk water services	14.2	13.4	9.7	12.9	20.2
Total	**38.2**	**36.2**	**30.9**	**31.9**	**137.2**

While at this stage relatively constant capital expenditure is forecast for the Price Review 2020 period, GMW is currently undertaking a detailed exercise to examine the future replacement costs of irrigation assets. Many irrigation assets will start to reach the end of their useful lives around 2035 and require renewal, with a further cluster of assets requiring renewal around 15 years later. With this in mind, we are examining the benefit of investing in assets ahead of their predicted failure to extend their asset life. Therefore, while relatively constant business as usual expenditure is forecast, this may not adequately provide for the works required to reduce the peaks and timing of future irrigation asset renewals.

7 Benchmarking

This Chapter sets out how GMW compares to other rural water service providers in Victoria and other states. It highlights that relatively the organisation compares well in revenues, costs and average bills.

7.1 Overview

A benchmarking exercise to understand how revenues, costs and average bills compare to other rural water service providers has been undertaken, however care must be taken because of differences between businesses, which mean they are not always comparable. For this reason various measures were analysed to provide an overall comparison.

At a high level the measures used to examine relative revenues, costs and average bills demonstrate the business is at the lower end of most ranges, including the gravity and pressurised irrigation services.

7.2 Comparative Businesses

The major rural water providers in Australia used in this benchmarking exercise are shown in Table 30. These entities provide different mixes of services to customers. For example, GMW provides the full suite of services whereas other entities provide only one or two of these services. In southern NSW, the full range of services GMW delivers is undertaken by five separate organisations, as Water NSW manages the headworks, Murray, Murrumbidgee and Coleambally irrigation run the irrigation delivery businesses, and the NSW Office of Water licences diverters.

Because of this, any benchmarking exercise needs to be mindful of the differences before drawing conclusions at the 'whole of entity' level. However, as the data used is disaggregated on a service basis it enables comparisons between providers to be drawn. For example, in the revenue and operating cost charts it is possible to delineate between the irrigation services of 'pressurised service' and 'gravity service'.

Table 30 - Coverage of services by rural water providers

Provider	State	Volume delivered (GL)	Customer accounts	Regulated River Supply Service	Network Supply Service - Gravity	Network Supply Service - Pressure	Drainage Service	Surface Water Diversion Service	Groundwater Diversion Service
Coleambally	NSW	499	533		✓		✓		
Central Irrigation Trust	SA	121	3,676			✓			
Goulburn Murray Water	VIC	2,434	15,304	✓	✓	✓	✓	✓	✓
GWM Water	VIC	32			✓	✓		✓	✓
Harvey Water	WA	42	1040		✓				
Lower Murray Water	VIC	426	4,673		✓	✓	✓	✓	
Murray Irrigation	NSW	1,264	1,580		✓		✓		
Murrumbidgee Irrigation	NSW	931	3,247		✓				
Ord Irrigation	WA	101	111		✓				
Southern Rural Water	VIC	187	1,455	✓	✓		✓	✓	✓
State Water	NSW	6,504		✓					
SunWater	QLD	1,627*	5,018*	✓	✓				

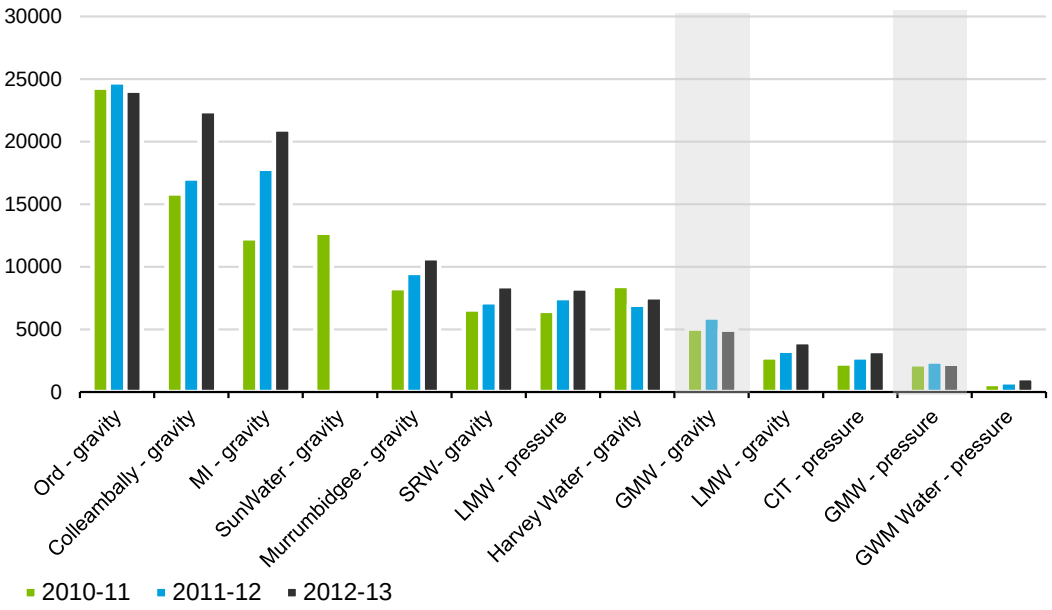
Source: Rural National Performance Report 2012-13, *Annual reports 2013-14

7.3 Revenue

This analysis compares revenue in terms of $ per customer and $ per ML water delivered. While revenue is collected from customers through annual charges, it provides a sound indication of overall relative efficiency of networks as it takes into account the recovery of annual operating costs and 'smoothed' capital works from past investment. It does not, however, show the annual variations of operating costs or capital works and it also fluctuates according to water delivered, depending on the proportion of the bill that comes from consumptive charges.

Figure 5 displays revenue per customer for 2010-11 to 2012-13 for irrigation networks and shows GMW networks are among the lowest revenue per customer. The Ord and Coleambally networks have the largest revenue per customer as they service the smallest number of customers. Coleambally and Murray Irrigation have increased revenue per customer substantially in the last three years, as a result of the supply of greater volumes and therefore greater amount of revenue collected from usage charges.

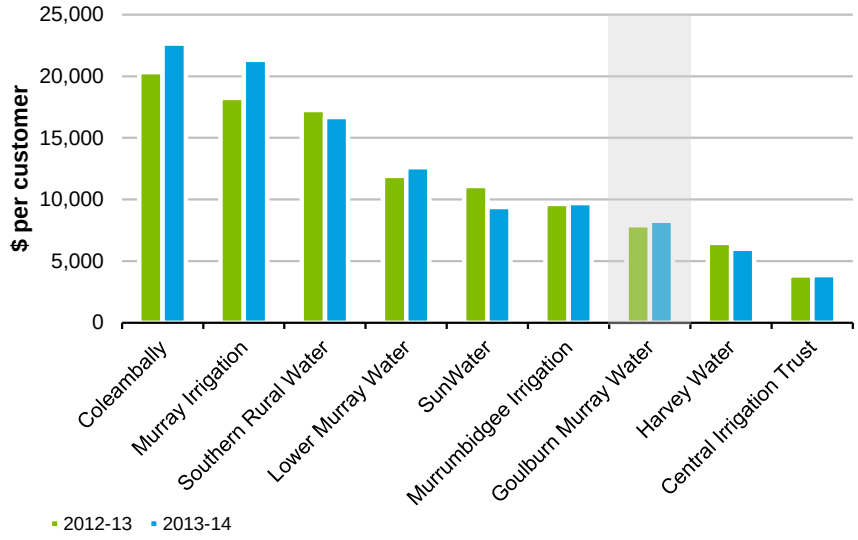
Figure 5 - Revenue from irrigation networks ($ per customer)



Source: Rural National Performance Report 2012-13

Figure 6 displays revenue per customer (years 2012-13 to 2013-14) for all rural services provided and shows GMW has the third lowest revenue per customer.

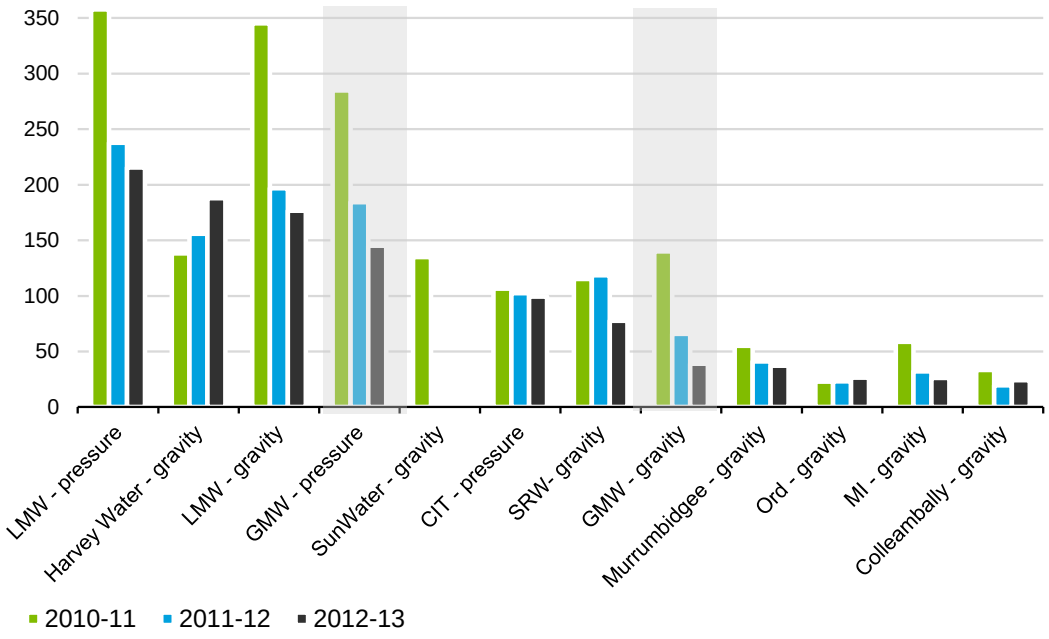
Figure 6 - Total revenue from service provision ($ per customer)



Source: Compiled from Annual Reports 2013-14

Figure 7 displays revenue per ML of water delivered to customers. It shows that GMW's gravity networks is just below the median and the pressure networks are just above the median of all benchmark networks. Revenue per ML has declined significantly for the majority of networks during the three years due to an increase in water delivered. This metric also shows a distinction between businesses such as Coleambally, Murray Irrigation and Ord irrigation which rely on annual broad acre crops and therefore provide a high volume to a smaller number of larger customers, and businesses such as Murrumbidgee and Lower Murray which supply smaller volumes to higher value activities. Across GMW's irrigation districts there is a mix of broad acre and higher value crops.

Figure 7 - Revenue from irrigation networks ($ per ML)



Source: Rural National Performance Report 2012-13

7.4 Operating Expenditure

In this analysis the costs of operating irrigation networks per customer are examined. Operating expenditure is incurred in operating the network (e.g. energy and labour costs), maintaining the network (e.g. de-silting works) and administration (e.g. overheads). It provides a reasonable measure of annual ongoing costs however it does not take into account larger capital works (e.g. replacement or renewal of assets). Operating expenditure provides a better indication of annual operating efficiency (not overall efficiency) than revenue as it measures the actual costs incurred.

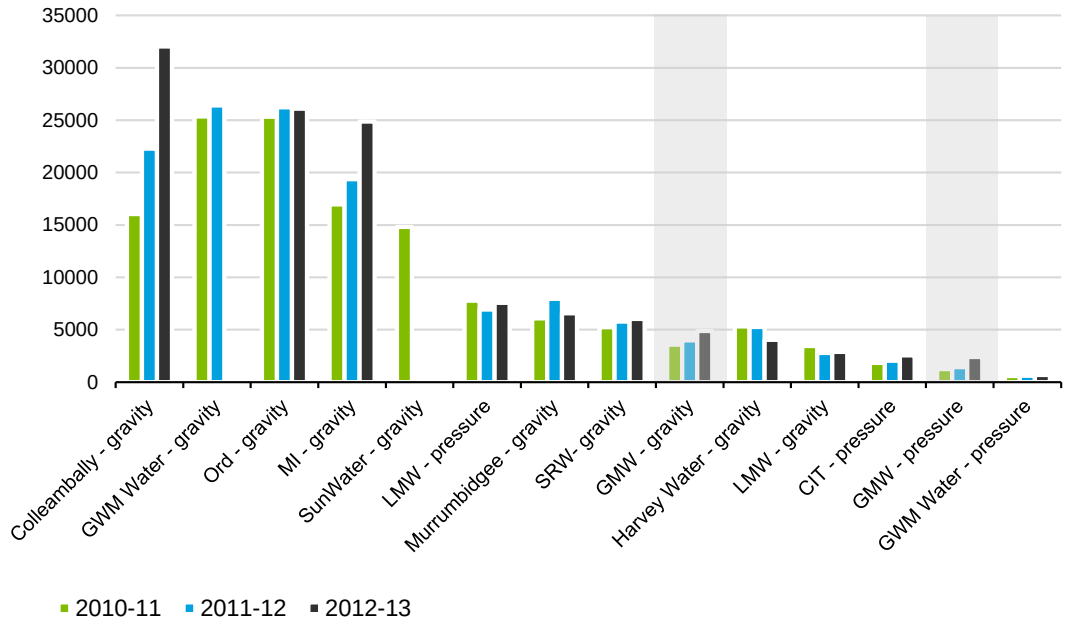
There are many drivers of operating costs for rural water providers with no single indicator that accurately captures total operating cost efficiency. In this exercise operating costs in terms of the number of customers, by the number of service points have been considered by the length of asset managed and by the volume of water delivered. Each measure drives a proportion of costs (e.g. the number of customers drives call centre and billing costs or volume drives energy costs for some systems) but not overall operating costs. Therefore each measure is imperfect in comparing efficiency between providers and even in comparing efficiency improvements over time for a single provider.

For example, a rural water provider may be experiencing customer consolidation in their network leading to fewer but larger customers, or the provider may be rationalising the length of assets/customer service points in order to improve efficiency. Both of these scenarios actually contribute to lowering operating costs; however the reduction in the denominator means that the metric per customer, per asset length or per customer device might show an increase.

Increasing costs can often mean increasing service standards. In GMW's case, the modernisation of infrastructure will mean improved delivery efficiency in turn enabling greater on-farm efficiency. This increase in service levels and the resulting on-farm efficiency - as well as the environmental benefits from reduced losses - are not captured in the cost metrics below. This illustrates how these indicators are partial and should be interpreted in conjunction with service levels and the underlying trends of rural water providers.

Figure 8 shows operating costs of irrigation networks per customer. Our expenditure is at the low end of our peers suggesting costs are relatively efficient and reflect recent efficiency and streamlining programs. As a large rural business our unit costs benefit from the impact of a large customer base and economies of scale compared to networks with fewer customers, such as Coleambally, Ord and Murray Irrigation networks. At the same time, our vast geographic area, compared to most networks, introduces significant additional costs due to greater length of pipes and channels and the need for travel and remote depots and work centres.

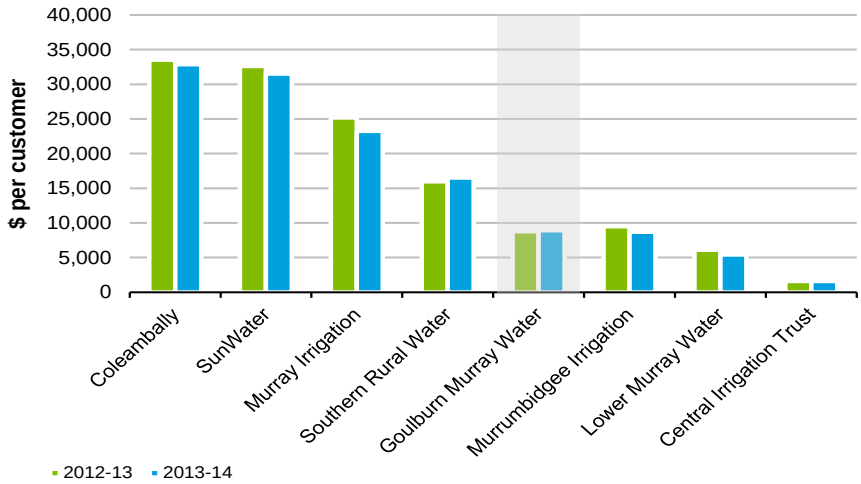
Figure 8 - Operating costs of irrigation networks ($ per customer)



Source: Rural National Performance Report 2012-13, CIT and Coleambally results estimated from annual reports.

Figure 9 displays total operating costs per customer for rural water provision across all rural services. Operating costs exclude depreciation, impairment, asset disposals and finance costs. The figure shows GMW is the fourth lowest overall operating costs per customer. Costs here represent the total of gravity, pressurised and other systems. Given the modernisation of the gravity networks, total operating costs have naturally increased over time. However, in the absence of modernisation, the cost of maintaining an ageing gravity system would also increase, and to a greater extent.

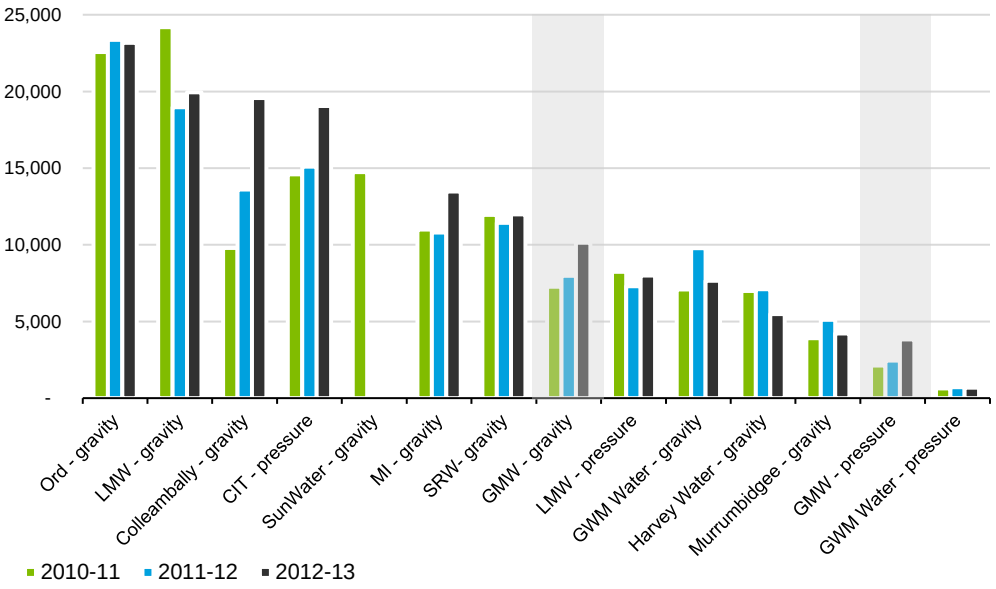
Figure 9 – Total operating costs from service provision ($ per customer)



Source: Compiled from Annual Reports 2013-14

Figure 10 shows operating costs of irrigation networks per km of asset managed, which is the total length of channels and natural waterway managed (for gravity networks) and the length of pipelines (for pressurised networks). GMW's gravity networks are just above the median and pressurised networks are the second lowest compared to the benchmark networks.

Figure 10 – Operating costs of irrigation networks ($ per length of asset managed)



Source: Rural National Performance Report 2012-13, CIT and Coleambally results estimated from annual reports

Figure 11 shows operating costs of irrigation networks per ML of water delivered. GMW's gravity networks are just below the median and pressurised networks are at the higher end of benchmarked networks.

Figure 11 – Operating costs of irrigation networks ($ per ML of water delivered)

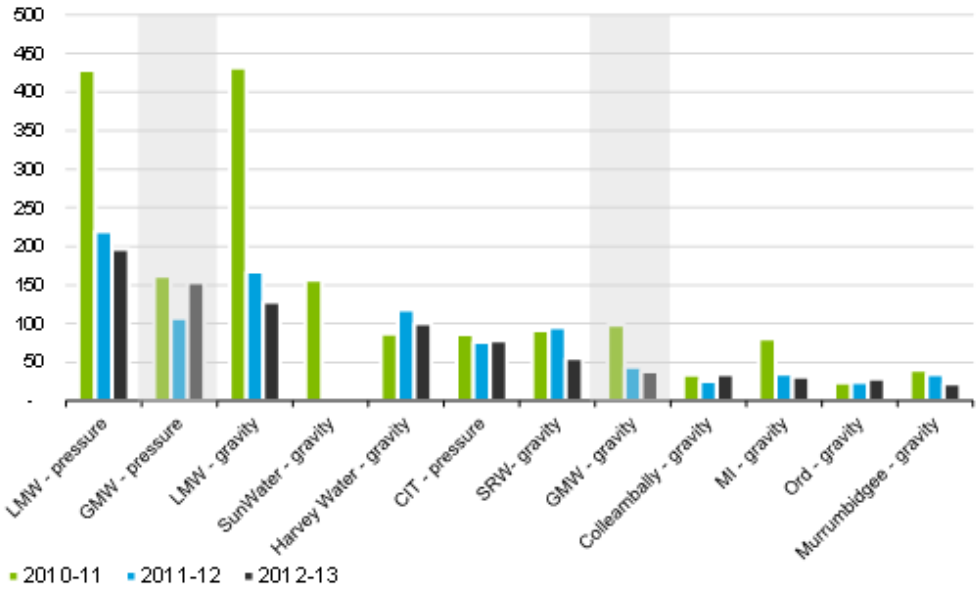
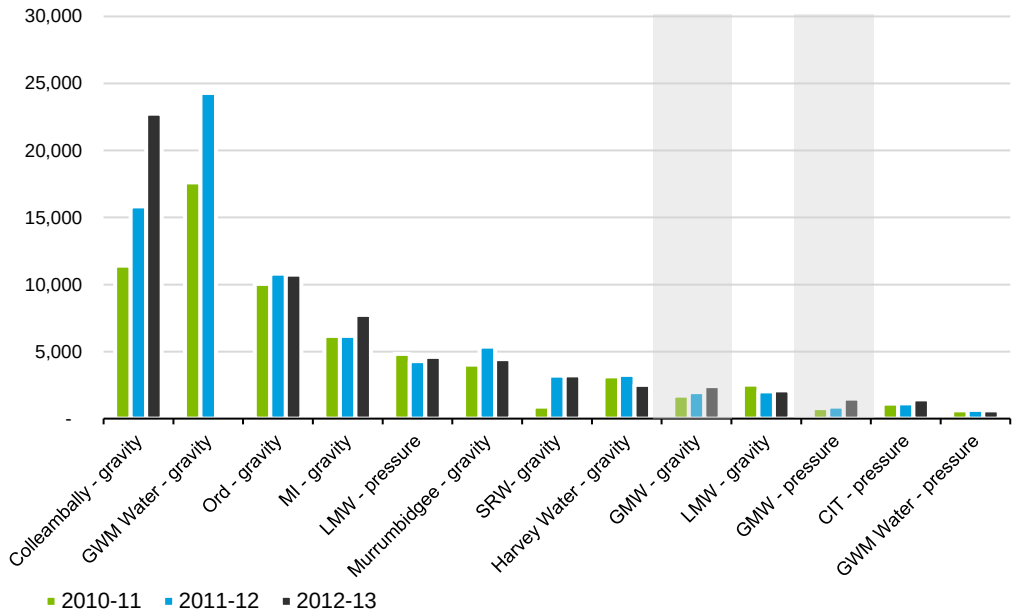


Figure 12 shows operating costs of irrigation networks per customer service measurement device or method (i.e. customer meters or equivalent). This metric is not as affected by the trend of farm business consolidation (as one customer can have several customer service points); however it may be affected by network rationalisation. GMW's gravity and pressurised networks are below the median. Both networks have faced an increase in costs with gravity networks are also affected by a decrease in customer service points.

Figure 12 – Operating costs of irrigation networks ($ per measurement device or method)



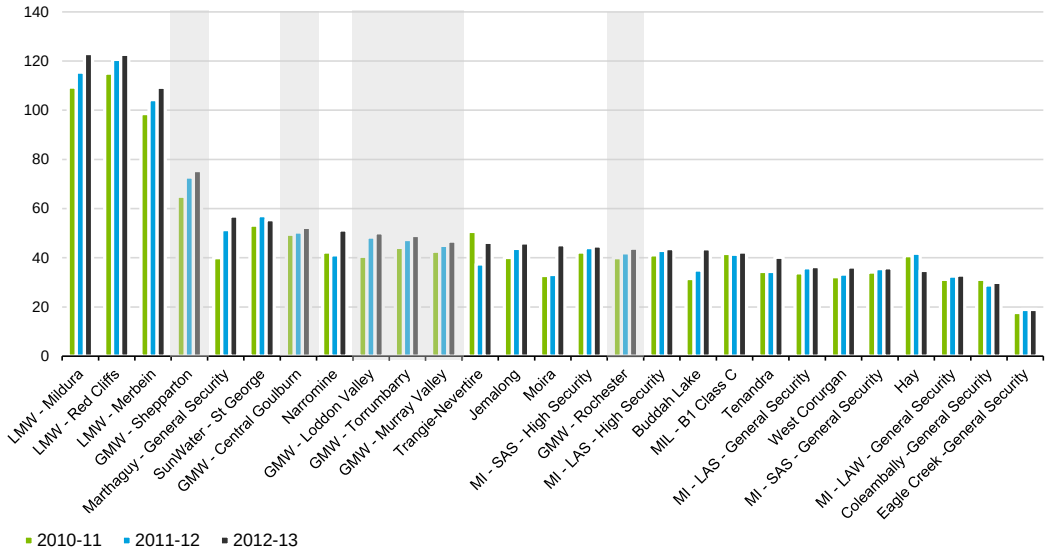
Source: Rural National Performance Report 2012-13, CIT and Coleambally results estimated from annual reports

7.5 Average Annual Bill

For the individual irrigator the main area of concern is the size of the water bill. This section reviews average charges paid at the farm-gate during a three year period. The data is collated from ACCC Water Monitoring reports from 2010-11 to 2012-13 and presents the bill that an average irrigator faces when using 250 ML in various locations. This takes into account all fees and charges, including any bulk water charges either charged directly or levied on the network from a separate headworks provider, and assumes the irrigator has received a 100 per cent allocation.

Figure 13 shows the hypothetical bill faced by irrigators in gravity-fed systems in different locations in the Murray Darling Basin. The chart shows 80 per cent of providers have average bills of between $30 and $60 per ML. Five out of the six of GMW's irrigation districts fall within this range, while the Shepparton district is higher than the range and the fourth highest overall. The three irrigation districts of Lower Murray Water are the highest of all districts. The districts of Murrumbidgee Irrigation (MIL) and Murray Irrigation (MI) all fall below the median. In general, GMW irrigators receive a high level of service as their entitlements have a higher reliability of supply than equivalents with general security entitlement in southern NSW.

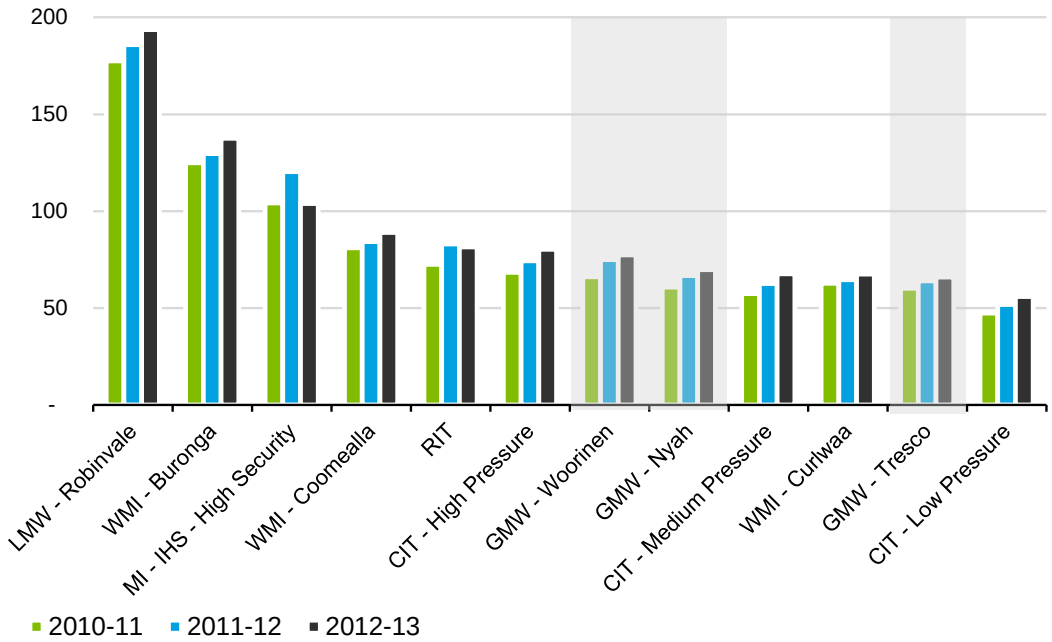
Figure 13 - $ per ML farm-gate charges for 250 ML usage in gravity districts



Source: ACCC Water Monitoring Reports 2010-11, 2011-12, 2012-13

Figure 14 shows the hypothetical bill faced by irrigators in pressurised systems in different locations in the Murray Darling Basin. The majority of bills fall between the range of $65 and $90 per ML. GMW's three pressurised districts are in the bottom half of this range.

Figure 14 – $ per ML farm-gate charges for 250 ML usage in pressurised districts



Source: ACCC Water Monitoring Reports 2010-11, 2011-12, 2012-13

8 Demand

This Chapter outlines the demands forecasts for the next regulatory period, as well as the methodology and the justification for the forecasts.

8.1 Overview

A significant proportion of GMW's costs are fixed and insensitive to variations in the actual delivery of water. As a result, the demand forecasts proposed in the following sections have only a small impact on the costs included in this submission. Revenues have also been structured to match costs with a small percentage of revenue being variable. This is illustrated in Table 31 which shows that 12 per cent of revenue was variable in 2013/14 and 13 per cent in 2014-15. This is important as it limits the impact on GMW of risks it cannot control, such as those associated with the volume of water delivered, which is subject to climate variability.

Table 31 – 2013-14 and 2014-15 revenue from GMW Annual Report (prescribed)

	2013-14		2014-15	
Charges	**Value ($M)**	**%**	**Value ($M)**	**%**
Fixed	109.5	88%	113.1	87%
Variable	15.1	12%	17.3	13%
Total	**124.5**	**100%**	**130.4**	**100%**

Prudent forecasting approaches have been used in developing the demands for this submission. Beginning with the data from the current regulatory period, GMW has projected demands for all services under the influence of known and planned tariff reforms, the Connections Project and external factors such as the Murray-Darling Basin Plan and climate change. Any changes from conditions in the current regulatory period were considered and their impacts documented.

The demand forecasts presented in this section are relatively independent of the planned capital and operating expenditure during the next regulatory period, as set out in this submission. The greatest influence on demand comes from the Connections Project, which is significantly changing delivery share and service point compositions across the GMID. Water entitlements held by irrigators, diverters and bulk entitlement holders are expected to remain constant across the next regulatory period. The exceptions are those being created for the three Melbourne retail water corporations, the Victorian Environmental Water Holder and the Commonwealth Environmental Water Office from the water savings achieved by the Connections Project. There is also expected to be some minor increase in some groundwater entitlements.

Delivery volumes in the GMID are forecast to decline in the next regulatory period, under the influence of drier conditions and decreasing availability of carried over allocation. GMW considered two climate scenarios each with three different possibilities in developing its proposed forecast and selected the median output as the most robust within the uncertainties created by weather, market forces and individual customer behaviour.

It was recognised the pumped irrigation, drainage and water district services will start tariff reviews in the lead up to the Price Review 2020 period. As a result, stable demand forecasts have been applied for these services, as the impacts of any future tariff changes cannot be predicted at this time. It is proposed any impacts will instead be realised with the annual pricing reviews through the life of the Price Review 2016 period.

In preparing the demand forecasts, the effect of price elasticity was considered to be marginal. GMW's dominant fixed pricing structure combined with the limits of its infrastructure and underlying water service requirements of the customer base mean dramatic price changes and associated movements in demands is unlikely. Elasticity will be most evident in allocation, or temporary, trade prices. Recent seasons have seen significant variability in price

- from $10 per ML to $150 per ML or higher - and customers have expressed greatest concern and response to this price than charges levied by GMW.

8.2 Demand Components

This Chapter sets out demand relating to tariffs for the following services and variables:

- Irrigation services (gravity and pumped)
    - Volume of water delivered within the GMID
    - Delivery shares and service points within the GMID as associated with the Connections Project
    - Properties in the GMID
- Drainage services
- Diversion services
    - Entitlements to surface water or groundwater
    - Service points used to meter and manage the water delivered
    - Properties
    - Extraction entitlements
- Bulk water services
    - Volume of water shares held in each delivery system
    - Volume available to Bulk Entitlement holders
- Flood protection services provided by Loch Garry.

The following sections outline how for each service these variables have been considered and the assumptions used to determine the proposed demands for the next regulatory period.

8.3 Irrigation Services

8.3.1 Volume of Water Delivered

Murray-Darling Basin Plan

In the current regulatory period, recovered volumes for the Murray-Darling Basin Plan were expected to come primarily from buyback of water share entitlements held by irrigators, impacting on the assumed volume of water to be delivered. However, since the finalisation of the 2013 Water Plan, the Commonwealth Government has largely withdrawn from large-scale entitlement purchases and concentrated instead on recovery through environmental works and measures intended to provide significant benefits for the environment without reducing consumptive use. The Commonwealth Government has also signalled its intention to legislate a cap on overall water entitlement purchases.

As a result, the continuing rollout of the Murray-Darling Basin Plan, together with the Connections Project, is not expected to impact on the volume of water share entitlements held in irrigation districts. Reflecting this, it has been assumed there will be no impact on the delivered volumes within the GMID through the 2016 and 2020 Price Review periods.

Climate impacts and carryover

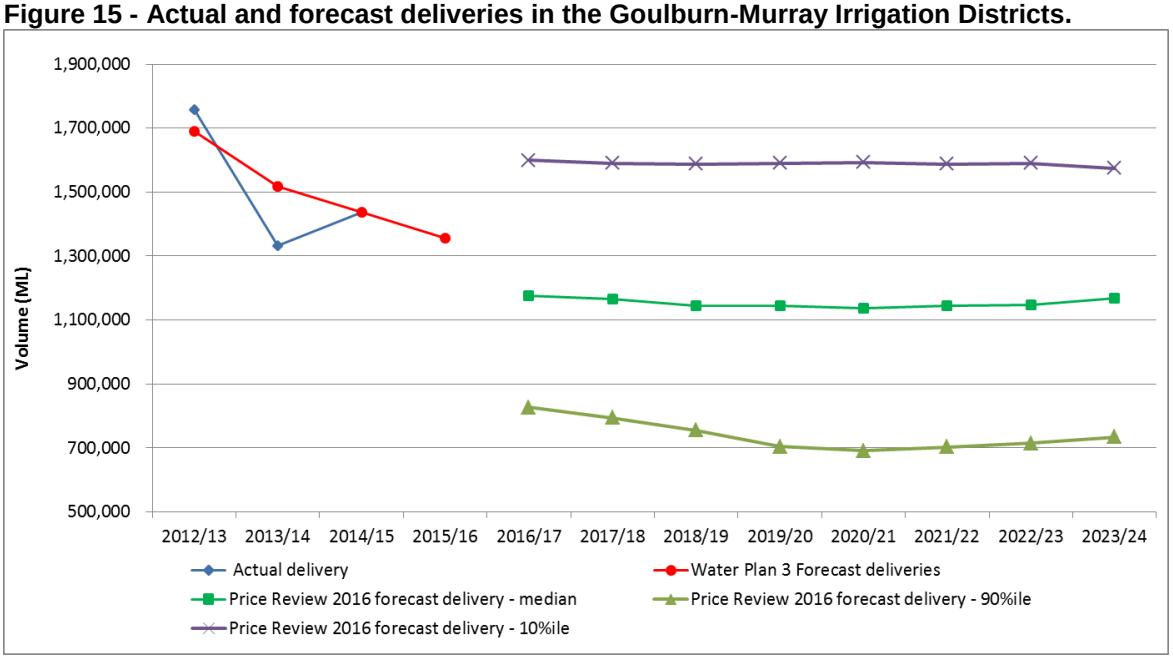
The volume of water available to be delivered in any year depends on catchment inflows in the seasons prior to that year as well as use in those years. The relatively wet seasons of 2010/11 and 2011/12 led to higher inflows and lower usage by irrigators and therefore high volumes carried over for use in the following years. Delivered volumes in the 2012/13, 2013/14 and 2014/15 seasons were subsequently larger as the volumes carried over were delivered.

Based on available volumes and deliveries in 2014/15, moving into the next regulatory period most of the carried over volumes accumulated in earlier years will have been used. This will leave irrigators with their annually allocated volumes available for delivery, without the benefit of large volumes of carryover. Carryover amounts are subject to seasonal conditions and are therefore difficult to predict with certainty.

Forecast volume of water delivered in Price Review 2016

Taking into account these assumptions about the impacts of the Murray-Darling Basin Plan and climate, modelling for the Murray and Goulburn systems was undertaken. This used two different climate scenarios to determine possible delivery volumes over the duration of the next regulatory period. For the current regulatory period, similar modelling using the median delivery under the adjusted climate scenario was used and it has proved to be a reasonable estimate of deliveries with an aggregate variance of less than 5 per cent. This can be seen in Figure 15. As a result, an equivalent climate adjusted scenario has been used to determine the proposed forecasts of the volume of water delivered during the next regulatory period (also illustrated in Figure 15).

Figure 15 - Actual and forecast deliveries in the Goulburn-Murray Irrigation Districts.



In Figure 15 the decrease in the amount of water delivered in 2016/17 under the median delivery case reflects the assumption that there will be little carryover of water from 2015/16.

In undertaking the modelling to develop the proposed forecasts of water delivered for the Price Review 2016 period:

- Current (2014/15) storage levels and remaining commitments are used as the starting point;
- A 'multi-history' view is taken into account. For example a range of delivery volume possibilities are taken into account based on historic climate data and usage behaviour;
- Results reflect a climate adjusted scenario and the median volume delivered. The climate adjusted scenario assumes a 20 per cent reduction to the historic inflows input to the model. An equivalent climate adjusted scenario was used for the current regulatory period and resulted in good predictions. The other climate scenario considered did not assume the 20 per cent reduction to the historical inflows;
- As noted above, it has been assumed entitlements held by irrigators will remain constant during the period and will not impact on the volume of water delivered. While there will likely be a small amount of water share entitlement trade between systems this will not impact on the total volume delivered. Movement of entitlement outside of the systems and into other jurisdictions (i.e. South Australia) cannot be predicted. While we have reviewed historical movements we do not consider these to be a good predictor of future movements, particularly given the changing policy environment and market conditions;
- It has been assumed trade of water from environmental water holders to irrigators does not occur within the period. The amount of trading by environmental water holders since their formation has been small, and is constrained by State and Commonwealth legislation. Trading intentions are decided within seasons by the environmental water holders and are based on seasonal conditions and key environmental indicators. It is

therefore not possible at this stage to make accurate forecasts of trading intentions by the independent environmental water holders;

- The volume of forecast delivery is more than 100 per cent of the high-reliability water shares associated with land in the GMID. This is consistent with delivery trends observed during the current regulatory period. It implies that under the median inflow conditions modelled, low-reliability seasonal determinations are announced and used by irrigators. We note recent experience has been low-reliability seasonal determinations have not been available due to inflows being lower than expected under median conditions. Consequently, the volume in excess of 100 per cent of the high-reliability water shares has been obtained from entitlements not associated with land within the GMID and any held carryover. The use of entitlements not associated with land is expected to continue throughout the next regulatory period, and;
- Deliveries under high and low water availability conditions were compared to explore the potential delivery variability. Figure 15 includes a 90 percentile (deliveries are higher in 90 years out of 100) and 10 percentile (deliveries are higher in 90 years out of 100) delivery estimate. These two delivery estimates vary from about 700 GL per year when deliveries are low and up to about 1600 GL when deliveries are high, a difference of 900 GL.

A breakdown of the total delivered volumes in the GMID is shown in Table 32.

Table 32 – Forecast deliveries in the GMID (excluding pumped and water districts)

Season	Total GMID delivery (ML)
2016/17	1,158,556
2017/18	1,150,420
2018/19	1,129,363
2019/20	1,127,545
2020/21	1,121,282
2021/22	1,128,945
2022/23	1,130,469
2023/24	1,150,765

It is proposed to review the delivery volume assumption as part of the annual price setting process during the next regulatory period to enable any variations in delivery to be factored into the annual prices.

8.3.2 Connections Project Impacts on Delivery Shares and Service Points

The work being undertaken through the Connections Project to modernise the gravity irrigation network will impact on the number of delivery shares and services points within the GMID. These are two key elements that feed into determining prices.

Delivery Shares

As the roll out of the Connections Project continues, the number of delivery shares across the GMID will reduce as the non-backbone network is reduced. Delivery shares in Shepparton are expected to remain constant as the scope of the Connections Project does not include any modifications in this district. Across the remainder of the GMID delivery shares are projected to reduce in accordance with the current project estimates. The number of delivery shares is forecast to remain constant across all irrigation areas following the completion of the Connections Project in 2018.

Data from the Connections Project indicates a substantial reduction of expected delivery share terminations from initial business case estimates, due mainly to improved economic and resource conditions. The extension of the backbone beyond the business case projections has also contributed to fewer terminations. This has led to the estimated number of delivery shares outlined in Table 33 for the Price Review 2016 period, with delivery shares remaining constant in the following regulatory period.

Table 33 – Estimated delivery shares in the GMID (excluding pumped and water districts)

Season	Total GMID delivery shares (ML/day)
2016/17	15,102
2017/18	14,957
2018/19	14,812
2019/20	14,812
2020/21	14,812
2021/22	14,812
2022/23	14,812
2023/24	14,812

Service Points

The Connections Project is upgrading service points to farms on the backbone. Dethridge wheel meters are being replaced with higher functionality service points capable of being integrated with on-farm irrigation systems and wider system operation. These service points will have more modern meters with remote read and operation capability and replace less functional local read and domestic and stock devices. Table 34 below outlines the numbers of each different outlet type proposed across the duration of the Price Review 2016 period.

Table 34 – Estimated number of service points for each different outlet type across the GMID (excluding pumped and water districts)

Outlet type	2016/17	2017/18	2018/19	2019/20	2020/21 to 2023/24
Domestic and Stock	7,433	6,364	5,840	5,840	5,840
Local Read	7,472	4,987	3,872	3,872	3,872
Remote Read and Operate	2,399	2,788	3,006	3,006	3,006
Remote Read	5,989	6,710	7,176	7,176	7,176
Total	23,294	20,849	19,894	19,894	19,894

8.3.3 Properties in the GMID

For the purposes of this submission, the number of properties within the GMID used for the 2014/15 annual pricing review is assumed given minimal change is expected and hence the 2014/15 figures provide the most reasonable basis for the forecasts. There are currently 13,480 properties in the GMID. Service fees relating to some irrigation customers will be subject to the proposed reforms to amalgamate and consolidate multiple services on a single account.

8.3.4 Pumped Irrigation

The Connections Project will not impact on the delivery shares or number or service points in the three pumped irrigation districts; Nyah, Tresco and Woorinen. For the purposes of this submission, given limited change is anticipated the delivery share and service point parameters used for the 2014/15 annual pricing review are assumed as these reflect the most reasonable forecasts. Deliveries in the three pumped districts are assumed to be the average of the total annual deliveries from the past four seasons (including estimated use in 2014/15). These post-drought years had reasonably consistent deliveries.

8.3.5 Feedback from Water Services Committee

The proposed irrigation demands were the subject of consultation at a day long forum with the chairs and members of all WSCs about the Price Review 2016. Feedback about irrigation deliveries, service points and delivery shares which has informed the forecasts included:

- When there is water available, deliveries within the GMID are about 120% to 130% of the volume of high-reliability water shares;
- Price and availability of water on the temporary water market is a big driver to how much water is used within the GMID;
- Queries about what assumptions about environmental water trading into the irrigation areas had been used. This is a possibility at some time in the future, when and how much water would be traded cannot be predicted;
- That the delivery share forecasts seem reasonable, and;
- That the reduction in service points and channels is putting more pressure on the backbone channels which is affecting supply in some areas.

8.4 Drainage

We are undertaking a review of our drainage tariffs during 2015. The outcome of this review will determine how tariffs for drainage customers evolve. For the purposes of this submission, the current tariff approach has been retained and given little change is expected the demands used for the 2014/15 annual pricing review are assumed as these reflect the most reasonable and up to date forecasts.

8.5 Diversions

The demand parameters related to diversion services during the Price Review 2016 period will vary from the current estimates due in part to the implementation of the new Diversions Tariff Strategy and also the increased demand for alternative sources of water for irrigation and urban supply. Expected reductions in the number of service points and access fees are assumed, as well as an increase in the quantity of resource management fees collected for some groundwater management units. The drivers for the tariff-related demand assumptions are that the new tariff:

- More closely aligns service with our actual cost of delivering service;
- Includes charges based on the type (metered/unmetered) and number of service points held, rather than on size of a customer's entitlement, and;
- Includes access fees, which will be charged on the basis of service points held, rather than size of entitlement once transition to full tariff implementation is complete.

Underpinning the assumptions about water demand is that, irrespective of short term climate, sustained growth, and water demand for agriculture in the GMID will occur, as will urban water requirements for regional towns with growing populations.

8.5.1 Entitlements to Surface Water or Groundwater

Under the new tariff structure, resource management fees, which apply to groundwater and unregulated surface water customers, are charged based on entitlements.

During the next regulatory period, demand for increased groundwater entitlements is most likely to be driven by customers seeking supplementary water supply such as shallow groundwater in the Shepparton Irrigation Region or water for urban supply. It is noted there is limited scope for increases in groundwater entitlement under the groundwater Sustainable Diversion Limits under the Murray-Darling Basin Plan.

As remaining groundwater local management plans are developed, there is some limited capacity for additional groundwater licence entitlement to be allocated in underutilised aquifers. Currently there is low demand for further groundwater entitlement and customers with new or increased groundwater demands can trade existing and unused licence entitlement to meet their needs. If and how new entitlement is allocated is still to be determined, and is based on the outcome of work to develop a State policy on the sale of unallocated water entitlements by the Department of Environment, Land, Water and Planning.

The forecast increase in entitlement relates mainly to an anticipated increase in groundwater demand for urban water supply.

In the Shepparton Irrigation Region groundwater resources are subject to a specific Sustainable Diversion Limit under the Murray-Darling Basin Plan, but are not limited to a Permissible Consumptive Volume (a cap). This means there is reasonable scope for further entitlement to be allocated. Additional licence entitlement is available based on an assessment of local impacts. If climatic conditions remain average to dry during the next regulatory period, and surface water allocations reduce, then a reliance on supplementary water resources, such as shallow Shepparton Irrigation Region groundwater, is more likely to occur. As such, a small increase in total groundwater entitlement in the Shepparton Irrigation Region is forecast during the Price Review 2016 period.

The impact to total revenue of the above Resource Management fee assumptions, in terms of increased entitlement quantities, is likely to be about 0.5 per cent.

There are not assumed to be any meaningful changes to quantities of surface water entitlements in the Price Review 2016 period clearly attributable to tariff reform, as a far lower portion of annual charges under the new tariff arrangements are based on ML of entitlement.

The expected change in unregulated surface water and groundwater entitlements is shown in Table 35. Regulated surface water diverters hold water shares. Demand assumptions about water shares are discussed in section 8.6 of this chapter.

Table 35 - Estimated number of groundwater and unregulated surface water entitlements

	Total entitlement (ML)					
	2015/16 (WP3)	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21 to 2023/24**
Unregulated surface water	85,470	85,470	85,470	85,470	85,470	85,470
Groundwater	247,014	248,264	249,514	250,764	252,014	252,014
SIR groundwater	195,493	197,937	200,380	202,824	205,268	205,268

8.5.2 Service Points (Used to Access Water and Record Water Use)

A slight reduction in service points is proposed for the next regulatory period as a result of some customers rationalising or reducing unwanted service points. This reflects the new tariff structure which will:

- Determine annual charges based on service points rather than the number of entitlements, and;
- Customers with smaller sized entitlement will pay slightly more and customers with larger sized entitlements less.

Under the new tariff structure some customers, particularly surface water diversion customers with smaller volume entitlements and multiple service points, will seek to reduce the number of service points they have where possible. However as the vast majority of customers with smaller entitlements have one service point the extent of rationalisation is expected to be minimal. The impact on revenue is therefore also likely to be low.

The assumptions about changes to total service point numbers are based on feedback from WSCs as well as customer enquiries and feedback received during the Tariff Strategy development and recent implementation. Assumptions are also supported by analysis of customers who will be most impacted by price increases during tariff implementation.

Despite assumed increases in groundwater entitlements, the number of groundwater service points is not expected to change during the Price Review 2016 period as most of the entitlement increase is more likely to be linked to pre-existing service points.

The expected change in service point numbers is shown in Table 36 below.

Table 36 - Estimated number of groundwater and surface water service points

Total number of service points	2015/16 (WP3)	2016/17	2017/18	2018/19	2019/20	2020/21 to 2023/24
Unregulated surface water	4,497	4,452	4,407	4,407	4,407	4,407
Regulated surface water	4,542	4,497	4,451	4,451	4,451	4,451
Groundwater	2,323	2,323	2,323	2,323	2,323	2,323
Shepparton Irrigation Region groundwater	1,145	1,145	1,145	1,145	1,145	1,145

As the Access Fees will be charged on the number of service points in the fully implemented Diverters Tariff Strategy, a reduction in the number of service points would reduce the number of access fees paid therefore reducing the revenue. However, the impact on total revenue is expected to be no more than -0.5 per cent.

8.5.3 Properties

Property numbers are not assumed to change significantly from the current regulatory period, and no changes are expected specifically due to the tariff changes. Service fees relating to some diversion customers, particularly those with both diversions and gravity supply in the GMID, will be subject to the proposed reforms to amalgamate and consolidate multiple services on a single account.

8.5.4 Extraction Shares

No changes to extraction share quantities, which apply to regulated surface water diverters under previous tariff arrangements, are anticipated in the next regulatory period. As access will be charged on the basis of service points held under the new tariff structure, there are no expected drivers in the Price Review 2016 period that will result in an increase or decrease in total extraction shares.

8.6 Bulk Water

Our bulk water services are supplied to retail and wholesale customers. The retail customers, comprising gravity irrigation, pumped irrigation, diversions and water districts, largely hold water shares which are delivered by GMW. The wholesale customers are urban water corporations, including GMW, and environmental water holders, who hold bulk entitlements and environmental entitlements respectively.

8.6.1 Water Shares

Water shares impact the tariffs irrigators pay for the bulk water services we provide. This submission retains the Goulburn and Murray system pricing approach for water shares associated with land. Water shares which are not associated with land are charged at the applicable basin price (refer to section 8.6.2).

The forecast of water shares held in the GMW region during the Price Review 2016 period is reasonably flat and is based on the following assumptions:

- There will be no further buybacks by the Commonwealth Government following the completion of Stage 2 of the Connections Project;
- Murray and Goulburn water shares held by the Commonwealth Government will increase in accordance with water shares issued as part of Stage 2 of the Connections Project. This corresponds to the funding agreement for Stage 2 of the Connections Project in which the Commonwealth Environmental Water Holder will receive high-reliability water shares and low-reliability water shares derived from water savings achieved by the Connections Project. Coming from water savings, these shares are additional to those

held by irrigators, and;

- Irrigators share of Stage 1 savings have not been included as the timing of the distribution of these savings has not been finalised. The distribution of the savings between high and low-reliability water shares will be assessed at the completion of the Connections Project and come into effect in the final year of the Price Review 2016 period.

Table 37 outlines the forecast high-reliability water share volumes in each water system (in ML).

Table 37 – High-reliability water share volumes held in each system (ML)

System	2016/17	2017/18	2018/19	2019/20	2020/21 to 2023/24
Murray	941,185	943,573	943,573	943,574	943,574
Ovens	26,251	26,251	26,251	26,251	26,251
Broken	17,625	17,625	17,625	17,625	17,625
Goulburn	1,057,523	1,066,563	1,066,563	1,066,563	1,066,563
Campaspe	23,465	23,465	23,465	23,465	23,465
Loddon	21,391	21,391	21,391	21,391	21,391
Bullarook	758	758	758	758	758

Where trading rules allow, trade of water shares could occur between systems as tagged trades. While the delivery may occur in a different system, the share will remain in the source valley and charges for those water shares remain the same as the source valley.

There is also the potential for holders of water shares to disassociate their water shares from land. If this is done it would mean the water share would attract a different charge. It is unknown how this option will be utilised during the next regulatory period. There is an incentive in the Murray and Goulburn systems for water shares holders to disassociate their water from land as they pay the system price rather than the basin price which is cheaper. It is anticipated that some shareholders will take this option to pay a lower price. Based on trends in recent years, it has been estimated that 10,000 ML per year will become disassociated from land. Table 38 below shows the estimated volumes of water shares associated with land and not associated with land.

Table 38 – Distribution of high and low-reliability water shares associated and disassociated with land (ML)

Season	High-reliability with land	High-reliability without land	Low-reliability with land	Low-reliability without land
2016/17	1,179,029	909,169	669,641	147,219
2017/18	1,169,029	930,597	669,641	150,353
2018/19	1,159,030	940,597	669,641	150,353
2019/20	1,149,030	950,597	669,641	150,353
2020/21	1,139,030	960,597	669,641	150,353
2021/22	1,129,030	970,597	669,641	150,353
2022/23	1,119,030	980,597	669,641	150,353
2023/24	1,109,030	990,597	669,641	150,353

Water shares not associated with land will also increase because of increases in water shares held by the Commonwealth Environmental Water Holder in accordance with the issuing of Stage 2 of the Connections Project water shares. There is potential that on-farm efficiency programs will transfer water used previously for irrigation purposes to the Commonwealth Environmental Water Holder. There have been no adjustments to the entitlement volumes for this as it will not impact on the volume of water shares, but it may result in lower volumes delivered in the irrigation districts. The actual volumes associated with on-farm efficiencies are too uncertain to include in estimates of delivery volumes.

Holders of water shares have the ability to carry over water between water years. If water carried over results in water being transferred into spillable water accounts, additional fees are charged called above entitlement storage fees. As there is a high degree of uncertainty about the volume that will transfer into spillable water accounts, it has been assumed there will be no revenue from above entitlement storage fees.

8.6.2 Bulk Entitlements

Bulk entitlements impact the tariffs which urban and rural water corporations and the environmental water holders pay for bulk water services. Basin pricing is applied to illustrate the true cost of service provision within each water system we manage. This long-term pricing mechanism was supported during consultation with bulk water customers.

The volume of bulk entitlements held by water corporations and environmental water holders at the 2014/15 annual pricing review has been largely maintained for the Price Review 2016 period. This reflects the expectation that little change will occur over the period and the urban and rural water corporations advised this approach was appropriate during consultation.

However, there is provision for increased volumes of bulk entitlement created for the three Melbourne retail water corporations - City West Water, South East Water and Yarra Valley Water and the Victorian Environmental Water Holder from water savings achieved by Stage 1 of the Connections Project. The entitlements created for the Commonwealth Environmental Water Office from Stage 2 water savings of the Connections Project are included in the projected water share volumes described in section 8.6.1.

Table 39 below outlines the volume held by Bulk Entitlement holders for each different reliability type.

Table 39 – Bulk Entitlements held in each system – Price Review 2016 period (ML)

System	Bulk Entitlement Holder	Reliability	
		High (includes High-50% min and Very High)	Low
Broken	North East Water	135	0
Bullarook	Central Highlands Water	500	0
Campaspe	Coliban Water	349	0
	Victorian Environmental Water Holder	20,652	2,966
	The Living Murray	126	5,048
Goulburn	Goulburn Valley Water	33,490[1]	0
	Coliban Water	2,520[1]	0
	City West Water	10,097[2]	0
	South East Water	10,097[2]	0
	Yarra Valley Water	10,097[2]	0
	Victorian Environmental Water Holder	16,341[3]	3,140
	Victorian Environmental Water Holder (Stage 1)	31,679[3]	0
	The Living Murray	39,625	156,980
	Snowy	30,252	8,156
Loddon	Central Highlands Water	1,200	0
	Coliban Water	820	0
	Victorian Environmental Water Holder	3,480	2,024
Murray (GMW)	North East Water	13,236	0

System	Bulk Entitlement Holder	Reliability	
		High (includes High-50% min and Very High)	Low
	Goulburn Valley Water	5,593	0
	Coliban Water	6,285	0
	Grampians Wimmera Mallee Water	3,486	0
	City West Water	6,907[2]	0
	South East Water	6,907[2]	0
	Yarra Valley Water	6,907[2]	0
	Victorian Environmental Water Holder	15,982	3,894
	Victorian Environmental Water Holder (Stage 1)	21,965[3]	0
	The Living Murray	9,589	72,582
	Snowy	29,794	0
Ovens	North East Water	7,832	0

Notes
Goulburn system entitlements for Goulburn Valley Water and Coliban Water are categorised as very high reliability.
Goulburn and Murray system entitlements for City West Water, South East Water and Yarra Valley Water are provisional entitlements pending the completion of Stage 1 of the Connections Project.
Goulburn and Murray system entitlements for the Victorian Environmental Water Holder include its provisional entitlements pending the completion of Stage 1 of the Connections Project.
Campaspe Victorian Environmental Water Holder includes 1,656 ML fixed volume, Goulburn Victorian Environmental Water Holder includes 7,490 ML for Wimmera Mallee Pipeline savings

Lower Murray Water provides rural and urban water supplies in the north west of Victoria. The boundary between GMW and Lower Murray Water is at Nyah. Table 40 outlines the volume of entitlements held in the Lower Murray Water region.

Table 40 – Entitlement held in the Lower Murray Water region in ML

Water Source	Entitlement classification	Reliability	
		High	Low
Murray Entitlements	Irrigation Areas	124,239	402
	Private Diverters	201,995	6,779
	Urban	30,971	0
	Victorian Environmental Water Holder	13,800	0
	The Living Murray	0	29,268
	Not associated with land	852	0
	Loss (provisional)	20,805	
Goulburn Entitlements	Irrigation Areas	0	182
	Private Diverters	16,339	3,197
	Not associated with land	550	216

8.6.3 Feedback from Water Services Committee

During a forum with the chairs and members of all 13 WSCs feedback was sought on the proposed water shares in relation to the Price Review 2016 period. WSCs advised that Stage 1 water shares should be included if possible, but recognised it was difficult to predict what would occur. Where there is clear direction about the changes in water share volumes and Bulk Entitlements, this information has been included in the estimates.

Another issue raised was some customers had already disassociated their water shares from land. This advice was taken into consideration when estimating the water shares associated and disassociated with land over the next regulatory period.

8.7 Flood Protection

GMW maintains and operates Loch Garry to provide land owners with protection from medium sized floods on the Lower Goulburn River.

It has been assumed there will not be any changes to the 121 customers or the size of the land which receives the flood protection service in the next regulatory period. Only a consolidation of properties could change the numbers of customers or services provided. The potential for any changes to the number of properties, or number of hectares which receive a service, was discussed with the Loch Garry WSC in finalising this submission and it was established that the current forecasts remain appropriate for the next regulatory period.

9 Revenue Requirement

This Chapter outlines the application of the building block methodology to construct GMW's revenue requirement for the Price Review 2016 period.

9.1 Overview

The total revenue requirement comprises a sum of the three main building blocks, that is:
Return on capital;
Regulatory depreciation, and;
Operating expenditure.

9.2 Regulatory Asset Base at July 1 2016

The first step is to confirm the opening value of the Regulatory Asset Base (RAB) at 1 July 2016. From this value, return on assets is calculated and depreciation from existing assets during the Price Review 2016 period.

This opening value is calculated from:

The RAB at 1 July 2012;

+ prudent actual capital expenditure from 2012/13 to 2014/15;

+ assumed prudent capital expenditure for 2015/16 as per current forecasts (see section 9.2.1);

Less customer and government contributions;

Less regulatory depreciation as per the 2013 price determination, and;

Less proceeds from sale of assets.

Table 41 – Roll forward of the RAB ($M)

RAB Roll Forward	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Opening asset base	221.6	251.0	262.8	278.7	311.8	332.4	351.7
+ Gross capex	38.0	22.5	29.3	41.5	30.4	30.3	24.6
- Regulatory depreciation	8.6	10.8	12.6	7.2	8.9	10.5	11.6
- Contributions	0.0	0.0	0.8	1.2	0.9	0.4	0.4
= Closing asset base	**251.0**	**262.8**	**278.7**	**311.8**	**332.4**	**351.7**	**364.2**

9.2.1 Prudent Capital Expenditure

Chapter 6 outlines the actual capital expenditure undertaken to date in the current regulatory period and projected in 2015/16. While capital expenditure in the current regulatory period is less than the amount permitted by the ESC, expenditure in 2015/16 is greater than the value approved by the ESC due to initial delays at the start of the period. As detailed in Chapter 6, GMW is confident it will deliver this expenditure in 2015/16.

The calculation of the RAB in Table 41 is predicated on only that expenditure approved by the ESC for 2015/16 being included in GMW's RAB, as per the ESC's guidance.

Table 41 includes the conversion of annuities to $27.2m of RAB under 2013/14 gross capex. While this is not capex as such, the impact on GMW's RAB and revenue requirement of this conversion is the same as capex.

9.2.2 Disposals

There were limited disposals of assets that comprised part of the RAB during the current regulatory period and these are not included in the roll forward of the RAB.

9.2.3 Regulatory Depreciation

As mandated by the ESC, depreciation for the current regulatory period is fixed, regardless of the actual level of capital expenditure:

"The depreciation allowance included in the 2013 price determination…will not be adjusted to reflect actual expenditure profiles across the period to avoid providing an undue incentive to increase capital expenditure spending above benchmarks during the regulatory period.[9]

Capital expenditure for 2013/14 and 2014/15 was below the levels approved in the 2013 price determination. Therefore, the forecast depreciation is applied to a smaller asset base, resulting in those assets being depreciated more they would have been under straight-line depreciation.

9.2.4 Adjusting the RAB for inflation

Adjustments were made to the value of the RAB in line with the ESC's Guideline recommendations.

9.3 Regulatory Depreciation and Return on Capital for the Price Review 2016 period

9.3.1 Return on Capital

In this submission, to determine the return on capital, we have adopted the weighted average cost of capital as determined by the ESC in the financial template provided. This is 4.3 per cent.

9.3.2 Regulatory Depreciation

As in the current regulatory period, a straight line depreciation method to forecast depreciation has been proposed for the Price Review 2016.

9.3.3 Taxation

GMW does do not anticipate being liable for taxation on projected revenues.

9.4 Efficient Operating Expenditure

Chapter 5 confirms the proposed operating expenditure is prudent and efficient. As noted this includes a commitment to share with customers efficiency gains achieved.

In the 2013 Water Plan adjustments were included on expenses incurred due to unforeseen circumstance, particularly extreme climatic variations. No adjustments are proposed in this submission for the Price Review 2016.

9.5 Overall Revenue Requirement

The overall revenue requirement for the Price Review 2016 period is shown in Table 42. This revenue requirement will be recovered through charges over the period.

Table 42 – Overall revenue requirement for Price Review 2016 ($M)

Revenue requirement component	2016/17	2017/18	2018/19	2019/20	Total
Return on capital	12.7	13.9	14.8	15.5	**57.0**
Regulatory depreciation	7.2	8.9	10.5	11.6	**38.2**
Operating expenditure	100.1	99.8	99.7	98.5	**398.1**
Total revenue requirement	**120.0**	**122.7**	**125.1**	**125.6**	**493.3**

9.6 Financial Indicators

Based on the overall revenue requirement outlined in section 9.5, and the revenue to be collected from the tariffs proposed in Chapter 11, GMW's financial indicators for the next regulatory period are within GMW's sustainable limits. These are summarised in Table 43 for the whole of business (not just prescribed services), excluding the Connections Project.

[9] Essential Services Commission (2014) *Goulburn-Murray Water Price Review 2016: Guideline on Price Submission*, August 2014.

Table 43 – GMW's financial indicators for Price Review 2016

	2016/17	2017/18	2018/19	2019/20
Cash Interest Cover	3.5	2.7	2.5	2.3
Gearing	3.1%	3.4%	3.8%	4.2%
Regulatory Gearing*	49%	48%	49%	48%
Internal Financing Ratio	41%	49%	46%	56%

* This is calculated to reflect the Regulatory Asset Base for the entire business.

9.7 Inclusion of 2015/16 capex in the Regulatory Asset Base

GMW has calculated the RAB in this submission based on ESC-approved capital expenditure for 2015/16 only.

As outlined in Section 6.2, GMW forecasts to spend $43.7M in 2015/16. This is $15.2m higher than the $28.5M (GMW funded) approved by the ESC. This level of expenditure is largely as a result of capital expenditure being shifted from 2013/14 and 2014/15 into 2015/16. However, even with this high expenditure in 2015/16, capital expenditure for the Price Review 2013 overall will be less than the amount approved by the ESC.

The forecast expenditure in 2015/16 has mostly been approved under GMW's new governance and capital planning process. GMW has delivered capital programs of this size in the past, and is satisfied that sufficient delivery capacity exists to deliver this program of works.

Ordinarily, the RAB would not be updated for actual 2015/16 capital expenditure until the Price Review 2020. However, GMW proposes that forecast 2015/16 capital expenditure should be included in the RAB in the 2016 Price Review. This will result in more stable price path for customers from 2016 to 2024. With the inclusion of capital expenditure, prices would be slightly higher in the Price Review 2016 period, and then lower in the Price Review 2020 period.

10 Form of Price Control

This Chapter sets out the proposed form of price control for the Price Review 2016.

10.1 Overview

In the current regulatory period a revenue cap form of price control has been used with a rebalancing constraint of 10 per cent. This means prices can be altered to increase revenues to levels approved by the ESC, but individual price changes must be limited to plus or minus 10 per cent in any single year.

It is proposed to continue using a revenue cap form of price control with a 10 per cent rebalancing constraint for the next regulatory period. The rationale for this is set out below.

10.2 Form of Price Control - Options Assessment

The form of price control plays an important role in creating incentives to drive business performance. A number of options are available:

- **Price cap –** this sets the maximum price per unit of product sold - either as individual price caps or as the weighted average of a basket of prices;
- **Revenue cap –** this sets the maximum overall revenue that can be earned, irrespective of the volume delivered, and;
- **Hybrid –** a combination of the above methods.

GMW has assessed the alternative options against a series of principles to judge the optimal approach. Any form of price control should:

- Allocate risks to those best placed to manage them;
- Align with the costs for the provision of the service;
- Provide sufficient revenue adequacy to ensure financial sustainability;
- Provide customers with price path certainty to support business decisions;
- Create incentives for innovation and greater efficiency, and;
- Be clear and easy to implement.

10.2.1 Risk Allocation

GMW's extensive asset base requires routine annual maintenance, operations and renewal to ensure continued service quality. The organisation therefore, faces largely fixed costs that do not vary with the level of water supplied. There are few adjustment mechanisms that can be used to allow us to manage demand-side risk. This argues for the importance of an approach that guarantees revenue stability.

By contrast customers operate businesses where GMW's water charges represent 5 to 10 per cent of their input costs. They generally have better access to adjustment mechanisms allowing them to adapt to demand or supply-side risks. For example they can buy or sell water in the market or use carryover to spread risk, or they can substitute water with grain or fodder.

10.2.2 Price Cap

GMW is facing declining demand and rationalisation of its asset base. The organisation therefore has few opportunities to win the potential upside of a price cap that can incentivise a utility to seek out additional customers or promote growth in demand to win economies of scale. Water is generally owned by customers and GMW is an infrastructure manager seeking to cover fixed costs and drive for greater efficiency in service delivery. The primary aim is to provide incentives to ensure high quality services are delivered at least long-term cost.

A price cap approach would require robust projections about the level of future demands, which can be subject to uncertainty. This is particularly true for:

- The Murray-Darling Basin Plan – which may reduce the total volume of allowable diversions across northern Victoria;
- The Connections Project – which will see surrender of delivery shares as farmers exit the

industry or rationalise the scale of their activities. There is still uncertainty as to the location, speed and extent of the change program, and;
- Climate change – where both drought and floods can lead to a significant reduction in the level of demand, particularly as we are not forecasting high allocation levels in reserve.

10.2.3 Hybrid Revenue Cap

As a result of the above limitations associated with a price cap, GMW is proposing a revenue cap form of price control should be retained. This is because it:
- Allocates risks to the party best placed to manage them;
- Ensures revenue adequacy to match our high fixed costs and is aligned with our tariff structure which recovers more than 85 per cent of our total revenues from fixed charges, and;
- Is simple and transparent in its operation and therefore involves low transaction costs to implement.

However, it is acknowledged a revenue cap can create risks, because:
- It can lead to price shocks if we were to make a large adjustment in prices in one season to rebalance under-recovery from the previous year, and;
- It can dampen pressures for innovation and efficiency as there are few incentives to reduce costs as revenues are guaranteed.

GMW aims to provide customers with price stability to create the certainty they need for business investment decisions. We therefore propose to constrain the extent of price changes allowed between years to recover the value of the revenue cap. This approach represents a hybrid revenue cap. It is proposed a 10 per cent rebalancing constraint be retained, limiting the degree of change between years but allowing for the recovery of required revenue over time. Where significant tariff reform is being introduced, and customer consultation undertaken, this constraint may not apply.

Incentives for efficiency

It is acknowledged a revenue cap can dampen incentives for innovation and efficiency, but GMW's commitment to a greater customer service and lower charges is evidenced by the Business Transformation Program.

Tariff strategy evolution

The other advantage of a revenue cap is it allows for the adjustment and adaption of a new tariff structure within the price period. Tariff reviews and reform are proposed to continue in the Price Review 2016 period. Having a revenue cap will allow GMW to implement and transition the required changes to tariffs within the next regulatory period in a revenue neutral way. This will give customers confidence that any changes proposed were not intended to raise additional revenue.

11 Tariffs

This Chapter sets out the proposed tariff structures for the Price Review 2016. It explains the basis for these structures, outlines the consultation undertaken about the proposed changes and how the feedback received has been taken into account. The Chapter also details the proposed changes in prices during the next regulatory period, with the proposed price schedule attached at Appendix A.

11.1 Overview

During the current regulatory period GMW conducted tariff reviews for gravity irrigation and diversions services. After much consultation with customers and all 13 WSCs new tariff strategies were developed. In 2015/16 implementation of the new diversions tariff approach began and as outlined below, implementation of the new gravity irrigation tariff approach is proposed for 2016/17. The new tariff strategies mean significant changes for some customers' bills, as set out below.

The allocation and recovery of customer service and billing costs via the Service Fee has also been reviewed and the subject of initial consultation about proposed changes.

More recently GMW has started working on simplifying the drainage and water district tariff structures. These reviews and new strategies will be developed and implementation will begin during the Price Review 2016 period. As in the gravity irrigation and diversions services reviews, customer consultation will play a key part in developing new tariff structures.

The tariffs outlined in this Chapter for 2017/18 and beyond are indicative only as under GMW's proposed hybrid revenue cap price control, tariffs will be determined each year at the time of the annual price review.

Forecast prices for the 2020 Water Plan are also included in this chapter. These forecasts are based on current capital expenditure forecasts and a continuation of operating expenditure as per that proposed for the Price Review 2016 period. If GMW achieves further reductions in its operating expenditure over subsequent regulatory periods the forecast prices will also adjust.

Overall, revenue will decrease by CPI minus 0.3 per cent per year over the Price Review 2016 period; this also means that prices on average will decrease by approximately the same amount. Revenue (and approximate average price) reductions for different services is shown below.

Table 43 – Average revenue increase/decrease per year

Service	Average revenue/ price change 2016 - 2020
Irrigation	-1.5%
Drainage	-6.5%
Domestic and stock	2.7%
Surface water diversions	2.3%
Groundwater diversions	-2.7%
Bulk water services	1.8%
Customer service and billing	5.9%
Total	**-0.3%**

11.2 Background

Tariffs in the current regulatory period reflect our structure and history. These tariffs are highly granular in nature, having been clearly 'ring-fenced' between different regions and different types of services. We are progressively simplifying the tariff structure while maintaining (and, in some cases, improving) cost-reflectivity.

GMW operates several services that are fundamentally different:

- Customer service and billing – for each of our customers GMW manages their bills, which may be across a variety of the services set out below, and responds to any queries or complaints they may have;
- Irrigation services – the organisation owns and manages infrastructure to deliver water to irrigators in six gravity irrigation districts and three pumped districts and it operates and maintains a large surface and sub-surface drainage network;
- Water district services – water is supplied to mainly domestic and stock customers in five water districts;
- Diversion services – GMW manages shared access to groundwater and surface water resources for licensed diverters;
- Bulk water services – the organisation provides harvesting, storage and delivery of bulk water services to a range of customers including urban water businesses, irrigators and the environment, and;
- Other services – GMW also manages and provides flood mitigation services, as well as salt interception programs.

The tariffs for each of these services are outlined below.

11.3 Customer Service and Billing Tariff

11.3.1 Background

GMW's customer service and billing costs are recovered by a Service Fee, levied on each service provided to customers. In 2015/16 the Service Fee is $100. A customer can pay multiple Service Fees on the same property, for example a customer who has a gravity irrigation delivery service, surface drainage service and subsurface drainage service would pay three Service Fees at $100 each. Customers also pay multiple Service Fees if they own multiple properties.

As a result, many GMW customers have several accounts and receive separate bills for each of these. GMW treats each of these accounts as though it were linked to a different entity, when often they are owned by a single entity. GMW's goal is to amalgamate these accounts to treat each customer as a single entity. This would be administratively simpler for the organisation and its customers.

The current structure of the Service Fee, levied per service, provides little incentive for customers to consolidate their accounts.

11.3.2 Proposed Reform

In the next regulatory period GMW is proposing to reform its approach to the Service Fee so that it is levied on a per-customer basis, rather than a per-service basis. It is proposed this change would occur in two stages:

- Firstly, only one Service Fee will be charged per account. Currently customers can have drainage and a gravity irrigation services on one account. This change will stop them paying two Service Fees on one account.
- Secondly, GMW will give customers the opportunity to amalgamate their accounts across services and regions.

With only one Service Fee per account, and account consolidation, the number of accounts on which the fee is levied will reduce when this change is introduced during the Price Review 2016 period. To ensure revenue from the charge meets the costs, this would mean that the Service Fee would need to increase. The draft submission included details of a proposed increase of $20 per year in nominal terms meaning the fee would increase to $180 in nominal

terms by the last year of the next regulatory period (this was based on an assumed number of customer amalgamations). Proportionally, the change will have a greater impact on smaller customers which could be managed by staging the increase over multiple years.

While this proposed change was included in GMW's draft submission, it considers further consultation is required about the approach, customer impacts and the timing of its introduction. This reflects that limited feedback was received during the draft submission consultation process. The organisation will undertake this consultation over the next few months and if customers are comfortable with this approach commencing implementation in 2016/17 then GMW will provide a supplementary submission with details of the proposed Service Fee structure and prices.

11.3.3 Water Register Fee

Currently a significant cost recovered by the Service Fee, but not related to customer cost, is the Victorian Water Register record keeping fee. During the Price Review 2016 period GMW proposes separating this from the Service Fee and charging a separate Water Register Fee based on the number of water entitlements each customer has recorded in the Water Register.

11.4 Gravity Irrigation

In 2012 GMW started developing a new tariff strategy for its gravity irrigation districts. The review was developed by the Tariff Strategy Advisory Group, which included the WSC chairs and GMW's Managing Director. The Gravity Tariff Strategy was included in the April 2013 Blueprint and involves significant changes for the organisation and its customers. This section outlines the key components of the proposed tariff strategy and the plan for its implementation in the Price Review 2016 period.

11.4.1 Background

GMW currently has an area-based approach to charges in its irrigation districts. This means that, for example irrigators in the Shepparton district pay different charges to those in the Torrumbarry district.

This approach was introduced after the McDonald Review in the 1990s recommended local communities be given more opportunity to influence the trade-off between levels of service and charges. It has allowed different districts to position themselves in terms of prices and levels of service to match their relative market advantage, but means different districts now have increasingly different levels of charges.

Since the McDonald Review the operating environment has changed significantly.

GMW's gravity irrigation delivery system is transforming through the Connections Project. When it's complete there will be a fully automated backbone of major channels and modernised customer service points. The new backbone will improve service levels offered to customers and it will ensure a minimum level of service that will apply across the GMID.

These changes will reduce the variance in service levels between districts and the process will see a proportion of delivery shares returned.

11.4.2 GMID Delivery Charge and Service Point Fee

The most significant change proposed under the Gravity Tariff Strategy is a move to a uniform GMID Delivery Charge. This means all gravity customers will pay the same prices regardless of their location, replacing the current system where the six irrigation districts pay different Infrastructure Access Fees and Infrastructure Use Fees, which make up the bulk of the charges for medium and large customers.

The other significant change proposed in the Gravity Tariff Strategy is cost reflective tariffs for modern service points (Remote Read and Remote Read and Operate) installed as part of the Connections Project.

In the past, the six irrigation districts were run as separate entities each with its own bank account, and making its own financial recommendations based on capital and operational expenditure needs. However, with the Connections Project and modernisation of the gravity irrigation network it will enable gravity customers to enjoy an improved minimum level of service; therefore, it is important our pricing through the uniform Infrastructure Access Fees and Infrastructure Use Fees reflects that all customers will receive this minimum level of service.

Historically the Infrastructure Access Fees and Infrastructure Use Fees have been based on the allocation of costs to particular customer classes for specific districts. However, many of the reasons for the differences in charges between the districts today are hard to validate or explain; there is an element of arbitrariness in the allocation of costs to districts. Further, today around 65% of the gravity irrigation system operating costs, which reflect 85-90% of customer prices, are incurred or shared on a system wide or multiple district basis. This is due to the comprehensive changes occurring as part of the Connections Project, where modernisation is leading to more standardised service levels. This supports the move to uniform cost reflective GMID Delivery Charges.

Additionally, the cost differences within districts are often greater than those between districts, suggesting that an even more granular tariff structure is necessary for true cost reflectivity.

While district-based pricing allows for a discrete district basis of cost-reflectivity, it increases GMW's costs overall. Operating each district as a separate, stand-alone business unit with its own accounts and charges is complex and costly. The uniform GMID Delivery Charge will allow the organisation to reduce overall costs by around $0.85M, reflecting lower labour costs related to pricing, budgeting and customer service. In the long-term the component of price that relates to capital expenditure will increase; this is an inevitable result of the historic write-down of assets. It is therefore important for GMW to reduce costs wherever it can.

A uniform GMID Delivery Charge also protects customers from price shocks associated with large capital renewals, natural disasters, or reduction in delivery shares because costs are spread across a larger customer base. It cushions customers from price shocks and provides more predictable and stable pricing.

A uniform price also enables future maintenance decisions to be based on the goal of providing equitable service levels for all gravity customers.

GMW considers a uniform GMID Delivery Charge reflects an appropriate balancing of the objectives provided for in the ACCC's pricing principles. In particular, pricing which will achieve cost reflectivity at a GMID level to reflect the minimum level of service provided, and as a result the promotion of the efficient use of water infrastructure / water, as well as simplicity, transparency and lower administrative cost. This is set out in Table 44.

Table 44 – Summary of how the ACCC Pricing Principles are achieved

ACCC Pricing Principle	How the principle is achieved
Promote the economically efficient use of water infrastructure assets	Given the historical infrastructure basis of district pricing, the move to a uniform price will not reduce the signals for efficient water infrastructure use. This is further supported with the Connections Project providing for a standardisation of service levels and increasing the extent of common operating costs.
Ensure sufficient revenue for the efficient delivery of the services required	A uniform price will allow GMW to more easily monitor its revenue recovery and balance the risks of reducing delivery shares across more customers.
Give effect to the principles of user pays for water storage and delivery in irrigation systems	At an aggregate level, there will be no change in the level of cost recovery from users in respect of water storage and delivery in irrigation systems.
Achieve pricing transparency	A uniform price will be simpler to explain and implement, and GMID-wide reporting will maintain the current transparency of costs and revenues.
Facilitate water use and trade in water entitlements	The transition will not materially affect efficient water use or water markets.

These conclusions are supported by an independent report which Deloitte has undertaken in which has reviewed GMW's reasons for transitioning to a uniform Delivery Charge. This report is attached in Appendix B.

11.4.3 Proposed Transition

The Infrastructure Access Fee is the most significant charge in the scale of impact on a customer's bill and GMW's revenue. It is proposed the Infrastructure Access Fees transition incrementally to a uniform price by the end of the next regulatory period, i.e. in 2019/20. Across each district the Infrastructure Access Fees will reduce over the four years of the next regulatory period, although some districts, such as Shepparton, will reduce at a faster rate than others, such as Rochester, in order to reach the uniform price by 2019/20. The proposed Infrastructure Access Fees over the Price Review 2016 period are set out in Table 45.

Overall, the revenue GMW collects from the Infrastructure Access Fee will decrease. This is a result of increasing revenue from Service Point Fees as they become more cost reflective, as well as decreasing costs overall for a system that runs more efficiently, losing less water to seepage.

Table 45 – Infrastructure Access Fee ($2015/16)

	2016/17	2017/18	2018/19	2019/20
Shepparton	$3,556	$3,316	$3,085	$2,863
Central Goulburn	$3,178	$3,070	$2,965	$2,863
Rochester	$2,917	$2,900	$2,882	$2,863
Loddon Valley	$3,205	$3,085	$2,970	$2,863
Murray Valley	$3,016	$2,962	$2,911	$2,863
Torrumbarry	$3,062	$2,994	$2,928	$2,863

The Infrastructure Use Fee makes up 10 per cent of GMW's revenue from gravity irrigation. It is proposed the district Infrastructure Use Fees converge in the first year of the next regulatory period i.e. by 2016/17. This reflects the small proportion of a customer's bill that the Infrastructure Use fee represents and therefore the relatively small customer impacts. The proposed Infrastructure Use Fee over the Price Review 2016 period are set out in Table 46.

Table 46 – Infrastructure Use Fee ($2015/16)

	2016/17	2017/18	2018/19	2019/20
Shepparton	$6.34	$6.34	$6.34	$6.34
Central Goulburn	$6.34	$6.34	$6.34	$6.34
Rochester	$6.34	$6.34	$6.34	$6.34
Loddon Valley	$6.34	$6.34	$6.34	$6.34
Murray Valley	$6.34	$6.34	$6.34	$6.34
Torrumbarry	$6.34	$6.34	$6.34	$6.34

Service Point Fees for modernised meters are proposed to increase during the Price Review 2016 period as set out in Table 47. Modernised meters are being installed through the Connections Project and the price will apply in the first billing period for which the meters are operational.

The Domestic and Stock Service Point Fee will increase and will be aligned with the Diversions Small Service Point Fee, which has similar running costs and provides a similar service. Similarly, the Local Read Fee will also be aligned with the Diversions Large Service Point Fee. The Remote Read and Remote Read and Operate Fees will both be cost reflective by the end of the next regulatory period.

Table 47 – Service Point Fees ($2015/16)

	2016/17	2017/18	2018/19	2019/20
Domestic and Stock	$88	$95	$102	$109
Local Read	$312	$314	$316	$317
Remote Read	$463	$571	$696	$797
Remote Read and Operate	$561	$714	$859	$997

11.4.4 Customer Impacts

The customer impacts of the proposed transition set out above are examined below. In undertaking this analysis typical small and large customers were examined, with each of these typical customers being assumed to have the attributes set out in Table 48 (noting that large customers will incur a service fee for drainage that a small customer does not). The current tariff structure for drainage is assumed to continue, although as set out in section 11.8 this is being reviewed.

Table 48 – Small and large diversion customer attributes

Customer Size	Delivery Share (ML/Day)	Domestic and Stock Service Point	Remote Operate Service Point	HRWS (ML)	Surface Drainage Area (HA)
Small	0.03	1		3	
Large	4.70	1	2	410	130

Under the proposed transition small customers' bills will increase due to increases in the Service Fee and Service Point Fee, which together make up more than half the typical small customer bill. While the increases in the bill are significant in percentage terms, the dollar increases are less significant at about $12 per year. The real bill impacts for small customers are set out in Table 49.

Table 49 – Real increase in the total bill for small gravity irrigation customers

	Typical bill 2015/16	2016/17	2017/18	2018/19	2019/20	Average
Shepparton	$373	-5%	2%	2%	2%	0%
Central Goulburn	$330	4%	3%	3%	3%	3%
Rochester	$319	5%	4%	4%	3%	4%
Loddon Valley	$335	2%	3%	3%	3%	3%
Murray Valley	$329	4%	4%	3%	3%	4%
Torrumbarry	$334	3%	4%	3%	3%	3%

Large customers' bills are more subject to changes in the Infrastructure Access Fee (and to a lesser extent the Infrastructure Use Fee). Customer bills will decrease in Shepparton and increase in Rochester and Murray Valley, as set out in Table 50. For Shepparton this reflects the reduction in the Infrastructure Access Fee more than offsetting the increase in the Service Point Fee, and for Rochester and Murray Valley the increase in the Service Point Fees will not be offset by the reduction in the Infrastructure Access Fees.

Table 50 – Real increase in the total bill for large gravity irrigation customers

	Typical bill 2015/16	2016/17	2017/18	2018/19	2019/20	Average
Shepparton	$33,895	-15%	-3%	-3%	-3%	-6%
Central Goulburn	$25,476	-1%	-1%	-1%	-1%	-1%
Rochester	$24,035	1%	1%	1%	1%	1%
Loddon Valley	$25,866	-3%	-1%	-1%	-1%	-1%
Murray Valley	$25,747	1%	0%	0%	0%	0%
Torrumbarry	$25,549	-1%	0%	0%	0%	0%

11.4.5 Comparison with District-level Pricing

GMW has compared the impact of a transition to a uniform price versus maintaining the current district pricing. As illustrated below, by the end of the next regulatory period, i.e. in 2019/20, Shepparton, Loddon Valley and Murray Valley customers would have lower bills under the proposed uniform GMID Delivery Charge as compared to district pricing. In contrast, Central Goulburn, Rochester and Torrumbarry will have relatively higher bills.

To undertake this comparison the Infrastructure Access Fees shown in Table 51 have been estimated. These Infrastructure Access Fees are based on current cost estimates for each district. Broken Creek customers, being on the border of Shepparton and Murray Valley customers are assumed to be in the Shepparton district, and as this is a low-cost area to operate, this increases Murray Valley's and decreases Shepparton's price. The analysis also incorporates repayments over several years of the (now closed, with the move to GMID pricing) bank balance in Rochester. These Infrastructure Access Fees also assume that an additional $0.85M of revenue will need to be collected in 2019/20 compared with that shown in Table 45, reflecting the additional administration costs associated with maintaining a district-based price.

While the current prices are broadly cost reflective at a district level, there is some variance between current prices and those estimated in Table 51. District-based Infrastructure Use Fees have also been estimated (not shown) and the Service Point Fees are assumed as per the proposed price transition scenario detailed in section 11.4.3.

Table 51 – Infrastructure Access Fee under district pricing (approximate) ($2015/16)

	2016/17	2017/18	2018/19	2019/20
Shepparton	$3,730	$3,610	$3,500	$3,470
Central Goulburn	$2,880	$2,790	$2,710	$2,680
Rochester	$3,040	$2,950	$2,860	$2,830
Loddon Valley	$3,590	$3,480	$3,370	$3,340
Murray Valley	$3,210	$3,110	$3,020	$2,980
Torrumbarry	$2,860	$2,770	$2,690	$2,660

Table 52 shows the changes in small customers' bills in 2019/20 as a result of implementing a uniform GMID Delivery Charge as compared to district pricing. For example, a small customer in the Shepparton district will have a bill $21 lower in 2019/20 under the proposed uniform GMID Delivery Charge, while a small customer in the Torrumbarry district will have a bill $7 higher.

Table 52 – Comparison of small customer bill in 2019/20 under district pricing and a uniform GMID delivery charge

	$ change	$ change per ML of HRWS	% change
Shepparton	-$21	-$7	-5%
Central Goulburn	$7	$2	2%
Rochester	$1	$0	0%
Loddon Valley	-$17	-$6	-4%
Murray Valley	-$3	-$1	-1%
Torrumbarry	$7	$2	2%

Table 53 shows the changes in large customers' bills in 2019/20 as a result of implementing a uniform GMID Delivery Charge, showing that a large customer in Shepparton will have a bill $3,290 (11%) lower under the proposed uniform GMID Delivery Charge, while a large customer in Torrumbarry will have a bill $1,128 (5%) higher.

Table 53 – Comparison of large customer bill in 2019/20 under district pricing and GMID Delivery Charge

	$ change	$ change per ML of HRWS	% change
Shepparton	-$3,290	-$8	-11%
Central Goulburn	$1,020	$2	4%
Rochester	$180	$0	1%
Loddon Valley	-$2,570	-$6	-9%
Murray Valley	-$450	-$1	-2%
Torrumbarry	$1,130	$3	5%

11.4.6 Other Gravity Tariff Options Considered by GMW

As a result of the feedback received during the consultation on the uniform GMID Delivery Charge, GMW considered a longer transition period for the Infrastructure Access Fee to further mitigate the impact on customers. A six year transition would ameliorate the customer impacts by distributing the impact over a greater number of years. Other charges, the Service Point Fee and the Infrastructure Use Fee, are assumed to be as per the initial proposal. The Infrastructure Access Fee under a 6-year transition is shown in Table 54.

Table 54 – Infrastructure Access Fee – a 6 year transition to uniform price

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Shepparton	$3,575	$3,383	$3,200	$3,026	$3,031	$3,033
Central Goulburn	$3,185	$3,079	$2,977	$2,881	$2,956	$3,033
Rochester	$2,890	$2,844	$2,799	$2,756	$2,878	$3,033
Loddon Valley	$3,224	$3,115	$3,010	$2,911	$2,985	$3,033
Murray Valley	$3,004	$2,936	$2,871	$2,809	$2,914	$3,033
Torrumbarry	$3,056	$2,978	$2,904	$2,833	$2,931	$3,033

A comparison between the 6 year and the 4 year transition paths is shown in Table 55. Over the Price Review 2016 period, the price in districts that have relatively low prices (such as Rochester) will be lower under a 6 year transition than under a 4 year transition. The opposite is true for districts that have relatively high prices: Shepparton and Loddon Valley; the prices in these districts will stay higher for longer.

Table 55 – Infrastructure Access Fee – comparison between the 6 year and 4 year transition paths

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Shepparton	$19	$68	$115	$163	$84	$0
Central Goulburn	$7	$9	$13	$18	$9	$0
Rochester	-$27	-$56	-$83	-$107	-$69	$0
Loddon Valley	$19	$29	$40	$48	$38	$0
Murray Valley	-$13	-$26	-$40	-$54	-$32	$0
Torrumbarry	-$6	-$16	-$24	-$30	-$16	$0

However, the difference between the two scenarios is small; for Rochester the difference between the two scenarios is between $27 (in 2016/17) and $107 (in 2019/20) or 1% and 4% of the overall Infrastructure Access Fee. For this reason, GMW is proposing to retain its four year transition in order to realise earlier the benefits of a GMID-wide charge.

11.4.7 Customer Consultation and Feedback

The move to a uniform GMID Delivery Charge is a significant change for GMW and its customers and was made after extensive consultation.

Mixed responses were received from customers about the uniform price during the initial consultation for the Gravity Tariff Strategy that was included in the Blueprint. These comments included:

- Irrigation districts should be under one system of management with charges set at the same price;
- Averaging would be fair;
- Delivery charges should be related to the irrigation area services. These charges should be less due to the new automated system;
- Cost of service should reflect the cost for the locality;
- Need to remove the cross subsidies of the current system pricing, let alone move to a uniform price;
- An average would be preferable as the disparity between areas does seem unfair;
- Should reflect level of service, and;
- Genuine cost reflectivity (on a local scale).

A summary of the issues and concerns raised during the consultation process on the draft submission to the Price Review 2016 is provided in Table 56, along with GMW's consideration of these issues. The concerns raised directly by around 16 customers in the customer forums are similar to those raised by some customers during the development of the Gravity Tariff Strategy.

Table 56 – Summary of customer concerns around gravity irrigation price reform and consideration of these issues by GMW

Customer concerns	GMW consideration
A uniform price will not be cost reflective, will lead to inefficient decision making and cross subsidisation with some users paying for benefits not directly received.	The uniform price will be cost reflective across the GMID as a whole for the minimum level of service provided by the modernised system. GMW is investing in and operating the modernised irrigation system on an integrated, region wide basis, with a significant portion of its costs (65%) occurring on a system wide basis. This is a change from the previous approach of operating on an irrigation district basis and supports the transition to a uniform price.
A uniform price should not be used to deal with price shocks, this should be done through planning and the use of self-insurance or annuities.	It is difficult to plan for and completely remove the impacts of natural events such as floods and drought, particularly without investing in capacity which in business as usual situations would not be required or be seen as efficient. Recognising the GMID wide operation of the modernised irrigation system and recovering costs over the system as a whole, rather than specific districts, protects customers from price shocks and enables GMW to remain financially viable.
A uniform price does not drive cost savings.	The introduction of the uniform price will drive cost savings of around $0.85M per year through lower labour costs related to pricing, budgeting and customer service.
A uniform price reduces service level accountability and incentives for GMW staff at a local level and local decision making by customers will be lost.	GMW is committed to delivering on the minimum levels of service and through quarterly and annual reporting all staff are held to account on delivering these standards Local consultation will continue to occur through the WSCs, particularly in relation to

Customer concerns	GMW consideration
	local investment and operations and maintenance priorities. However, all priorities will then be considered across the GMID as a whole to ensure that activities occur in those areas with the highest risks and opportunities.
There is no connectivity between the irrigation districts and therefore no clear driver for a uniform price.	The uniform price reflects the minimum level of service provided not the connectivity of the districts.
A uniform price should not be introduced when the outcomes of modernisation are still unknown, particularly with regard to providing a uniform service.	It is still anticipated that modernisation will deliver a common minimum level of service as captured by the service standards proposed in this submission.
The new Board should sign off on a fundamental change like a uniform price, particularly in light of the customer feedback received.	The new Board will be consulted in relation to the uniform price issue, however, they will not be in place until October 2015. Given the uniform price was first proposed in the 2012 draft Blueprint and is consistent with GMW's fundamental commitment of Creating the opportunity to increase production in Northern Victoria over the next 20 years it is considered appropriate.
The consultation process for the uniform price has not been balanced and the alternative view of district based pricing has not been provided.	While not included in the most recent consultation forums, GMW has previously provided information about the comparison of a uniform price to district pricing (with and without comparisons). This comparison has now been included in the section above.
Service Point Fees will be too expensive by 2019/20 at $1,000 for Remote Read and Operate and customers do not always have a choice as to the sort of service point they have installed with this sometimes being required as a part of the Connections Project.	The Service Point Fees are reflective of the costs associated with the different meters. Further, GMW has set requirements that are a condition of receiving service e.g. for customers with open channels that have deliveries of greater than 7ML/day Remote Read and Operate Service Points must be in place.

In contrast to the issues and concerns outlined in Table 56, some customers supported the proposed uniform GMID Delivery charge and many did not raise any concerns. For example:

- A large agricultural business operating across multiple districts in the GMID, and other irrigation areas, noted that the current district pricing makes it difficult to understand and compare pricing within the GMID and with other rural water providers. As a result a dedicated resource is required to work through the pricing complexity;
- A Shepparton irrigator supported the proposed transition to a uniform GMID Delivery Charge and noted that GMW's business is smaller than it used to be and that it doesn't make sense for it to operate as a series of small independent districts. All possible efficiencies that can be gained should be sought and under the uniform GMID Charge this will be possible, and;
- Some customers considered there is a precedent for averaging costs over the district as basin pricing already averages the cost of harvesting water across the storages in the Murray and Eildon basins.
- Stakeholder views reflected the need to ensure that irrigation "*operators remain competitive on a global scale*" noting that GMW's water plan supported "*attracting investment within the agricultural sector*" and "*would allow customers to consider expansions and other business development opportunities due to the reduced water related fees*".
- Customers expressed their concerns about the inequity between areas under the current pricing regime where "*Shepparton irrigators continued to pay up to 40 percent more than*

other areas".

Some Water Service Committee members expressed the view that "*GMW had consulted with WSC in 2013 and it was agreed by the WSC Chairs that there would be a single price across all areas. Since that time GMW has started to share its staff and equipment across areas boundaries gaining efficiencies.*" Members expressed their concerns that these efficiencies would be lost if area boundaries were re-established.

While understanding the nature of the concerns raised by customers, GMW remains of the view that the proposed changes are appropriate and meet the ACCC's pricing principles.

11.4.8 Gravity Tariffs over the Price Review 2020 Period

Assuming constant operating expenditure, gravity irrigation prices are forecast to increase over the Price Review 2020 period. This is a result of an increasing asset base which in turn increases the revenue requirement. This will mostly be collected in the Infrastructure Access Fee and Infrastructure Use Fee, while service point fees will broadly increase in line with CPI. Over the Price Review 2020 period, small customers' bills are forecast to increase by 1% per year in real terms, while large customers' bills will increase 2% per year in real terms.

11.5 Shared Connections

GMW is considering the development of a Shared Connection option for connecting customers to the modernised backbone. This would be a form of backbone extension and potentially be available as an alternative to customers instead of individual connection, shared outlet or private water scheme (syndicate).

The Shared Connection backbone extensions may take different forms, including delivery of water via gravity, a combination of gravity and pumping (low pressure) and pumping (low and high pressure). The pricing of these services is being considered. While it would be proposed to maintain the Service Fee and Service Point Fee structure and tariffs applying to Gravity Irrigation tariffs, preliminary considerations suggest cost reflective pricing for the operations of these Shared Connections (to be recovered using a form of Infrastructure Access and Use Fees) as follows:

- Backbone prices – for deliveries from gravity shared connections;
- Low pressure prices – for deliveries from hybrid and fully pumped shared connections, and;
- High pressure prices – for deliveries from high pressure shared connections.

A working group has been considering these issues since January 2015, however, further consultation is required with the WSC's and customers. The organisation will undertake this consultation over the next few months and seek further customer input to develop a proposed tariff structure and prices, as well as a date for commencing implementation. If customers support implementation from 2016/17 then GMW will provide a supplementary submission detailing those proposals.

11.6 Pumped Irrigation District and Water District Tariff Structures

The tariff structures for the Pumped Irrigation Districts and Water Districts are similar to those for the GMID and it is proposed to retain them for the start of the Price Review 2016 period. However, prior to and during the course of the next regulatory period it is proposed to review these tariffs to examine:

- The mix of fixed and variable tariffs;
- Whether any changes are required, particularly in relation to Service Fees, and;
- Whether there is an opportunity to aggregate some of the Pumped Irrigation Districts and their tariffs as well as some of the Water Districts and their tariffs.

11.7 Nyah and Tresco Pumped Irrigation District Tariff Increases

Nyah and Tresco are pumped irrigation districts in the west of the GMID.

The infrastructure that supplies these districts was largely constructed in the 1960s and 1970s and is now aging and at the end of its useful life. This poses a significant risk to service delivery if not addressed. Much of the production in the district is based on perennial horticulture meaning a cessation of supply would significantly impact these customers.

In order to address the risk of a system failure, it is necessary to replace much of the district's infrastructure. As outlined in section 6.3 over the Price Review 2016 period an allowance of $1.2M in capital expenditure has been made for proposed works to address these issues in Nyah and $0.8M in Tresco. In addition $0.25M operating expenditure has been allocated across the first two years of the next regulatory period for Nyah and $0.15M for Tresco to determine the scope of works required and supported by customers in these districts. As a result of these costs, it is proposed to increase the prices for Nyah and Tresco customers as follows:

- For Nyah the Infrastructure Access Fee would increase by CPI + 4 per cent each year and the Infrastructure Use Fee by CPI + 2 per cent each year, and;
- For Tresco the Infrastructure Access Fee would increase by CPI + 3 per cent each year and the Infrastructure Use Fee by CPI + 2 per cent each year.

Customer consultation occurred as a part of the draft submission process and no concerns were raised. GMW will continue to consult with customers prior to and during the course of the Price Review 2016 period, particularly in terms of the trade-off between risk and price.

11.8 Drainage Tariffs

At this stage, it is proposed to retain the current structure of the drainage tariffs for the start of the Price Review 2016 period.

However, GMW has recently embarked on the process of reforming drainage tariffs in the GMID and released for consultation an Issues Paper. The current drainage tariff structure is complex, difficult to understand and does not properly align costs and revenues. WSCs have been engaged along with relevant stakeholders to provide advice on the development of a Drainage Tariff Strategy in line with the organisation's overall tariff strategy and principles.

If, via this consultation, the organisation and customers are comfortable with the proposed approach developed through this process, and its implementation commencing in 2016/17, then a supplementary submission with details of the proposed reforms will be provided.

The revenue from sub-surface drainage in the GMID exceeds the costs and GMW anticipates that an outcome of the review of drainage tariffs will be an overall reduction in revenue in sub-surface drainage. This reduction in revenue will be implemented at the same time as the restructuring of tariffs.

11.9 Diversions Tariffs

Tariffs for our diversions business were reviewed during the current regulatory period and a Diverters Tariff Strategy was released in September 2013.[10] GMW consulted a wide group of diverters during the development of the strategy.

The strategy committed to:

- Reduce the number of customer groups used for pricing from ten to four;
- A tariff structure that better reflected diversion services and functions, and reflected the way costs are incurred; most significantly an Access Fee levied on the basis on service points, rather than customer size, as the number of service points is the principal driver of costs, and;
- Lower costs across the entire business.

The new tariff structure established under the Diverters Tariff Strategy commenced implementation in 2014/15.

[10] http://www.g-mwater.com.au/projects/-MWpricing/diverterstariffstrategy

Tariffs that Reflect Four Distinct Diversions Services

The previous tariff structure had separate prices for 10 different groups of customers. The number of groups has been reduced to four as a result of the Diverters Tariff Strategy, reflecting four distinct diversions services:

1. Regulated surface water diverters who draw water from a waterway that is downstream of a storage managed by a Water Authority and therefore has flows regulated by that storage. Prior to the strategy, this group of customers was further divided into three groups: Murray, Goulburn and Goulburn (fish farming). The costs of servicing these groups is not sufficiently different to warrant the administrative complexity, and they have been amalgamated because of this;
2. Unregulated surface water diverters who draw water from a waterway upstream of, or not regulated by, a storage managed by a Water Authority. Prior to the strategy this group of customers was divided into four groups Murray, Murray (fish farming) Goulburn and Goulburn (fish farming). Again, the costs of servicing these groups are sufficiently similar to allow the groups to be amalgamated for pricing;
3. Groundwater diverters. Previously, we prioritised our resource management focus on a few 'high risk' aquifers through the development of statutory management plans; with 'low risk' resources not requiring the same intensity of management. For this reason, some areas were more costly to manage than others and groundwater diverters had previously been divided into two groups for pricing. Since the millennium drought management plans have been progressively developed for all remaining groundwater resources in our region. As a result all groundwater management areas will have similar costs. Therefore, the two groups are being merged as a result of the strategy, and;
4. Shepparton Irrigation Region (SIR) groundwater diverters. The definition of this group is unchanged as a result of the strategy.

The revenue collected in each of these services should reflect the costs of running each service.

11.9.1 The New Tariff Structure

The new tariff structure reflects the core services GMW provides to diverters.

Table 57 – Diversions charges and associated costs

Charge	Associated costs
Service Fee	A share of the total cost of keeping records, managing accounts and maintaining and improving GMW's accounts system.
Service Point Fee	The cost of compliance monitoring, measuring use and meters at each diversion site (also known as a service point).
Access Fee	The cost of ensuring water is accessed in line with management rules and plans. The access fee includes managing allocations, rosters, restrictions and water ordering.
Resource Management Fee	For groundwater and unregulated surface water diverters, the resource management fee contributes to the cost of developing and reviewing resource management plans. It helps to ensure essential information such as water sharing arrangements, resource caps, trading rules and water resource monitoring is up to date and readily available.

The new tariff structure better reflects how costs are incurred and better meets the ACCC's pricing principles. In particular, the costs of regulating access are primarily driven by the number of service points. Aligning the charge with the way costs are incurred provides an appropriate incentive for customers to rationalise unnecessary service points, and therefore promotes the efficient use of infrastructure. GMW expects there will be a small reduction in the number of service points in response to this incentive.

11.9.2 Summary of Tariff Changes

Many elements of the new tariff structure for diverters were introduced in 2014/15 and in 2015-16 changes to the tariff structure were completed and the price transition commenced. GMW aims to complete the price transition by 2017/18. The transition period was agreed to by the regional WSCs that represent diversions customers.

The principal effect on customers of implementing the Diverters Tariff Strategy will be price relief for most large customers and price increases for most small customers. This is why a transition path has been chosen that balances the yearly impact on small diverters, while delivering timely bill reductions to large diverters.

The main price changes during the Price Review 2016 period are summarised below.

Service Point Fees

In 2015/16, the previous single Service Point Fee was replaced by two new charges: Small Service Point Fee and Large Service Point Fee, reflecting the cost of compliance and operating each of the two measurement types. The Small Service Point Fee will be initially aligned with the gravity district Stock and Domestic Service Point Fee and increase incrementally to reflect costs. The Large Service Point Fee will increase to $300 in 2016/17, and thereafter increase incrementally in line with the analogous Local Read Meter Fee in gravity districts.

Access Fees

The most significant price change for diverters is the transition from an Access Fee based on the customer's volume of entitlement to one based on the number of service points, which better reflects the way costs are incurred. The effect of the change is to increase bills for small customer and decrease bills for large customers.

The new service point-based Access Fee was introduced in 2015/16. The existing volume-based Access Fee will be steadily phased out, while the new Access Fee will be steadily increased as illustrated in Table 58.

Table 58 – Diversions Access Fees ($2015-16)

	Fee	2015/16	2016/17	2017/18	2018/19	2019/20
Regulated Surface Water Diverters	ML/day	$204	$82	-	-	-
	Service Point	$60	$117	$186	$186	$186
Unregulated Surface Water Diverters	ML entitlement	$8	$3	-	-	-
	Service Point	$60	$117	$186	$186	$186
Groundwater Diverters	ML entitlement	$2.04	$0.78	$0.00	$0.00	$0.00
	Service Point	$50	$107	$167	$167	$168
Groundwater Diverters (other)	ML entitlement	-	-	-	-	-
	Service Point	$50	$107	$167	$167	$168
SIR Groundwater Diverters	Service Point	$100	$98	$95	$93	$91

Resource Management Fees

For most of the resource management fees, little change is proposed over the next regulatory period, with the exception that for SIR groundwater customers, the Resource Management Fee is expected to reduce.

11.9.3 Customer Impacts

The purpose of the Diverters Tariff Strategy was to set simple and cost-reflective tariffs. The effect of the change is to increase bills for small customer and decrease bills for large customers. The extent to which these changes will affect typical small and large diversion customers is shown in table 59.

Table 59 – Diversions typical customers' bill increases

	Typical bill 2015/16	2016/17	2017/18	2018/19	2019/20	Average
Small customers						
Regulated Surface Water Diverters	$285	21%	21%	3%	3%	12%
Unregulated Surface Water Diverters	$282	18%	20%	3%	3%	11%
Groundwater Diverters (SIR)	$251	-4%	-6%	2%	1%	-2%
Groundwater Diverters (Intensive)	$380	10%	11%	3%	3%	7%
Groundwater Diverters (Other)	$339	18%	16%	3%	3%	10%
Large customers						
Regulated Surface Water Diverters	$4,049	1%	-1%	1%	1%	0%
Unregulated Surface Water Diverters	$2,145	-33%	-31%	0%	0%	-17%
Groundwater Diverters (SIR)	$1,365	-29%	-46%	-2%	-2%	-22%
Groundwater Diverters (Intensive)	$3,505	-13%	-11%	0%	0%	-6%
Groundwater Diverters (Other)	$2,485	7%	2%	0%	0%	2%

The attributes that make up a typical customer are as set out in Table 60.

Table 60 – Diversion customer attributes

Attributes	Customer Size	Regulated SW	Unregulated SW	Groundwater
Extraction Share (ML/Day)	Small	0.02		
	Large	2.80		
Entitlement/HRWS (ML)	Small	2	2	20
	Large	280	170	500
Service Point Small	Small	1	1	1
	Large			
Service Point Large	Small			
	Large	1	1	1

11.9.4 Customer Consultation and Feedback

GMW undertook significant consultation through the process of developing its Diverters Tariff Strategy. It ran a public consultation process from 26 July to 23 August 2013 and sought feedback via an online survey, a call for written submissions, inviting customers to provide face to face feedback at specific regional locations and through sessions with the regional WSC. Prior to implementing the Diverters Tariff Strategy in 2014/15 there was also a further mail out to all customers.

During the consultation on the draft submission, significant concern was raised by small customers about the impact of the new tariff structure. They did not consider it equitable or fair that small customers would pay the same Access Fee as the large customers if they had the same number of service points. Further, they did not consider that they were receiving a service from GMW for this charge.

GMW understands these concerns and the impact on small customers was a key driver for implementing the new tariff structure over multiple years. However, as outlined above, it considers the new tariffs are more cost reflective (with costs being driven primarily by the number of service points) and will therefore promote the economically efficient use of infrastructure. Further, GMW takes a risk based approach to ensuring water is accessed in line with management rules and plans, meaning it will generally focus its monitoring activities

on the bigger customers. While this may not be visible to smaller customers, it has benefits for them as it ensures that they are able to access their entitlements and they are therefore receiving a service.

11.9.5 Diversions prices over the Price Review 2020 period

Diversions prices are projected to increase over the Price Review 2020 period in real terms by between CPI + 1-4 per cent each year depending on the nature of the service and the size of the customer. This reflects forecast capital expenditure constant operating expenditure.

11.10 Bulk Water Prices

For pricing purposes, GMW divides its bulk water service into seven basins, with the price in each reflecting the costs of delivering water in that basin. Of the seven basins, there are two larger basins - Goulburn and Murray - that hold the majority of water stored for customers. The other five basins - Broken, Campaspe, Loddon, Bullarook and Ovens – store relatively smaller amounts of water in comparison.

Because of historic pricing decisions and investment in dam safety upgrades, the costs of operating and maintaining most of the smaller basins currently exceeds the associated revenue collected. GMW's aim is for each basin to recover its costs and consequently in the current regulatory period price increases were proposed in the smaller basins capped at 10 per cent each year.

With the exception of the Campaspe Basin, GMW proposes to increase the prices in small basins in the Price Review 2016 period, towards the goal of cost reflectivity, capped at CPI + 10% per year. In the Broken, Bullarook and Ovens basins, cost reflectivity will not be achieved in the Price Review 2016 period, and, as a result, it is proposed prices in these basins will need to continue to increase further during the next regulatory period.

GMW proposes to increase prices in the Murray basin by 1% in nominal terms, providing a real price decrease of 1.5%.

Table 61 summarises the proposed price increases for each basin in the next regulatory period and also provides a summary of the price increase in current regulatory period. The likely price increases in the Price Review 2020 period are also included.

Table 61 – Bulk water annual price increases ($2015-16)

Basin	Current regulatory period annual increase (CPI+x%)	Price Review 2016 proposed annual increase (CPI+x%)	Price Review 2020 forecast annual increase (CPI+x%)
Broken	10%	10.0%	10.0%
Goulburn	1.5%	0.0%	0.0%
Campaspe	10%	0.0%	0.0%
Loddon	10%	4.0%	0.0%
Bullarook	10%	10.0%	5.0%
Murray	1.5%	-1.5%	0.0%
Ovens	10%	10.0%	10.0%

11.10.1 Customer Feedback

As noted in section 3.3.4, Central Highland Water provided a submission in which it noted its high dependency on the bulk water supplies from GMW and its concern about the proposed pricing for the Bullarook basin, which has the highest bulk water price of all basins and after several years of high price increases is facing further significant price increases (CPI + 10 per cent per year). Central Highland Water stated that this could potentially impact the financial viability of this resource for its customers into the future. It suggested that GMW should review the input costs for this basin to ensure they are accurate and benchmark them against other similar service providers, as well as considering alternative cost allocation and pricing approaches to achieve a more equitable pricing outcome.

GMW notes this feedback and concerns. It is continuing to work with Central Highland Water in relation to the issues raised; including the input costs incurred in the Bullarook basin and subject to the outcomes of this further consultation may need to provide supplementary information and proposals to this submission.

11.11 Entitlement Storage Fee

For irrigation customers who are water users, GMW has two Entitlement Storage Fees, one for the Goulburn system and another for the Murray system (with separate charges for high and low reliability water shares in each system). GMW proposes to retain this structure for the Price Review 2016 period and reflecting the proposed basin prices that make up each of the systems proposes price increases of CPI + 1 per cent per year for the Goulburn system and CPI + 0 per cent (i.e. zero price increases) for the Murray system.

11.12 Prices for the Environmental Water Holders

As outlined in section 3.3.4, there has been ongoing consultation and discussions with Environmental Water Holders about the prices they pay. In consulting on its draft submission, GMW also received feedback from its retail irrigation and drainage customers that they would like to understand in more detail how the prices for environmental water were set and what the proposed prices were for the next regulatory period.

GMW is proposing to retain its current approach to charging Environmental Water Holders in the Price Review 2016 period. This approach comprises:

- For all bulk and environmental entitlements held in its own name, and in trust for the Murray-Darling Basin Authority, the Victorian Environmental Water Holder is charged the relevant bulk water price;
- For all water shares held, the Commonwealth Environmental Water Holder is charged the relevant entitlement storage price for non-water users, and;
- A supply arrangement has been put in place which means that the Victorian Environmental Water Holder (which also delivers water to Victorian sites for the Commonwealth Environmental Water Holder and Murray-Darling Basin Authority) pays an Infrastructure Access Fee based on a delivery share equivalence approach (i.e. the ML of water to be delivered is converted to an equivalent delivery share).

Consultation is occurring to determine a longer term, more sustainable and transparent approach to setting prices for the delivery of water for the Environmental Water Holders. In the event that the current consultation establishes an approach which is different to the above, a supplementary submission will be provided setting out the alternative proposal.

12 Non-prescribed services

GMW's bulk water services also provide non-prescribed services to communities across rural Victoria. These include:

- Houseboats – GMW controls and manages the operations of houseboats on Lake Eildon.;
- Recreation – the public also use GMW headworks for tourism and recreation through facilities such as picnic areas, boat ramps, barbecues and toilet blocks;
- Leases and licences – much of the land and buildings on land surrounding our storages is leased for agriculture, forestry and commercial and community enterprises;
- Hydro-electric power – five storages are also used to generate hydro-electricity. This is undertaken by power companies in return for a fee;
- Natural resource management services for CMA and the Victorian Government, and;
- Water management.

Projected revenue from non-prescribed services is $125.6M during the Prices Review 2016 period.

There are a number of risks associated with non-prescribed services. These include:

- As these services contribute towards tourism and the local economy, there are partnership arrangements with local authorities and agencies to manage them. Many of these are being reviewed as these authorities and agencies look to manage their costs to their customer base. This could lead to an increase in non-prescribed expenditure if these agencies reduce their contributions and GMW continues this work;
- Public expectation around public use facilities and amenities at the bulk water storages is increasing. In addition, with an increasing liability conscious public, the facilities need to be of an increasingly high standard, and;
- There is also an increasing focus on opening up areas around storages to the public. This will increase the management costs of these areas as they will require increased maintenance and investment.

These non-prescribed services are not included in the proposals in this submission.

Appendix A – Deloitte's Independent Review of GMW Reasons for Transitioning to a Uniform Delivery Charge

Deloitte Access Economics

Goulburn-Murray Water

Review of Tariff Strategy

Final Report

#4023944

Deloitte.

A. Contents

Executive Summary

Goulburn-Murray Water (GMW) is transitioning towards a uniform Goulburn-Murray Irrigation District (GMID) Infrastructure Access Fee and Infrastructure Use Fee ("delivery tariffs") for all gravity irrigation customers. It has identified the following five reasons for this change:

1. The current district-based tariffs are not particularly cost reflective
2. There are no strong economic drivers for district-based price signals, where prices are largely based on historical infrastructure investments and new customer growth is low or non-existent
3. Operating each district as a separate, stand-alone business unit with its own accounts and charges is complex and costly
4. Uniform delivery prices provides more predictable and stable pricing - with costs spread across a larger customer base customers are protected from price shocks that affect individual districts.
5. With modernisation through the GMW Connections Project, the cost differentials between the districts will reduce and a common minimum level of service will apply across the entire GMID.

Deloitte Access Economics was engaged by GMW to independently review its reasoning for transitioning to a single GMID price. We have reviewed each of GMW's reasons for the single tariff strategy above and supporting information provided to us by GMW. We have also considered whether the proposed changes are consistent with the Commonwealth Water Charges Infrastructure Rules and associated pricing principles.

Our view is that GMW's transition to a single price reflects a sound consideration of the trade-offs between cost reflectivity, appropriate pricing signals and administrative cost and simplicity.

While the final single price will re-align tariffs across existing districts and result in the smearing of historical infrastructure cost differences, our view is that this is likely to have a limited effect on economic efficiency because the price signals largely reflect sunk or system wide (allocated) costs. We note that revenue associated with existing infrastructure, being the return on assets and depreciation, accounts for only 10-15% of total gravity irrigation service revenues. With the Connections Project and the standardisation of service levels, using historical asset costs as the prime basis for district pricing has limited merit.

There are also benefits to moving to a single price, including reduced administrative costs that are already being realised through the transition, and will continue to be realised as the uniform GMID delivery prices are reached. The single price also reduces the impact of severe weather events and large infrastructure investments on individual irrigators.

In relation to the national rural water pricing principles, our view is that the single price adequately achieves the objectives of the economic regulatory framework.

We therefore conclude that GMW's decision to transition to a uniform GMID delivery prices is a reasonable strategy that appropriately reflects key factors that must be considered when making pricing decisions.

1 Introduction

1.1 Background

Goulburn-Murray Water (GMW) manages and operates a water delivery system in a region covering 68,000 square kilometres of rural Victoria. As part of this role, it serves over 14,000 gravity irrigation customers across six irrigation districts: Shepparton, Central Goulburn, Rochester, Loddon Valley, Murray Valley and Torrumbarry.

There are two main fees for gravity irrigation customers:

- **Infrastructure Access Fee (IAF)** - Recovers most of the costs of operating, maintaining and renewing the delivery network. The delivery network can include channels, pipes, bridges, road crossings siphons and subways. The fee is fixed and applies per ML a day of delivery share.
- **Infrastructure Use Fee (IUF)** - Recovers a portion of the costs of operating, maintaining and renewing the delivery network. The fee is variable and applies per ML of water delivered during the season.

In 2010, GMW announced a review of how it recovers costs from customers in the gravity irrigation areas, with a goal of simplifying its administration and to ensure clear price signals are provided to customers to inform long term planning.[11] This review was needed because of the significant structural changes that the Connections Project was expected to bring to GMW, with a much greater proportion of shared costs stemming from the modernisation of assets. The review was conducted throughout the 2013 Water Plan period and included consultation with customers and Water Service Committees (WSCs). The proposal to transition to uniform delivery charges was confirmed in GMW's 2013 Blueprint.

GMW is proposing to move towards its new gravity irrigation pricing strategy, by changing the six district tariffs to lead them towards a single price for the entire Goulburn-Murray Irrigation District (GMID). This proposed new tariff strategy means that by 2016-17, the IUF will converge to a single price for all districts, and by 2019-20, the IAF will also converge.

GMW has identified a number of reasons for the transition to uniform GMID delivery tariffs:

1. The current district-based tariffs are no longer particularly cost reflective, because the majority of GMW's costs are incurred system wide and allocated out to districts based on indirect cost drivers and historical price paths
2. There are no strong economic drivers for district-based price signals, where the prices are largely based on historical infrastructure investments and new customer growth is low
3. Operating each district as a separate, stand-alone business unit with its own accounts and charges is complex and costly
4. A single price provides more predictable and stable pricing - with costs spread across a larger customer base customers are protected from price shocks that affect individual districts
5. With modernisation through the GMW Connections Project, the cost differentials between the districts will reduce and a common minimum level of service will apply across the entire GMID.

[11] GMW Media Release, 4 May 2010, http://www.g-mwater.com.au/news/media-releases/2010_media_releases/g-mw-announces-review-to-modernise-pricing-and-tariffs.html

1.2 Scope of our work

GMW engaged Deloitte Access Economics to independently review its reasoning for transitioning its district-based gravity tariffs to a single GMID price.

Our scope of work includes the following tasks:

- review each of GMW's reasons for the single tariff strategy, based on information to be provided to us by GMW, and indicate whether we believe they are reasonable and sufficient to support the case for a single tariff
- review whether the proposed changes are consistent with the Commonwealth Water Charges Infrastructure Rules and associated pricing principles
- based on the above, form a view as to whether we consider GMW's proposed changes are reasonable.

This report discusses each of the reasons listed in the previous section and the overall rationale for GMW's single price tariff strategy.

2 Reasons for the transition to a single price

2.1 Introduction

The economic regulatory framework that governs GMW requires that certain principles be taken into account in developing customer tariffs. The pricing principles for GMW's Gravity Irrigation tariffs were determined by the ACCC in 2011, and apply under Part 6 of the *Water Charge (Infrastructure) Rules 2011*, which is the primary economic regulatory legislation governing GMW.

The Part 6 pricing principles contain requirements for the treatment of GMW's asset base, rate of return, operating and capital expenditure and the various other building block components. They also contain some requirements around the structure of GMW's tariffs, which is relevant to GMW's transition to a single price.

The pricing principles require that tariff structures should:

1. promote the economically efficient use of water infrastructure assets
2. ensure sufficient revenue streams to allow efficient delivery of the required services
3. give effect to the principles of user pays in respect of water storage and delivery in irrigation systems
4. achieve pricing transparency
5. facilitate efficient water use and efficient functioning of water markets.

These principles are common to other economic regulatory frameworks for utilities, including electricity, gas and telecommunications. Aside from ensuring that sufficient revenue is recovered from the tariffs, these principles can be reduced to a couple of primary objectives:

- Cost reflectivity, which promotes efficient water use
- Simplicity, transparency and understandability.

While both objectives are important in their own right, there is a trade-off between them, as true cost reflectivity typically requires complex cost allocation and tariff setting. GMW and its customers need to identify the appropriate mix of these two objectives within GMW's tariffs, taking into account:

- The administrative costs of developing tariffs, including cost allocation processes, and the impact on GMW and its customers
- The need for price signals to encourage efficient water use.

2.2 Cost reflectivity

Cost reflectivity is important in determining prices, as price is an effective way to send signals to customers to encourage an 'economically efficient' use of resources. If prices are truly cost reflective, then consumers will use an efficient amount of a good or service and one which that balances the costs and benefits of their consumption.

However, there is a trade-off between simplicity and cost reflectivity, as true cost reflectivity can require very detailed cost allocation and more complex tariff structures. Due to this, tariffs are rarely fully cost reflective.

2.1.1 Cost reflectivity and sunk costs

Where costs are largely associated with historic infrastructure investments, while there is an important user pays consideration in the pricing principles, the need for prices to exactly reflect these costs in order to be considered 'efficient' is diminished.

This point was made by Frontier Economics in 2008 for the National Water Commission:

> *In practice, there are likely to be differences in the cost of supplying users in different locations within a network. However, to the extent that a large part of these cost variations reflect the 'sunk' costs of assets already in the ground; recovering these costs from the broad customer base has no adverse impact on economic efficiency because changed patterns of usage will have no impact on these costs.*[12]

The ESC also considered this issue in the context of its 2011 urban water price review:

> ***Should retail tariffs better signal differences in distribution costs?***
>
> *Currently the water retailers and most regional water businesses recover their distribution system costs on a postage stamp basis; that is, retail tariffs do not reflect any differences in costs of the distribution system by time or by location.*
>
> *Some regional water businesses set water charges that vary by location. These differences reflect differences in the cost structures of water supply, transport and treatment across the businesses. However, the trend has been toward postage stamp pricing as systems have become more interconnected due to supply augmentations. Some businesses have also identified equity and administrative simplicity as reasons for moving to a uniform water price.*[13]

Generally prices are considered cost reflective by regulators if they take into account the Long Run Marginal Cost (LRMC) of supply, which estimates the long term costs of supplying an additional unit or an additional customer, including fixed costs. For example, the Australian Energy Markets Commission has recently implemented rules to require electricity pricing to be based on LRMC.

LRMC is a forward looking concept – it incorporates the future cost of a marginal unit of additional demand for services, to provide a pricing signal to customers and encourage efficient use of resources. Where costs are largely driven by historical infrastructure investments (and therefore facilitate return on past investments rather than cost recovery for new or ongoing activities), the need to provide pricing signals is reduced. This is particularly the case where there limited is customer growth, as for GMW, for which delivery shares are reducing and customer numbers are also likely to reduce.

We note that GMW has not estimated the LRMC of supply for each district. However, in a context of declining demand and therefore no augmentation capital being required, the concept of LRMC pricing becomes largely irrelevant.

2.1.2 GMW's district-based tariffs

While we have not carried out a detailed assessment of GMW's underlying costs and tariff setting processes for this report, based on our previous work with GMW we are aware of the principles that have been applied in setting tariffs and the primary cost drivers underpinning district pricing.

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[12] Frontier Economics - http://archive.nwc.gov.au/__data/assets/pdf_file/0009/11016/UrbanWaterPricing_Waterlines-Body-0708.pdf

[13] ESC 2011 - http://www.esc.vic.gov.au/getattachment/bc3cc70b-692a-4287-814c-b7c4c26adf9d/Issues-Paper-tariff-issues-for-water-price-review.pdf

GMW's gravity tariffs reflect a regulated building block framework, incorporating a return on capital, depreciation, operating and maintenance expenditure and tax. The balance between fixed (IAF) and variable (IUF) tariffs is calculated based on a 90:10 revenue split.

We understand this fixed:variable split was selected by GMW and supported by WSCs and the ESC as reflecting an appropriate division of the risks of volume fluctuations between GMW and the gravity customers. Importantly, it does not reflect the mix of fixed and variable costs of serving gravity customers, as the variable costs of GMW's irrigation infrastructure are much lower than 10%. Instead, it reflects the objective of ensuring price and revenue stability for both customers and GMW.

GMW's district gravity tariffs are still based on the historic infrastructure or asset values in each district, reflecting the old Renewals Annuity or Bank Balances approach. This was replaced by the Regulated Asset Base (RAB) which was determined as part of the shift to economic building block regulation in 2006.

GMW's RAB was initially determined at a global level by the Victorian Water Minister, based on a top down assessment of:

- Appropriate returns on GMW's past investments, to facilitate a sustainable business model for GMW to continue operating the assets; and
- Resulting prices that are politically palatable and fair for consumers.

GMW's RAB was set at a low fixed value as at 1 July 2004, then split into districts based on the Renewals Annuity / Bank Balances for each service, and rolled forward for subsequent infrastructure investments in each district for the first Water Plan period. As a result, today the GMW RAB represents only around 7% of the book (or accounting) value of the assets. This highlights the disconnection between the district based Renewals Annuity and RAB framework.

Despite this disconnection, we note that over time, the old Renewals Annuity balances have largely been repaid and recovered by each district. This means that today, the different capital costs recovered in district tariffs are a function of those historical investments, rather than any new or marginal costs.

GMW has advised us that today, around 65% of its operating costs, which reflect 85-90% of customer prices, are incurred or shared on a system wide basis or multiple district basis, due to the comprehensive changes occurring as part of the Connections Project, where modernisation is leading to more standardised service levels.

Retaining district pricing would mean that 65% of all operating costs would be allocated among the districts based on indirect, often arbitrary and imprecise cost drivers. The following table shows the impact of allocating $10 million of costs through three different allocation methodologies: number of customers, number of service points and delivery shares.

Table 44: Impact of allocating $10 million among districts based on different cost allocators ($m)

	Number of Customers	Number of Service Points	Delivery Shares
Shepparton	$1.81	$1.44	$1.14
Central Goulburn	$2.91	$2.83	$2.45
Rochester	$1.27	$1.29	$1.22
Loddon Valley	$0.62	$0.83	$1.33
Murray Valley	$1.53	$1.50	$1.72
Torrumbarry	$1.86	$2.10	$2.14

While each allocation approach might be independently justifiable, depending on the cost being discussed, it is clear that the choice of allocator has a significant impact on the outcome for each

district. This highlights the arbitrary nature of district based pricing where such a high proportion of costs are now incurred system wide or multiple district basis.

2.1.3 Regional cost differentials

In examining cost reflectivity it is important to note that while they have been in place for a long time, the existing districts are somewhat arbitrary and supply costs differ both between and within them.

For example, the Broken Creek region, which is located in the Murray Valley District close to the border of the Shepparton district, has much lower costs than other areas of Murray Valley, yet customers pay the same price as the rest of the Murray Valley. This is because compared to the channel area of Murray Valley, the Broken Creek area has fewer and simpler assets to manage. Channels are more labour intensive with more moving parts, gates and meters and are likely to have increased technology costs with the routine maintenance cycle required to meet compliance. The channels and structures impose a significant capital cost, which isn't required in Broken Creek.

Thus true cost reflectivity would require a more disaggregated tariff approach within the Murray Valley, and presumably other districts as well.

Further, given Broken Creek is on the Murray Valley district boundary, it could theoretically be incorporated into Shepparton district if the boundary was changed given the Broken Creek is supplied from the Goulburn system. GMW has estimated the impact that this hypothetical shift of Broken Creek customers would have on the Murray Valley and Shepparton costs and tariffs, set out in the diagram below. These estimates are based on shifting the current 260 ML/day of delivery shares and $80,000 of annual costs to serve Broken Creek customers from Murray Valley to Shepparton.

Table 45: Hypothetical district boundary change – Impact of moving Broken Creek customers into the Shepparton district

Shepparton		Murray Valley	
Shepparton Delivery Shares (ML/day)	1768	Murray Valley Delivery Shares (ML/day)	2655
Shepparton Current price per Delivery Share	$4,454	Murray Valley Current price per Delivery Share	$3,069
Shepparton Current revenue (cost recovery)	$7,874,717	Murray Valley Current revenue (cost recovery)	$8,147,442
Shepparton + Broken Creek Revised price	$3,922	Murray Valley minus BC Revised price	$3,369
Shepparton plus Broken Creek - Price Decrease	**-$532**	**Murray Valley minus Broken Creek -Price Increase**	**+$300**

This hypothetical example highlights that a movement of Broken Creek into the Shepparton district would have significant impact on both the prices paid by the broader Shepparton and Murray Valley customers, as well as the Broken Creek customers themselves. It highlights the arbitrariness of cost allocation between districts, based on legacy district boundaries.

2.1.4 Shepparton district costs

Moving the six districts to a single price inevitably means customers in some districts which will pay more, while others will pay less. One of the biggest changes is in the Shepparton district, which has historically faced higher tariffs than the other districts. Shepparton has a higher proportion of smaller properties, which typically have a higher water right intensity per hectare of land, as compared to other districts.

The reasons that Shepparton customers have paid more include:

- In 2008, the Future Flow modernisation project was undertaken in the Shepparton area, upgrading channels and replacing frames. Unlike the Connections Project (from which Shepparton is excluded), no rationalisation of service points was undertaken in Future Flow, and GMW has estimated that 15% of service points could have been removed. GMW has also advised of barriers to channel rationalisation in the Shepparton district. This means that unlike the other districts, Shepparton has not benefited from the rationalisation that is occurring as part of the Connections Project, increasing the costs of maintaining its assets.
- Currently, Shepparton's assets are generally older than the other districts, meaning there is a higher maintenance and replacement capital requirement. GWM has advised that this is particularly affected by the need for bridges and syphons on the East Goulburn Main, which are allocated to Shepparton.

During our review, GMW provided us with a long term analysis of district capital and maintenance costs for its channels and structures over 50 years, taking into account planned estimated future capital expenditure for each district and forecast reductions in delivery shares occurring under the Connections Project. Channels and structures represent the most material components of future expenditure.

This 'whole of life' analysis, which is presented in an Appendix below, suggests that while Shepparton currently has the highest cost per delivery share, within two years this will no longer be the case, as capital requirements in Loddon Valley will drive its costs higher than Shepparton. After 20 years, Murray Valley will be the most expensive district on a per delivery share basis. While Central Goulburn is currently a relatively lower cost district, this changes after 23 years when capital investments are required there and it becomes the most expensive district for the following 10 years.

Shepparton had the highest Renewals Bank deficit at the start of the transition to the regulatory RAB approach in 2006, at $8.5 million. This has been paid back to GMW through pricing over 2006-15, and the deficit currently stands at around $500,000. As a result, even in the absence of the single price strategy, Shepparton's gravity tariffs will fall towards the other districts' pricing in the next few years as the final Renewals Bank deficit is repaid.

Finally, we note that Shepparton has historically featured lower actual water deliveries as a proportion of its delivery share than the GMID average. This means that while its variable charges (IUF) have been lower than anticipated, Shepparton customers have paid higher fixed tariffs (IAF) as a proportion of the water they used than other GMW customers.

The drivers of higher costs in Shepparton are largely factors that are beyond the control of the areas' irrigators, and it is therefore arguable that continuing a higher price signal is unnecessary from an efficiency perspective.

It has been suggested that the single price strategy will lead to other districts cross-subsidising the higher cost Shepparton district. By definition, economically inefficient cross-subsidisation occurs when customers are paying less than their short run marginal cost (SRMC). As discussed above, the majority of GMW's gravity irrigation supply costs are fixed, and variable costs make up less than 10% of total costs of supply. Each district is therefore facing prices that are above their SRMC, and will continue to do so under the single price strategy. Although we have not undertaken detailed estimates, each district's prices are also likely to be below their standalone costs of service, which is consistent with the economically efficient bounds used in regulatory pricing for other industries, such as electricity and gas.

As also noted in this paper, the allocation of fixed costs to districts is in some cases arbitrary. The transition to a single price will mean that some of the fixed costs reflected in Shepparton customers' prices are reallocated to all other district customers, however, this does not imply that inefficient cross-subsidisation is occurring.

2.3 Simplicity

As discussed above, simplicity is another important objective of price setting, as the costs of first determining and then communicating complex tariffs to customers are not insignificant.

The shift to a single GMID price is one component of a broader package of GMW organisational and tariff changes occurring as a result of the Connections Project. Transitioning to a single price has already reduced the administrative costs of annual tariff approvals, due to the simplification of tariff calculations and cost allocation processes over the past two years.

While GMW had been reporting at a district level through annual Profit and Loss statements, this process has been rationalised significantly. District pricing reflects an overarching business strategy that requires more detailed reporting of costs and activities at the district level, and maintaining district pricing going forward will therefore require the reversal of recent rationalisations. District pricing will ultimately require additional resources when compared to the single price strategy.

Tariff modelling has also been simplified, reducing the need for regulatory and pricing team resources.

The costs of arranging and maintaining customer billing will also be reduced as a result of a single GMID price. There are approximately 2,800 pricing combinations set up in GMW's billing system, due to the district pricing structure, made up of 48 separate data elements that combine to generate the individual district prices. The single price will reduce the combination of prices to several hundred instead of several thousand. Although the single tariff will be unlikely to deliver FTE savings from the accounts receivable team, GMW has indicated that it will deliver reduced risk, greater simplicity and improved customer service, through the following benefits:

- Reduced workload in setting up the annual prices in the billing system
- Fewer data elements to be maintained
- Lower risk of errors in the pricing and data element inputs
- Simpler for staff to understand and maintain
- Fewer customer complaints due to fewer errors.

GMW has described the annual tariff approvals process to us, and confirmed that it requires a large number of steps, from requesting and then verifying data for each service, calculating the overhead cost allocation, revising the tariff model including accounting for any new tariffs, ensuring compliance with GMW's revenue cap, consulting with WSCs on the new tariffs, seeking ESC approval and planning and finally implementing the new tariffs and communicating the changes to customers.

The simplification of gravity tariffs has reduced the complexity and therefore the cost of undertaking each of these steps, as each report and presentation requires the calculation (or explanation) of a single GMID price (or currently the transition to that single price) rather than separate prices and cost allocations for each district.

The flow on effects of rationalising the gravity tariffs will reduce the labour requirement for numerous management activities in GMW's Customer Operations group, including developing and reviewing budgets by service level for Water Plans and Annual Price Reviews, calculating annual prices for each group, monitoring reporting and forecasting expenditure by Service.

GMW has estimated the impact of the single price strategy from an annual FTE perspective:

- Professional Services - 3 FTE reduction (one each from Budgeting & Forecasting, Pricing & Regulation, Financial Reporting)
- Customer Services - 5 FTE reduction (from Business Support, Customer Administration and Customer Service Management roles).

The savings available from these FTE reductions are estimated by GMW to range between $850,000 to $1 million per annum.

The simplification of district pricing processes has already resulted in some labour savings which has contributed to the start of GMW's Business Transformation Program. While it is not possible to identify the cost reductions solely due to the tariff simplification, the Business Transformation Program has delivered actual operating expenditure of $15.8 million lower than forecast in the Water Plan 3 period and a reduction in finance staff. We note that any shift back to district pricing will require reinvestment in finance staff in order to reintroduce district reporting.

The single price strategy also opens opportunities for GMW to further reduce the complexity of its financial systems, including its Chart of Accounts, which is currently designed around district pricing. GMW has advised us that currently, the Chart of Accounts involves the management of:

- 219 Services (or individual businesses)
- 40 Resource Centres (Internal service providers)
- 9,720 Job Costing Numbers which are used to allocate costing (expenditure) to the appropriate Service.

The simplification of this complex system offers obvious benefits, however we note that the consolidation of reporting and accounting practices requires a consideration of the trade-off between granularity of information and administrative costs.

2.4 Price stability and risk

A single GMID price offers the benefit of reduced risks for each district, as the costs of one-off events are distributed among a larger customer base.

For example, the severe floods in Western Victoria early in 2011 affected Torrumbarry and Pyramid Hill (in the Loddon Valley district), which were under water for several weeks. The floods damaged GMW's infrastructure and it incurred significant overtime and contractor costs in managing the response to maintain and restore supply and from the damage. This event led to an increase in operating expenditure of $4.22 million.

If the 2011 flood had impacted only one district, the proportional increase in district prices would be significant. The following table illustrates the potential impact that this $4.22 million flood could have had on the district tariffs, if the costs were allocated based on delivery shares.

Table 46: Impact of a $4.22 million flood on District Pricing

District	Delivery shares	Flood recovered in 1 year -percentage increase	Flood recovered in 4 years percentage increase
Shepparton	1768	50%	12%
Central Goulburn	3781	34%	8%
Rochester	1888	78%	20%
Loddon Valley	2055	62%	15%
Murray Valley	2655	53%	13%
Torrumbarry	3298	41%	10%
All districts – costs shared	**15,444**	**9%**	**2%**

This example highlights the benefits of sharing the risk of severe weather events across the GMID through a single tariff.

We note that some areas of the GMID are more prone to floods than others, and that this risk may be reflected in lower land values for those areas.

However, a single price protects customers from price shocks associated with a range of factors that are both within and outside of GMW's customers' control, including asset failure, electricity supply failure and storm damage.

2.5 Impact of the Connections Project

GMW is transforming its gravity irrigation delivery system through the $2 billion Connection Project modernisation program. This will automate the backbone of major irrigation channels in the form of a water 'super-highway' and replace the previous spur channels with new, modernised connections.

The Connections Project will have a profound effect on GMW's future operating environment affecting how it delivers water, the skills and labour required to manage the system, the extent and nature of its costs and the likely pattern of demand. As discussed in section 2.2.1, the Connections Project has resulted in a larger proportion of GMW's costs being incurred on a system wide basis.

The new backbone will provide for an increased level of service across the entire GMID, resulting in standardisation of service levels and reducing overall variation between districts. Service standards may continue to vary across the GMID due to the nature of the Connections Project investments. However, differences in service levels will not be on a geographic basis, reducing the relevance of district-based pricing.

The primary objective of district based pricing was to allow each area to make decisions about the trade-off between service levels and prices. The standardisation of service levels between districts, through the centrally provided and Government funded Connections Project to a large extent overrides the district-level decision making, reducing the benefit of separate pricing.

The Connections Project is predominately paid for by the Victorian and Australian Governments, and setting tariffs based on the cost of sunk assets which are in many cases no longer being used does not in any way contribute to economic efficiency. The extent and reach of the Connections Project highlights the way in which some districts have at times benefited from Government contributions, while others missed out, depending on a range of factors including the political situation at the time. This further highlights the arbitrariness of setting individual district prices based on sunk asset costs.

2.6 Other utilities' pricing

GMW has similar characteristics to other network utilities, including electricity, gas and telecommunications networks, to the extent that:

- They are essential services, providing fundamental inputs into business and domestic life
- They are natural monopolies, meaning that it would be uneconomic for more than one network to exist
- They have high fixed costs due to the large amount of infrastructure required to ensure access for all customers
- It costs more to provide services to some customers than others. For example, electricity customers in less dense, rural locations will be expensive to serve compared to higher-density urban areas (because network size and distance drives higher costs).

Electricity, gas and telecommunications service providers do not generally charge fees for usage or network infrastructure based on the location of their customers, instead typically (but not always)

applying 'postage stamp' pricing which shares the greater costs of low density customers among all customers. 'Postage stamp' pricing recognises that the choice of where a customer lives or conducts their business is not driven by the marginal costs of utilities. For example, Powercor owns and operates an electricity distribution network that covers a vast area of Western Victoria and its network charges are identical for customers from Footscray to the South Australian border.

Locational pricing is used in the pricing of new customer connections for electricity and gas services, where customers requiring connection to the network are charged a capital contribution reflecting the cost of their additional connection, including construction costs and downstream impacts of their demand. This is designed to encourage efficient choices in connection location, for example, rural customers may have a number of options for the connection point to their property with varying costs to the utility and to themselves. These location price signals are important where there is customer growth, however, where customer numbers are stable, and volumes are declining (such as in GMW's case), the need for locational pricing signals are reduced.

In electricity network utilities, cost reflective pricing is based around the factors that are within a customer's control, such as how much they use and when they use it. For example, the Victorian Government's smart meter rollout allows for network tariffs to vary according to a customer's time of use. This is efficient because the cost of maintaining the electricity network is significantly impacted by peak demand growth, so providing price signals to encourage customers to use energy at off-peak times will deliver more efficient use of the network infrastructure.

It is worth noting that after amalgamations in the 1990s, most Victorian urban water businesses moved to a single tariff structure across their entire region. This occurred despite very different supply arrangements – including different costs, level of water quality and supply security. Most businesses felt that a single tariff provided a simpler and more equitable arrangement across the region, reduced administrative costs, and encouraged regional supply solutions to emerge. It also avoided sharp fluctuations in bills, particularly in smaller towns. In some cases the previous tariff differentials were very large – for example sewerage tariffs in Daylesford were several times that in Ballarat before the move to a single price.

Some urban businesses – including Wannon Water (Warrnambool region), Grampians Wimmera Mallee Water, North East Water (Wodonga) and Coliban Water (Bendigo – which has two separate tariff zones) are the key exceptions to these arrangements and have maintained different tariffs. However in most cases the different tariffs are based on levels of water quality rather than inherent costs.

With the Connections Project, the standardisation of service levels across the GMID means that there is a reduced need for differentiated pricing in order to reflect different service level trade-offs.

3 Conclusions

GMW's transition to a single price reflects a sound consideration of the trade-offs between cost reflectivity, appropriate pricing signals and administrative cost and simplicity. While the final single price will re-align tariffs across existing districts and result in the smearing of historical infrastructure cost differences, our view is that this is likely to have a very limited effect on economic efficiency because the price signals reflect sunk or incurred system wide (allocated) costs. With the Connections Project and the standardisation of service levels, using historical asset costs as the prime basis for district pricing has limited merit.

There are also benefits to moving to a single price, including reduced administrative costs that are already being realised through the transition, and will continue to be realised as the single GMID price is reached. The single price also reduces the impact of severe weather events and large infrastructure investments on individual irrigators.

In relation to the national rural water pricing principles, our view is that the single price adequately achieves the objectives of the economic regulatory framework, as set out in the following table.

Table 47: The Single Price and compliance with Pricing Principles

Pricing Principle	How this is achieved through transitioning to a single price
Promote the economically efficient use of water infrastructure assets	Given the historical infrastructure basis of district pricing, the move to a single price will not reduce the signals for efficient water use
Ensure sufficient revenue streams to allow efficient delivery of the required services	A single price will allow GMW to more easily monitor its revenue recovery and balance the risks of reducing delivery shares across more customers
Give effect to the principle of user pays in respect of water storage and delivery in irrigation systems	At an aggregate level, there will be no change in the level of cost recovery from users in respect of water storage and delivery in irrigation systems.
Achieve pricing transparency	A single price will be simpler to explain and implement, and GMID-wide reporting will maintain the current transparency of costs and revenues.
Facilitate efficient water use and efficient functioning of water markets.	The transition will not materially affect efficient water use or water markets.

We therefore conclude that GMW's decision to transition to a single GMID price is a reasonable strategy that appropriately reflects key factors that must be considered when making pricing decisions.

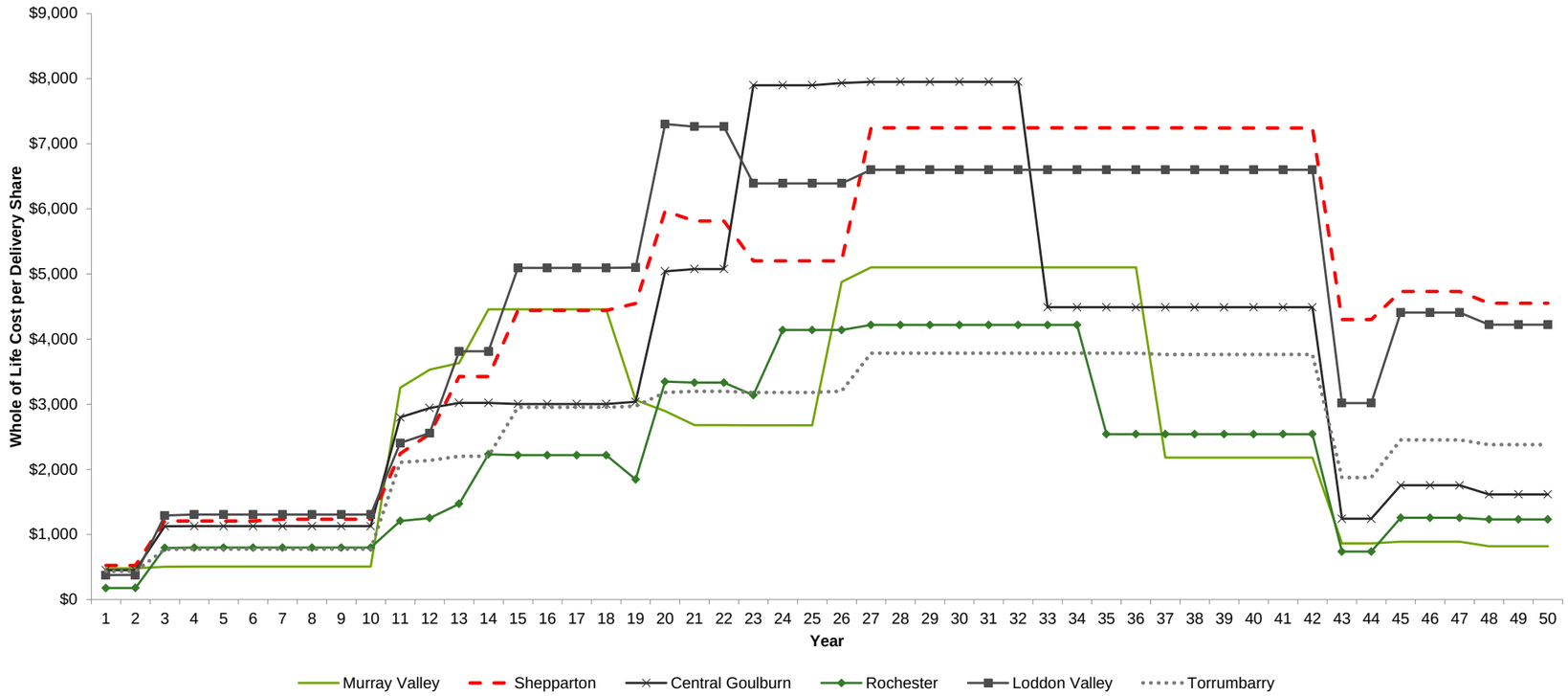
4 Limitation of our work

General use restriction

This report is prepared solely for the use of Goulburn-Murray Water. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose set out in our engagement letter dated 7 July 2015. You should not refer to or use our name or the advice for any other purpose.

We note that we have not audited or attempted to verify the data that GMW provided us to support our findings, however our conclusions are based on our understanding of GMW's tariffs and revenue recovery which has been developed over a number of engagements.

Appendix – District Channels and Structures Whole of Life Cost Analysis



Source: GMW. Note this reflects renewals and maintenance costs only, and excludes non-backbone structures.