Melbourne Water

2013 Water Plan

State Government Victoria

Melbourne Water

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All expenditures are in real 2012-13 dollars and therefore exclude inflation

Chapter 01

Executive summary

OVERVIEW

Melbourne Water's 2013 Water Plan sets out its pricing proposal to the Essential Services Commission (ESC) for the period of 2013–14 to 2017–18 (2013 regulatory period).

The Water Plan summarises the outcomes, actions and expenditures that Melbourne Water is proposing to undertake, and prices it proposes to charge over the 2013 regulatory period, for bulk water, sewerage and alternative water sources. It also reflects the actions, outcomes and price proposals for waterways and regional drainage services provided to the greater Melbourne community. Melbourne Water is a manager of 8,400km of rivers and creeks as well as major drainage systems throughout the Port Phillip and Westernport region.

2013 WATER PLAN AT A GLANCE

- Melbourne Water has delivered significant investment in recent years to provide future water security, improve environmental outcomes and replace aging assets. The Victorian Desalination Plant, being delivered as a Public Private Partnership, will also protect our water supplies from extreme events (such as drought and bushfires) and provide for population growth.
- However, these projects are impacting on Melbourne Water's costs and customer bills. Melbourne Water is acutely aware of customer and community concerns about affordability and value.
- Melbourne Water's capital expenditure over the next five years is $1.5B lower than the previous five years.
- Expenditures relating to business as usual functions have also been kept to a minimum.
- 99% of our capital expenditure and 75% of our operating expenditures are competitively tendered and subject to market forces.
- Wholesale water and sewerage prices are proposed to increase by CPI+60.4% in 2013-14 (an increase of around CPI+34% in retail bills). Almost 90% of this increase is driven by the Victorian Desalination Project costs. This is the final year of significant price increases arising from desalination, with proposed CPI-0.5% wholesale movements from 2014-15 (CPI+0% at retail).
- The Waterways and Drainage Charge is proposed to increase by CPI+2.6% per year. This is largely driven by population growth and investments to reduce flooding impacts and improve the safety of our retarding basins and levee banks.

The water supply sector has experienced significant change since prices were last set by the ESC in 2009. Sustained reductions in per capita water consumption have been achieved in the face of the longest drought in our city's history and in recent years water storages have recovered from the historic lows of that time. Major investments have also been made to improve environmental outcomes for sewerage services and to meet increased demand for waterways and drainage services throughout the Port Phillip and Westernport region, as well as ensuring Melbourne's long-term water security.

These investments include the Victorian Desalination Plant (VDP), the North-South Pipeline and the construction of a water treatment plant at the Tarago Reservoir. These projects will ensure Melbourne is better prepared against the impacts of future droughts in a variable and changing climate, as well as extreme events, such as major

bushfires in our catchments, and projected population increases. They also provide time to progressively put in place smaller scale stormwater and recycled water projects, deferring the need for large-scale solutions as we meet the demands of an additional 1 million people in the next two decades.

However, just as the intensive capital program that underpinned these projects placed pressure on capital and operating costs through the last regulatory period, this 2013 Water Plan necessarily reflects increased operational costs associated most notably with the VDP.

Changes, since prices were last set, in the cost and timing of the VDP, currently under construction by the Department of Sustainability and Environment (DSE) in a Public Private Partnership, fundamentally shift Melbourne Water's cost profile. The annual security costs (the costs associated with a 0GL water order), for the VDP alone will now comprise approximately 60% of Melbourne Water's total annual operating expenditure in the 2013 Water Plan period.

Melbourne Water is acutely aware of the likely impacts of these cost increases on our customers – the water retailers – and ultimately the consumer. Therefore, the 2013 Water Plan has an increased focus on affordability. It has been developed consistent with our new strategic vision of 'Enhancing Life and Liveability'. This vision has an increased focus on customer service, commercial acumen and innovation to provide value for money in service delivery that people want and need and future planning. At every stage, despite increased business costs, we have sought to minimise impacts for our customers, and ultimately the water consumer, by prioritising investments, finding efficiencies and building a more integrated water management approach, where all assets – natural and built – are managed as part of one system.

Our overriding objectives remain the same. We will supply high-quality, safe and reliable drinking water; fit-for-purpose alternative water sources (recycled water); and safe sewage treatment and disposal services – all while enhancing the health and amenity of our waterways and bays.

The outcomes of this intensive planning period are reflected in the 2013 Water Plan:

- Melbourne Water and the metropolitan water retailers have listened to the feedback on our draft 2013 Water Plan and are returning early-recovered desalination funds to consumers as soon as possible.
- Consistent with the favoured approach in the draft 2013 Water Plan addendum, Melbourne Water is proposing a price path for the 2013 Water Plan period where revenues are reflective of costs. This will enable the higher costs associated with a 0GL desalinated water order, compared with the 2009 Water Plan period, to be met as they are incurred.
- The average price increase proposed for wholesale water and sewerage services is CPI+60.4% in 2013-14 and CPI-0.5% from 2014-15 to 2017-18. These are wholesale prices, which will contribute to an increase of around CPI+34% in retail bills for water consumers in 2013-14 and CPI+0 from 2014-15 to 2017-18.
- Melbourne Water has consulted widely in relation to its waterways and drainage price and service proposals, including a representative survey of customers. Melbourne Water is proposing, with customer support, a CPI+2.6% per year increase to its Waterways and Drainage Charge for the 2013 regulatory period.

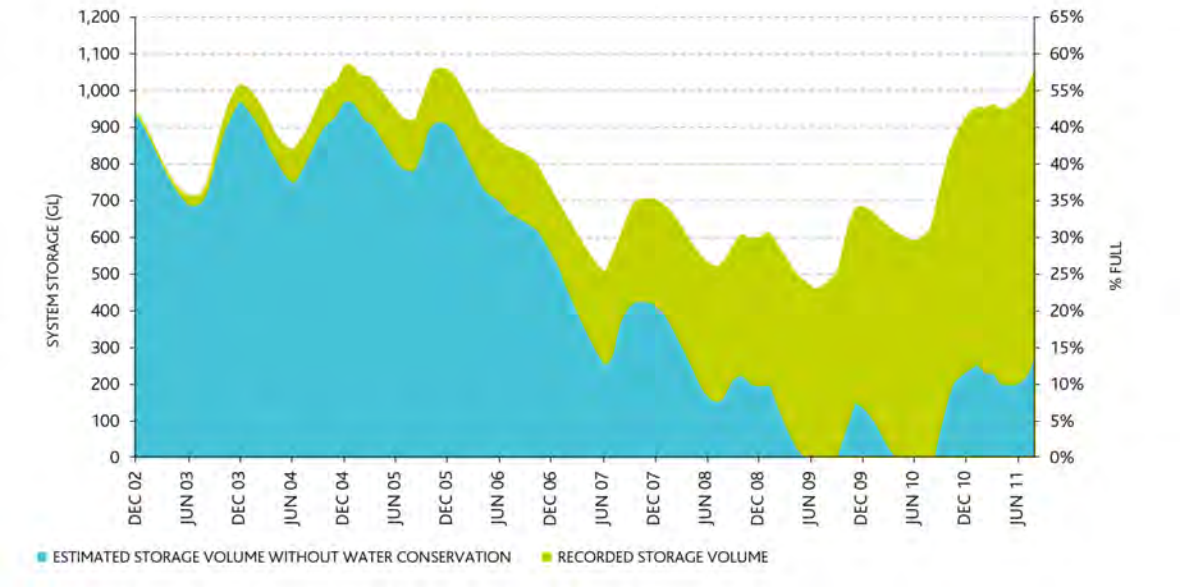
1.1 BACKGROUND AND PURPOSE

Melbourne Water is the wholesaler of bulk water supply, sewage treatment and alternative water source services in Melbourne and the surrounding areas. Melbourne Water is also a water resource manager with responsibility for managing water catchments, 8,400km of rivers and creeks and the major drainage systems throughout

the Port Phillip and Westernport region. A new Strategic Direction for the business was released in March 2012 with the vision of 'Enhancing Life and Liveability'.

In Victoria, prices for regulated water services are set by the ESC based on water plans submitted by water businesses. When the ESC last set prices in 2008 for waterway and drainage services, and in 2009 for bulk water and sewerage services, the greater Melbourne region had experienced more than 10 years of drought and significant population growth, resulting in storage levels falling to very low levels and a sustained period of water restrictions. Figure 1.1 shows the reduced water storages and the impact of conservation measures on water volumes from 2002.

Figure 1.1: Melbourne Water storage volumes 2002–2011



Since that time there have been significant changes, including major augmentation of our water supply system. Drought conditions have now begun to ease and water storage levels have recovered to around 80% of capacity. However, climate variability remains a key uncertainty as does the degree to which customer demands will bounce-back to previous levels.

Within this context, desalination is now an important part of Melbourne Water's future water supply. This 2013 Water Plan proposes the final year of significant price increases arising from the VDP and positions Melbourne Water to support implementation of the State Government's *Living Melbourne, Living Victoria* vision.

1.1.1 Regulatory framework

As economic regulator for the Victorian water industry, the ESC is responsible for determining prices and overseeing the service standards to be achieved by each urban and rural water businesses. The ESC makes its determination taking account of proposals put forward by water businesses as well as the input of customers, the community and the State Government, who are consulted throughout the water planning process.

The *Water Industry Regulatory Order* sets out which services are regulated and provides guidance to the ESC on how economic regulation should be applied. Each water business's Statement of Obligations (SoO) defines the content and timing of the Water Plan price and service proposals to be put forward by water businesses.

1.2 OUTCOMES OVER 2008 AND 2009 WATER PLAN PERIODS

1.2.1 Performance against indicators

Despite significant changes in Melbourne Water's external and internal operating environment through the 2008 and 2009 Water Plan periods, Melbourne Water has continued to supply high quality, safe and reliable drinking water, fit-for-purpose recycled water and safe sewage treatment and disposal services. Similarly, it has continued to protect and enhance the health and amenity of the waterways and bays within Melbourne Water's operating area as well as manage flood risk.

While Melbourne Water has met most of its performance indicators, in some years, for some targets, performance has been below the target levels. This is outlined in Chapter 3 and Appendix 2. For example, while some water targets were not met, this did not have a significant impact on the water received by the water retailers, or their customers. Additionally, investments during the 2009 regulatory period, particularly the Northern Sewerage Project, will mean the target of no sewerage system spills (hydraulic) should be achieved by 2013.

Where issues are ongoing, Melbourne Water has proactively developed strategies to address these issues and improve performance.

1.2.2 Expenditure performance

Melbourne Water delivered significant security of supply, water treatment, sewage treatment and transfer as well as flood protection projects in the 2008 and 2009 Water Plan periods. These investments formed the basis of a $3.756B capital program, largely in response to unprecedented drought conditions, increasing compliance obligations and the need for large asset renewal.

Melbourne Water's actual and forecast capital expenditures are $218M or 6% above those incorporated in the ESC's 2008 and 2009 Price Determinations. Actual and forecast operating expenditures are $279M or 12% below those allowed by the ESC in its 2008 and 2009 Price Determinations. This primarily reflects the changing environment faced by Melbourne Water, in particular the change in the date for completion of the VDP and the North-South Pipeline not being used for water supply in accordance with the Ministerial direction to only use the pipeline for 'critical human need'.

1.2.3 Demand performance

Allowing for the exceptional wet weather in 2010–11 and 2011-12, water and sewerage demand in the 2008 and 2009 regulatory periods were within an acceptable range of those included in the ESC Price Determinations. Extremely wet weather in 2010–11 and 2011-12 influenced the outcomes for both, with actual water demands lower and sewerage demands higher than forecast due to inflow and infiltration. Similarly, this wet weather curbed recycled water demand in 2010–11 after being consistent with forecasts in the previous two years.

The actual customer numbers for waterways and drainage are slightly higher than planned customer numbers, although the variance in each year is less than 1%.

1.3 OUTCOMES OVER THE 2013 WATER PLAN PERIOD

1.3.1 Overview

In preparing the 2013 Water Plan, Melbourne Water has maintained a focus on affordability and has worked closely with many customers and stakeholders to prioritise projects and activities in the 2013 regulatory period. Melbourne Water has also consulted on the proposed service outcomes for 2013 Water Plan period that apply under a wide range of customer, regulatory and legislative requirements.

Key outcomes proposed over the 2013 Water Plan maintain a focus on business as usual activities, as set out below. Across these product outcomes, there will also be a focus on implementing a more integrated water management approach, where all assets – natural and built – are managed as part of one system.

1.3.2 Bulk water, sewerage and alternative water source outcomes

Bulk water, sewerage and alternative water source (recycled water) obligations exist under a number of customer agreements and regulatory and legislative requirements. These include the Bulk Water and Sewerage Supply Agreements, the SoO, Environmental and Bulk Water Entitlements, *The Water Act 1989*, *The Safe Drinking Water Act 2004*, the *Health (Fluoridation) Act 1973*, *The Environment Protection Act 1970*, and State Environmental Protection Policies.

Key outcomes proposed over the 2013 Water Plan are detailed in Chapter 4 and continue business as usual activities relating to:

- Supplying high quality, safe and reliable drinking water
- Supplying safe sewage treatment and disposal services
- Supplying fit-for-purpose recycled water.

Minimal changes are proposed to the water and sewerage key performance indicators for the 2013 Water Plan period and minor changes are proposed in relation to recycled water performance indicators.

1.3.3 Waterways and drainage outcomes

Melbourne Water's obligations in relation to waterways and drainage services stem from a number of legislative instruments, reflecting a diversity of responsibilities ranging from managing river health and regional drainage systems to minimising flood risks.

Melbourne Water clearly articulates these responsibilities and goals in a Waterways Operating Charter, which outlines its waterways functions, key service commitments/outcomes, priority setting processes for work programs, and performance targets and measures. The Charter is supported by a number of key strategies that provide further guidance on outcomes and expenditures. These include the Healthy Waterways Strategy, the Stormwater Strategy and the Flood Management and Drainage Strategy[1].

The Charter's medium term goals, which have been refined for the 2013 Water Plan, are outlined in these documents and underscore Melbourne Water's commitment to an integrated water future. Five-year targets to support these medium term goals are also reflected in the 2013 Water Plan.

[1] These three strategies and the Operating Charter together represent Melbourne Water's Waterways and Drainage Strategy as required by the SoO.

Some of those targets include:

- Supporting waterways values by: establishing 802km of vegetation, management of 7,559km of vegetation, 546km of stock exclusion fencing, improving 193ha of aquatic habitat and removing 16 fish barriers.
- Protection of local waterways through: technical and financial support to our partners to deliver 125 stormwater projects; construction of a minimum of five regional stormwater assets; engagement of 250 rural landholders to increase action for pollution reduction from agricultural land; reduction in nitrogen loads to Port Phillip Bay by a further 10 tonnes; targeted disconnection projects to improve urban runoff management practices in priority areas.
- Installing flood protection measures to reduce currently known intolerable flood risks by a further 10% by 2018
- Ensuring all new Development Services Schemes (or equivalent) consider stormwater harvesting as a component of integrated water management best practice.

1.3.4 Corporate outcomes

At a corporate level, key outcomes over the 2013 Water Plan period include business as usual activities relating to managing assets, risks and incidents. These reflect both legislative requirements as well as internal targets determined in consultation with our customers.

Changes reflected in the 2013 Water Plan relate to the way greenhouse gas emissions are measured, in line with *the National Greenhouse and Energy Reporting Act 2007*, and in keeping with Melbourne Water's emissions reduction targets.

In line with Melbourne Water's new strategic vision of 'Enhancing Life and Liveability', which incorporates a greater customer focus and improved business responsiveness, a new key performance indicator reflecting an overall reputation score is proposed.

1.4 FORECAST DEMANDS

Water and sewerage demand forecasts in the 2013 Water Plan have been developed by the water retailers in consultation with Melbourne Water. They account for the lifting of water restrictions, some bounce-back in demand (anticipated to be around 3%), population growth forecasts as well as continued efficiency measures. These forecasts are outlined in Chapter 5.

Total water demand forecasts for the 2013 Water Plan are expected to remain stable over the period, as set out in Table 1.1. The reduction from 2012–13 to 2013–14 largely reflects reduced demands from Western Water.

Table 1.1: Water demand forecasts (GL)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Total	365.6	379.0	367.6	368.8	371.7	377.7	376.9

Sewage forecasts are also stable and generally align with water demands, underlying population growth, economic activity and average weather conditions. Total sewage volume demand for the 2013 Water Plan is set out in Table 1.2.

Table 1.2: Sewage demand forecasts (GL)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Total	320.1	295.6	293.6	294.1	294.9	297.0	299.1

For the Waterways and Drainage Charge, Melbourne Water's overall average growth rate across all customer groups is 1.8% per annum over the 2013 Water Plan period. It is consistent with available forecasts and is broadly in line with estimates provided by the water retailers. Customer numbers are set out in Table 1.3.

Table 1.3: Waterways and drainage customer numbers ('000)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Total	1,831.5	1,884.0	1,924.2	1,957.6	1,991.2	2,024.0	2,057.1

In the west, the proposed recycled water demands over the 2013 Water Plan period are relatively stable. In the east, demands are growing slowly over the 2013 Water Plan period as a result of increased demands proposed by South East Water.

Table 1.4: Recycled water demands (ML)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
West Total	30,616	47,016	47,156	47,740	42,298	46,401	46,652
East Total	3,808	6,500	6,934	7,159	7,390	7,657	7,926

1.5 VICTORIAN DESALINATION PLANT

The VDP will provide up to 150GL per year of water (around one third of Melbourne's total annual water use). It will ensure Melbourne's water supply is better prepared against the impacts of future droughts in a variable and changing climate, as well as extreme events, such as major bushfires in our catchments, and projected population increases.

The VDP is being delivered by DSE as a Public Private Partnership. Melbourne Water has entered into an agreement with the State Government (DSE) in relation to its obligations for the VDP, which include both the annual security charge and supply costs, which vary depending on the annual volume of water ordered from the plant, if any.

The VDP costs associated with a 0GL water order are significant, comprising approximately 60% of Melbourne Water's total annual operating expenditure in the 2013 Water Plan period, at around $610M per year. A further supply charge of approximately $110M will apply if the full capacity of the plant is used and 150GL is supplied.

Melbourne Water's 2009 Water Plan and subsequent ESC Price Determination made allowance for VDP costs in both prices and revenues. However, these provisions were made prior to the finalisation of the VDP tender process. Since then, the Premier and Minister for Water announced ongoing VDP operating expenditures would be higher than the provisions included in the 2009 Water Plan and provided a schedule of desalination costs.

Additionally, a change in the VDP completion date means that forecast costs reflected in the ESC's 2009 Price Determination have not occurred. This resulted in an early-recovery of funds. Through the consultation period that followed the release of the draft 2013 Water Plan, Melbourne Water and the water retailers agreed to return early-recovered funds to water consumers as soon as possible.

Melbourne Water, and the water retailers, will work closely with the ESC to ensure that a complete reconciliation of desalination costs within the 2009 Water Plan period occurs once the VDP is fully commissioned and that all early-recovered funds are returned to customers.

Consistent with the favoured approach in the draft 2013 Water Plan addendum, Melbourne Water is proposing a price path for the 2013 Water Plan period where revenues are reflective of costs. This will enable the higher costs associated with a 0GL desalinated water order, compared to the 2009 Water Plan period, to be met as they are incurred.

The average price increase proposed for wholesale water and sewerage services is CPI+60.4% in 2013-14 and CPI-0.5% from 2014-15 to 2017-18. These are wholesale prices, which will contribute to an increase of around CPI+34% in retail bills for water consumers in 2013-14 and CPI+0% from 2014-15 to 2017-18.

With support from its customers, Melbourne Water is proposing an annual adjustment whereby desalination supply costs (linked to the desalinated water order) will be passed on to Melbourne Water's customers each year if water is ordered. This will ensure customers will only pay for the desalinated water ordered and required, promoting cost reflective pricing.

1.6 PLANNED EXPENDITURES

The 2013 Water Plan has been prepared in a different economic context to the 2008 and 2009 Water Plans. A heightened focus on affordability, in a time of increased business costs, continued recovery from severe drought conditions, and a more diversified water supply combined with the introduction of desalinated water to the network, have significantly shaped Melbourne Water's approach.

In preparing this 2013 Water Plan, Melbourne Water has consulted extensively with its customers, regulators and stakeholders in relation to its expenditure proposals. This has informed a significant prioritisation and scaling back of the capital and operating expenditure programs proposed over the 2013 regulatory period, with a focus on renewal and ongoing compliance and maintenance projects.

This is complimented by proposed capital efficiency measures including delivering major capital projects and programs through contract models that provide commercial incentives for superior performance, and streamlining processes to achieve program efficiencies.

Planned capital and operating expenditures will enable Melbourne Water to meet the proposed service outcomes outlined in section 1.3. These business as usual outcomes include supplying high-quality, safe and reliable drinking water, fit-for-purpose recycled water and safe sewage treatment and disposal services. In addition, Melbourne Water will continue to protect and enhance the health and amenity of waterways and bays, reflecting the revised approaches in its Healthy Waterways Strategy and Stormwater Strategy, and to manage flood risk.

Proposed capital expenditure over the 2013 Water Plan period is $2,457M. This is illustrated in Figure 1.2 in the context of actual expenditure for the 2008 and 2009 Water Plan periods. Forecast expenditure is $1,517M less than actual and forecast investment in the 2008 and 2009 Water Plan periods. This decrease is primarily due to the completion of the following major capital expenditure projects: the North-South Pipeline, Melbourne Main Sewer Replacement, ETP Tertiary Treatment Upgrade and the Northern Sewerage Project. Key expenditures and projects over the 2013 Water Plan and are detailed in Chapter 7.

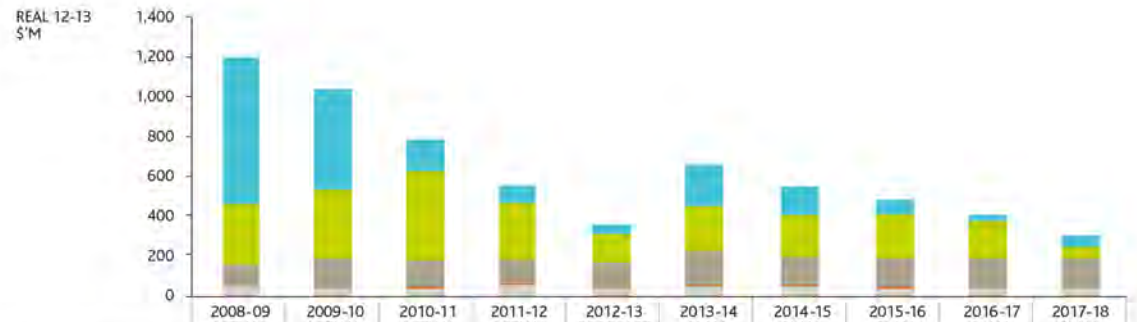
Across water and sewerage, the bulk of capital expenditure proposed in the 2013 Water Plan is for renewals (approximately 54% of water capital expenditure and 46% of sewerage capital expenditure).

Significant projects include:

- Remediation of the Greenvale Reservoir ($40.2M) to achieve compliance with dam safety standards
- Renewal of existing water supply pipelines to mitigate the risk of major pipe bursts and associated interruptions to supply, water loss and other costs (i.e. disruption to commercial activity). In particular, the M40/41 Water Mains ($46.5M), the M102 North Essendon-Footscray Water Main Renewal ($54.2M) and the Maroondah Aqueduct Refurbishment ($33.3M)
- Extending the water supply network to meet the expected growth in Melbourne's west, consisting of the St Albans Werribee Pipeline Stage 2 ($96.0M)
- WTP Treatment Capacity Augmentation Stage 1 ($38.7M), Stage 2 ($187.5M) and WTP Sludge Drying Augmentation ($56.1M). These projects have been designed as a package to meet the expected growth in loads
- Maintaining the existing treatment functionality at the Western Treatment Plant (WTP) with a 25 West Lagoon Biogas Cover Upgrade ($47.1M) and Sludge Drying Pans renewal ($38M)
- Mechanical and electrical renewals at ETP ($78.8M) and across the sewerage transfer system ($27.1M) to rehabilitate critical infrastructure
- Rehabilitation of the Hobsons Bay Main Sewer ($42M) and duplication of the North Yarra Main Sewer ($44.6M)
- Corrosion and odour management activities in the sewerage transfer system ($45.2M).

The largest single driver of waterways and drainage capital expenditure is growth, primarily associated with the land development program. This expenditure is used to service the growth areas of Melbourne and fund works such as drainage infrastructure, wetlands and retarding basins. Other significant waterways expenditure relates to the Flood Mitigation Works Program ($105.7M), Retarding Basin Spillway Upgrades ($56.4M). These projects will help improve public safety by reducing flooding impacts and improving the safety of our retarding basins and levee banks. Expenditure relating to the implementation of the Healthy Waterways Strategy ($103.3M) includes works to manage waterway health and condition to meet the environmental, economic, recreational and cultural needs of current and future generations.

Figure 1.2: Actual and forecast capital expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
WATER	743.5	504.1	158.0	86.6	52.9	209.7	162.9	79.6	39.1	54.1
SEWERAGE	295.5	351.8	456.4	277.3	146.1	235.6	209.7	228.3	196.0	65.8
WATERWAYS	122.8	148.0	131.6	131.3	141.6	162.8	145.0	141.0	143.3	150.1
ALT. WATER SOURCES	0.7	0.7	4.9	8.6	3.7	9.9	3.5	10.4	0.8	0.9
CORPORATE	43.5	41.8	39.4	52.2	31.1	49.3	43.0	40.3	41.9	33.9
TOTAL	1,206.0	1,046.4	790.3	556.1	375.4	667.3	564.3	499.6	421.1	304.9

Proposed operating expenditure over the 2013 Water Plan period is significantly higher than for the 2008 and 2009 periods, due largely to cost associated with the VDP. Operating expenditure for the 2013 Water Plan period totals approximately $5,052M, as illustrated in Figure 1.3, equating to an average annual expenditure of $1,010M. To illustrate the impact of the VDP, were VDP costs removed, annual expenditure would be closer to $402M, compared to $333M in 2011-12.

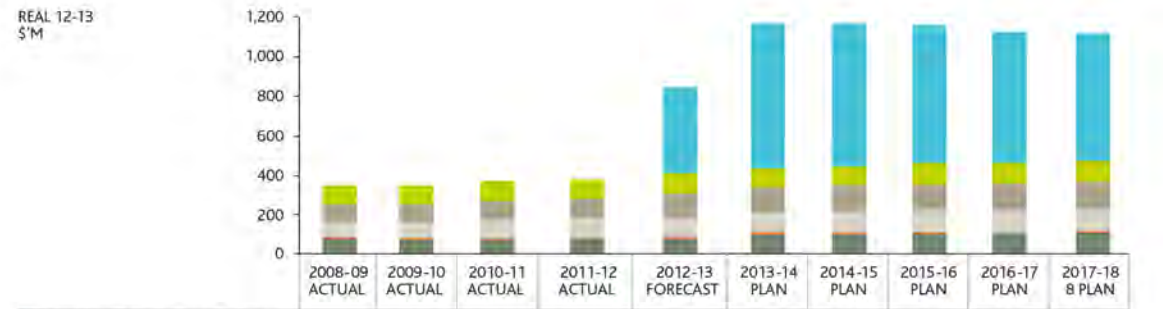
Other average annual increases include:

- New expenditures such as the Tertiary Treatment Upgrade at ETP ($13.9M) and costs associated with the introduction of a carbon price ($8.8M)
- Market driven movements in resource input, business as usual costs such as maintenance contract labour and sub-contractors ($4.0M) and land tax ($3.1M)
- Increases to implement standards, including maintenance costs to meet the needs of a growing city and increasing asset base ($27.3M), and to ensure Melbourne Water's office relocation meets the Office Accommodation Guidelines 2007.

Melbourne Water continually seeks to minimise operating expenditure by contracting out 88% (or 75% excluding VDP costs) of its expenditure, which ensures it is subject to competitive market forces. We are proposing a number of efficiency measures to reduce operating costs for the 2013 Water Plan period, including:

- Re-negotiated maintenance contracts which include savings through increased efficiencies and innovation, and deliver improved safety and risk management processes as a result of competitive bidding
- Initiatives related to the 'Energy Productivity Strategy', including reducing electricity costs through efficiency improvements at major water and sewage treatment plants and pumping stations
- Reducing sediment disposal costs by developing our own treatment facility to remediate sediments from stormwater treatment wetlands and finding alternative uses for the cleaned product.

Figure 1.3: Actual and forecast operating expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 8 PLAN
VICTORIAN DESALINATION PLANT	-	-	-	-	389.7	644.2	632.2	620.6	586.1	575.7
WATER	80.0	83.7	84.9	83.5	84.0	83.8	85.5	88.1	89.7	90.0
SEWERAGE	76.8	81.3	85.5	90.5	106.6	111.5	116.7	118.4	121.8	122.0
WATERWAYS	72.3	73.8	83.8	81.0	86.1	94.0	95.8	96.5	95.8	98.1
ALT. WATER SOURCES	6.7	6.1	6.4	5.4	6.2	5.3	5.5	5.9	6.1	6.5
CORPORATE	67.8	63.7	63.6	72.4	71.0	88.1	89.5	91.9	92.4	94.2
TOTAL	303.6	308.5	324.2	332.8	743.7	1,026.9	1,025.3	1,021.4	992.0	986.6

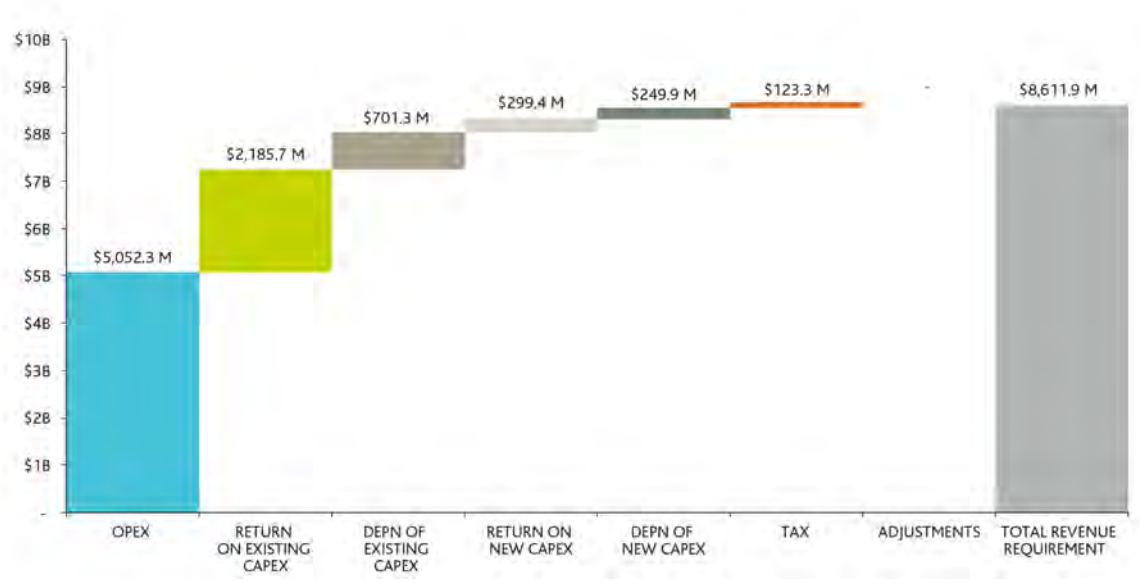
1.7 REVENUE REQUIREMENT

Capital and operating expenditures, as well as Melbourne Water's asset base, are used to calculate a 'revenue requirement' consistent with regulatory principles. This total represents an amount of revenue Melbourne Water needs to deliver service outcomes and obligations while remaining a sustainable business. The revenue requirement is calculated using a 'building block' approach which is represented by the following major components:

- Operating costs
- Providing a return on assets
- Depreciation of assets
- Adjustments from previous periods
- Taxation.

Figure 1.4 is a summary of the total revenue requirement over the 2013 Water Plan period. Overall, the revenue requirement totals $8,612M over the five years with the major contributor being operating expenditure (approximately 60%). Prices are set such that the total revenue collected by Melbourne Water equals the revenue requirement over the period.

Figure 1.4: Total revenue requirement 2013-14 to 2017–18 (real $12-13)



1.8 PRICES

In relation to its water and sewerage prices, Melbourne Water consulted extensively with the metropolitan and regional water retailers over the last nine months about to a variety of issues. This included issuing a draft 2013 Water Plan addendum in August 2012 following customer feedback in relation to the approach Melbourne Water had proposed for returning early-recovered desalination costs.

Further consultation also occurred in relation to all waterways and drainage price proposals, including the CPI+2.6% increase proposed for the Waterways and Drainage Charge, special precept area pricing proposals, Developer Service Scheme charges and diversion charges. This occurred via strategy development discussions, consultation with a representative number of waterways and drainage customers, direct mail of impacted customers, as well as surveys and targeted discussions with committees (including customer committees) and reference groups.

Chapter 9 contains further details.

1.8.1 Bulk water and sewerage prices

Melbourne Water currently has separate bulk water headworks and transfer prices, with each having a variable and fixed component (i.e. two part tariffs). It also has separate fixed and variable bulk sewerage prices for the Eastern and Western systems, with separate variable prices for the major trade waste parameters (biological oxygen demand, suspended solids, total kjeldahl nitrogen and inorganic total dissolved solids). These prices have all been disaggregated to ensure greater cost reflectivity. Melbourne Water is proposing to maintain this pricing structure in the 2013 Water Plan.

Under a price cap, Melbourne Water's proposed water and sewerage price increases over the 2013 Water Plan period reflect the expenditures required to achieve the service outcomes. As outlined in section 1.5, and consistent with the preferred, cost reflective, approach in the draft 2013 Water Plan addendum, it is proposed in 2013–14 that a large one-off price increase occur. The average wholesale price increase proposed across water and sewerage is CPI+60.4% in 2013-14 (an increase of around CPI+34% in retail bills) with CPI-0.5% movements from 2014-15 to 2017-18. These wholesale price movements will enable the increased desalination costs, compared to the 2009 Water Plan period, to be met as they are incurred. This price path, as well as the water retailers' price paths, are outlined Table 1.5.

Table 1.5: Proposed bulk water and sewerage average price paths 2013–14 to 2017–18

		Initial average price (wholesale) / bill (retail) increase (CPI+/-) 2013-14	Average annual price (wholesale) / bill (retail) movement (CPI+/-) 2014-15 to 2017-18
Wholesale			
Melbourne Water	Average water and sewerage price path	60.4%	-0.5%
Retail			
City West Water	Average water and sewerage	33.9%	0.0%
South East Water	Average water and sewerage	33.6%	0.0%
Yarra Valley Water	Average water and sewerage	33.7%	0.0%

The draft 2013 Water Plan addendum also outlined a smoothed price path which was not supported by Melbourne Water. While smoothing of the price path would deliver a reduced upfront price increase in 2013-14 for wholesale water and sewerage customers, it would result in a significant gap between revenue and costs. This would have to be funded in the early years through reductions in service, deferral or cancellation of planned projects, or further borrowings. Melbourne Water considers this is counter to maintaining safe and reliable services and sound financial governance on behalf of the community.

Where desalinated water is ordered, it is proposed further water price increases will occur via an annual adjustment to reflect desalination supply costs. For example, if 150GL was ordered in 2013–14, and wholesale prices increased to reflect desalination supply costs, at retail level this would lead to a maximum increase of approximately $50 on an average customer bill.

1.8.2 Waterways and drainage services

Melbourne Water has a number of charges that fall within the waterways and drainage part of the business. These include:

- The Waterways and Drainage Charge
- Precept area charges
- Developer Service Scheme Charges
- Diversion charges
- Charges for Miscellaneous Services.

The Waterways and Drainage Charge

The Waterways and Drainage Charge is collected from all rateable residential and non-residential properties within the Waterways Management District (see map in Appendix 1). The charge is used to provide a range of services including flood protection and mitigation, maintaining and enhancing the drainage network and works to protect and improve the 8,400km of rivers and creeks throughout the Port Phillip and Westernport catchment.

Pricing reforms introduced through the current regulatory period have included changing the way the Waterways and Drainage Charge is levied for residential customers, moving away from a property value based fee to a flat, occupancy based, charge for all rateable properties. All customers residing outside the Urban Growth Boundary (UGB) only pay a rural charge with no differentiation in price due to property type.

Based on the planned expenditure and forecast customer numbers, the proposed price increase for the Waterways and Drainage Charge is CPI+2.6% per year. This is forecast to result in the prices provided in Table 1.6.

Table 1.6: Forecast Waterways and Drainage Charge prices (real $12-13)

	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Residential	$85.08	$87.32	$89.61	$91.96	$94.38	$96.86
Non-residential – minimum	$97.84	$100.41	$103.05	$105.76	$108.53	$111.38
Non-residential – rate in dollar (cents)	1.0417	1.0691	1.0972	1.1260	1.1556	1.1859
Rural	$46.75	$47.98	$49.24	$50.53	$51.86	$53.22

These charges are typically included on water bills and are collected by the water retailers on Melbourne Water's behalf. A number of changes are proposed to the structure of the Waterways and Drainage Charge. These are outlined below.

Farm Exemptions

There are currently around 3,000 farmland properties in Melbourne Water's waterways and drainage boundary that are exempt from paying the Waterways and Drainage Charge. These exemptions have been in place since the 1980s and were applied in the context of a different pricing regime.

In line with the pricing reforms introduced for the Waterways and Drainage Charge through the current regulatory period, and Melbourne Water's commitment to enhancing equity and fairness in the way the charge is applied, it is proposed to remove this exemption from the start of the 2013 regulatory period. This will bring these farmland properties into line with all other property owners currently paying the charge.

During the draft 2013 Water Plan consultation period, Melbourne Water received feedback on this change including customer concerns about a perceived lack of infrastructure in their area, fairness and cost of living pressures. Despite this, Melbourne Water considers that spreading the cost of these services across all properties in Melbourne Water's service area is the fairest possible approach for both landowners and existing customers. Everyone benefits either directly or indirectly from healthy waterways and floodplains, and a safe and reliable regional drainage system. It is proposed that customers who pay the non-residential rate will only be liable for the minimum charge.

Urban Growth Boundary Extension

In August 2010, the State Government extended the UGB to include approximately 46,300ha of new land in the north, west and south-east of Melbourne. It is proposed that all customers within the new UGB boundary pay the higher residential and non-residential rates from the commencement of the 2013 Water Plan. This will ensure a consistent application of the UGB boundary within a regulatory period. These extended areas are marked on the map of the Waterways Management District provided in Appendix 1. It is proposed customers who pay the non-residential rate will only pay the minimum charge.

Melbourne Water also received a limited amount of feedback associated with the proposed change to the pricing structure for the UGB boundary extension. While these properties are currently subject to Melbourne Water's rural Waterways and Drainage Charge, our drainage services are expected to expand in line with the UGB. This is why Melbourne Water is proposing that properties in the expanded area be brought in line with other properties within the UGB, which are subject to either the residential or non-residential charge.

Precept area pricing reform

Melbourne Water provides higher levels of waterways and drainage services to residents in Patterson Lakes and the Koo Wee Rup-Longwarry Flood Protection District, reflecting the specific needs of those communities.

In its 2008 Price Determination, the ESC sought the development of a long-term strategy to move away from property value based charges for these services to a more cost reflective and sustainable charge. A shift away from property value based charges would be consistent with pricing reforms introduced through the 2008 Water Plan period for the residential Waterways and Drainage Charge.

Accordingly, in the draft 2013 Water Plan, Melbourne Water proposed sustainable and cost reflective price paths for both precepts. The Koo Wee Rup–Longwarry Flood Protection District land owners broadly accepted the 2013 Water Plan pricing proposals for their precept.

Following feedback from the Patterson Lakes precept area in relation to the draft 2013 Water Plan proposals, Melbourne Water and the community have agreed to an independent review of the Patterson Lakes special precept area, including the appropriate pricing approach. The independent review is expected to release its report on 1 March 2013. Melbourne Water will abide by the findings of the independent review and incorporate its recommendations into an addendum to the 2013 Water Plan for consideration by the ESC.

Developer service scheme charges

Melbourne Water proposes to continue the current methodology for setting developer charges in development service schemes. Under this approach, future capital expenditure is forecast for each year of the expected life of the development service scheme. This is converted into an equivalent present value cost using an appropriate discount rate. The charge is set such that the present value of the income stream is equal to the present value of the costs and administering the schemes. The financial assumptions relating to each scheme are reviewed on an annual basis and the engineering specifications reviewed at least every five years.

Diversion charges

Diversion charges are used to collect revenue from licence holders who hold entitlements to extract water from rivers, streams and dams for a variety of purposes including domestic, stock, agricultural irrigation, stormwater harvesting, power generation and industrial cooling. Prices are based on the principles of cost recovery and reflect direct expenditures as well as a provision for overheads. This has resulted in a proposed annual price increase of CPI+1.0% for the 2013 Water Plan period.

A minor change to the pricing structure is proposed for the 2013 regulatory period as it is proposed to include a works licence fee to cover the costs of administering this component of licences. Following customer consultation in relation to the draft 2013 Water Plan proposal, a fully cost reflective charge is proposed, reflecting feedback that customers preferred this approach and impacts were manageable. This reduced the price increase required for diversion take and use licences from CPI+1.6% as outlined in the draft 2013 Water Plan to the proposed level of CPI+1.0%.

Charges for miscellaneous services

Pricing for the miscellaneous services that Melbourne Water provides is set on a cost recovery basis. These services include provision of:

- Property information statements
- Property flood level information
- Hydraulic data
- Build over of Melbourne Water assets and stormwater connections
- Flood feasibility studies.

For the 2013 Water Plan period, these prices were reviewed to ensure they remain cost reflective. Following this review, it is proposed these prices continue to increase by CPI only.

1.8.3 Alternative water sources pricing principles

Recycled water is currently the only alternative water source Melbourne Water supplies to water retailers. Melbourne Water's recycled water prices are regulated by the ESC's pricing principles, reflecting the fact that the market is developing and supply for customers varies in either requirements for quality or security of supply. The ESC's current recycled water pricing principles are provided in Figure 1.5.

Figure 1.5: ESC recycled water pricing principles

Recycled water prices should:

- Consider the price of any substitutes, and customers' willingness to pay.
- This includes the possibility of the substitutability, in some cases (such as sewage disposal), of potable and non-potable water
- Cover the full cost of providing the service (except for services related to specified obligations or maintaining the balance of supply and demand)
- Include a variable component.

A business that does not propose to fully recover recycled water costs must demonstrate that:

- It assessed the costs and benefits of pursuing the recycled water project
- It clearly identified the basis to recover any revenue shortfall
- If the revenue shortfall is to be recovered from non-recycled water customers
  - The project is required to meet Government obligations
  - The affected customers were consulted about their willingness to pay for the benefits of increased recycling.

Melbourne Water supports the use of pricing principles to regulate its recycled water prices in the 2013 Water Plan period and is not proposing to alter the current pricing principles.

Chapter 02

Purpose and background

This Chapter outlines the purpose of the 2013 Water Plan. It also outlines the structure of the water industry, Melbourne Water's role in the industry and its strategic direction. The context in which this Plan is being prepared is also discussed.

OVERVIEW

- Melbourne Water is required to submit a 2013 Water Plan to the ESC on 26 October 2012, outlining Melbourne Water's service and price proposals from 2013-14 to 2017-18.
- A draft 2013 Water Plan was released for consultation in May 2012.
- In light of customer feedback, particularly about the early recovery of desalination costs, and the subsequent freezing of water and sewerage prices, Melbourne Water released an addendum to the draft 2013 Water Plan in mid August 2012, proposing an alternate price path.
- This addendum outlined both Melbourne Water's preferred wholesale water and sewerage price path as well as other alternative approaches that Melbourne Water had considered.
- Melbourne Water has prepared this final 2013 Water Plan after undertaking significant prioritisation and consultation in relation to services, related expenditures and prices.

2.1 PURPOSE OF THE 2013 WATER PLAN AND PROCEDURAL REQUIREMENTS

The purpose of the 2013 Water Plan is to set out Melbourne Water's proposals in terms of service and price for the period 2013–14 to 2017–18.

Melbourne Water undertook considerable consultation with customers, the broader community, regulators and policymakers in formulating the proposals contained in this Plan. This is outlined in each of the following chapters.

Preparation of the draft and final 2013 Water Plan has also been guided by the SoO. This includes the details to be included in the Plan and the procedural requirements for submitting a Plan.

Section 2.1.1 of the SoO requires that the 2013 Water Plan must include:

- Outcomes to be delivered over the regulatory period with respect to standards and conditions of supply, meeting future demand, and regulated or legislated requirements
- How Melbourne Water proposes to deliver those outcomes
- The proposed revenues, prices or pricing principles for each of Melbourne Water's prescribed goods and services.

The 2013 Water Plan meets those requirements, with Chapter 4 setting out Outcomes, Chapter 5 Demands, Chapter 7 Expenditures, Chapter 8 Revenues and Chapter 9 Prices.

The SoO also requires Melbourne Water to consult on its draft Plan and under sections 2.2.3, 2.2.4 and 2.2.5 to:

- Submit its draft 2013 Water Plan to the Minister, Treasurer and each regulatory agency, no less than three months prior to the submission of its final Water Plan to the ESC
- Make any variations to the draft Plan as requested by the Minister
- Have regard to any comments provided by a regulatory agency.

The final 2013 Water Plan has been prepared reflecting feedback from Government and regulators.

In meeting the above requirements, under the SoO, Melbourne Water must also ensure the actions described in the 2013 Water Plan are carried out in accordance with any guidelines issued by the ESC.

Melbourne Water has been guided by the ESC's 2013 Water Plan Guidance Paper (October 2011) when preparing the 2013 Water Plan.

Under the Water Industry Regulatory Order, the ESC must approve prices if it is satisfied that they were developed in accordance with the procedural requirements in the SoO and that the prices comply with the relevant regulatory principles. These principles include that prices must:

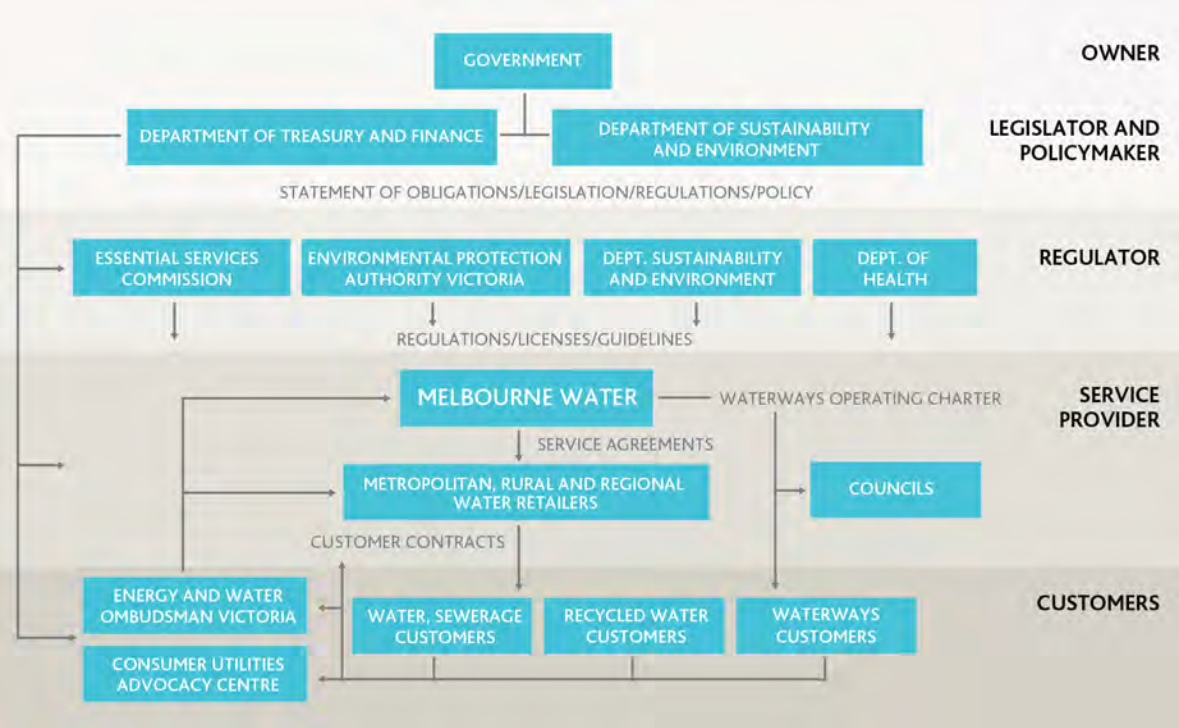
- Provide appropriate incentives and signals to customers about the sustainable use of Victoria's water resources by reference to the costs of providing particular services
- Take into account the interests of customers, including low income and vulnerable customers
- Enable customers to understand the prices charged
- Be consistent with a sustainable revenue stream for the business and reflect efficient expenditures to deliver proposed outcomes
- Provide an appropriate mechanism to minimise the extent of any under or over recovery of revenue for the costs associated with the VDP.

2.2 INDUSTRY STRUCTURE, LEGISLATION AND REGULATION

Melbourne Water is the wholesaler of water supply, sewage treatment and recycled water services in Melbourne and the surrounding areas. Melbourne Water is also a water resource manager with responsibility for managing the water catchments, as well as 8,400 km of rivers and creeks and the major drainage systems throughout the Port Phillip and Westernport region. Its role within the water industry is guided and influenced by legislators, policymakers, regulators, its customers and the broader community.

Figure 2.1 illustrates Melbourne Water's role within the water industry and its interactions with key regulatory and State Government agencies.

Figure 2.1: Water industry structure and regulatory framework



The State Government sets the policy and legal framework for the water industry, specifies obligations and monitors performance. Legislation (e.g. the *Water Act 1989*), regulations (e.g. drinking water quality regulations), legal instruments (e.g. bulk water entitlements) and policy documents (e.g. *Living Melbourne, Living Victoria*) are issued by the Government and guide business and regulatory decisions.

The Minister for Water is responsible for allocating water resources and, with the support of DSE, sets out specific requirements for each water retailer through their individual SoOs.

The Treasurer, in consultation with the Minister for Water, monitors financial performance and represents the State Government's shareholder interests, including returns to government and borrowing requirements, for the metropolitan water industry.

The ESC regulates prices and customer service standards for prescribed water, sewerage, waterways and drainage, and recycled water services across Victoria consistent with its legislative requirements[2] and the *Water Industry Regulatory Order* .

Environment Protection Authority (EPA) Victoria sets and enforces environment standards consistent with key principles set out in the *Environment Protection Act 1970*. The Department of Health (DoH) sets and enforces water quality standards to ensure water provided by water retailers complies with relevant legislation, regulations, and national and international water quality guidelines.

The Energy and Water Ombudsman Victoria (EWOV) provides retail customer dispute functions while the Consumer Utilities Advocacy Centre provides retail customer advocacy functions.

A distinguishing feature of the metropolitan water industry is the separation of wholesale and retail functions. Melbourne Water provides wholesale water, sewerage and recycled water services consistent with State Government, regulatory and customer requirements. Service standards for wholesale water, sewerage and

[2] Legislative provisions relevant to the ESC's regulation of the water industry include the *Essential Services Commission Act 2001* and the *Water Industry Act 1994*.

recycled water services are set out in supply agreements that are commercially negotiated between Melbourne Water and the water retailers.

Waterways service standards are set out in Melbourne Water's Waterways and Drainage Operating Charter, developed in consultation with its Waterways Advisory Committee, representing key stakeholder interests and DSE.

The water retailers supply and levy charges for water, sewerage and recycled water services provided to the people and businesses of Melbourne, consistent with State Government, regulatory and customer requirements.

Councils manage the local drainage network (the top 60ha of a catchment) and work with Melbourne Water to provide flood protection and manage stormwater quality.

2.3 MELBOURNE WATER

In fulfilling its obligations, outlined above, Melbourne Water is committed to managing its business efficiently to achieve its vision of 'Enhancing Life and Liveability'.

2.3.1 Governance

Melbourne Water is a statutory corporation, fully owned by the State Government.

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

2.3.2 Service responsibilities

Melbourne Water's role encompasses integrated management of water resources throughout the water cycle including:

- Supplying water to three metropolitan water retailers (City West Water, South East Water and Yarra Valley Water) and two regional water retailers (Western Water and Gippsland Water). Water will also be available for supply to three other regional water businesses (Barwon Water, South Gippsland Water and Westernport Water) should they require it during the 2013 Water Plan period
- Treating sewage received from the three metropolitan water retailers
- Supplying waterways services, including waterways and drainage management, stormwater quality protection in the Port Phillip and Westernport catchments, and diversion licence administration in the Yarra and Maribyrnong catchments
- Supplying recycled water services to the metropolitan water retailers, Southern Rural Water and a private sector recycled water supplier.

The supply areas serviced by Melbourne Water are set out in Appendix 1.

2.3.3 Strategic Direction

In late 2011 and early 2012 Melbourne Water reviewed its Strategic Direction in consultation with its customers, stakeholders and employees. A new Strategic Direction, with the vision of 'Enhancing Life and Liveability' was released in March 2012. This reflects Melbourne Water's commitment to contributing to meeting the Government's *Living Melbourne, Living Victoria* policy objectives over the 2013 Water Plan.

Key changes from the previous Melbourne Water Strategic Direction, and which will underpin how outcomes will be delivered over the 2013 regulatory period include:

- An increased focus on customer service, commercial acumen and innovation. These qualities are critical to Melbourne Water's ability to provide value for money, to deliver services people want and need, and to anticipate future needs
- A move towards whole-of-system thinking, where all assets, natural or built, are considered part of one integrated system
- A greater emphasis on achieving liveability improvements through Integrated Water Management
- The need to strengthen Melbourne's Water's skills with respect to adaptability and flexibility.

The Strategic Direction re-emphasises a commitment to high quality service delivery and commercial performance.

2.3.4 Context

The 2013 Water Plan has been prepared against a backdrop of strong community concern about service affordability and the impacts of price rises across the utility and service sectors.

Melbourne Water has sought to take a responsible approach to balancing these concerns with the need to meet significant new costs, particularly in relation to the VDP.

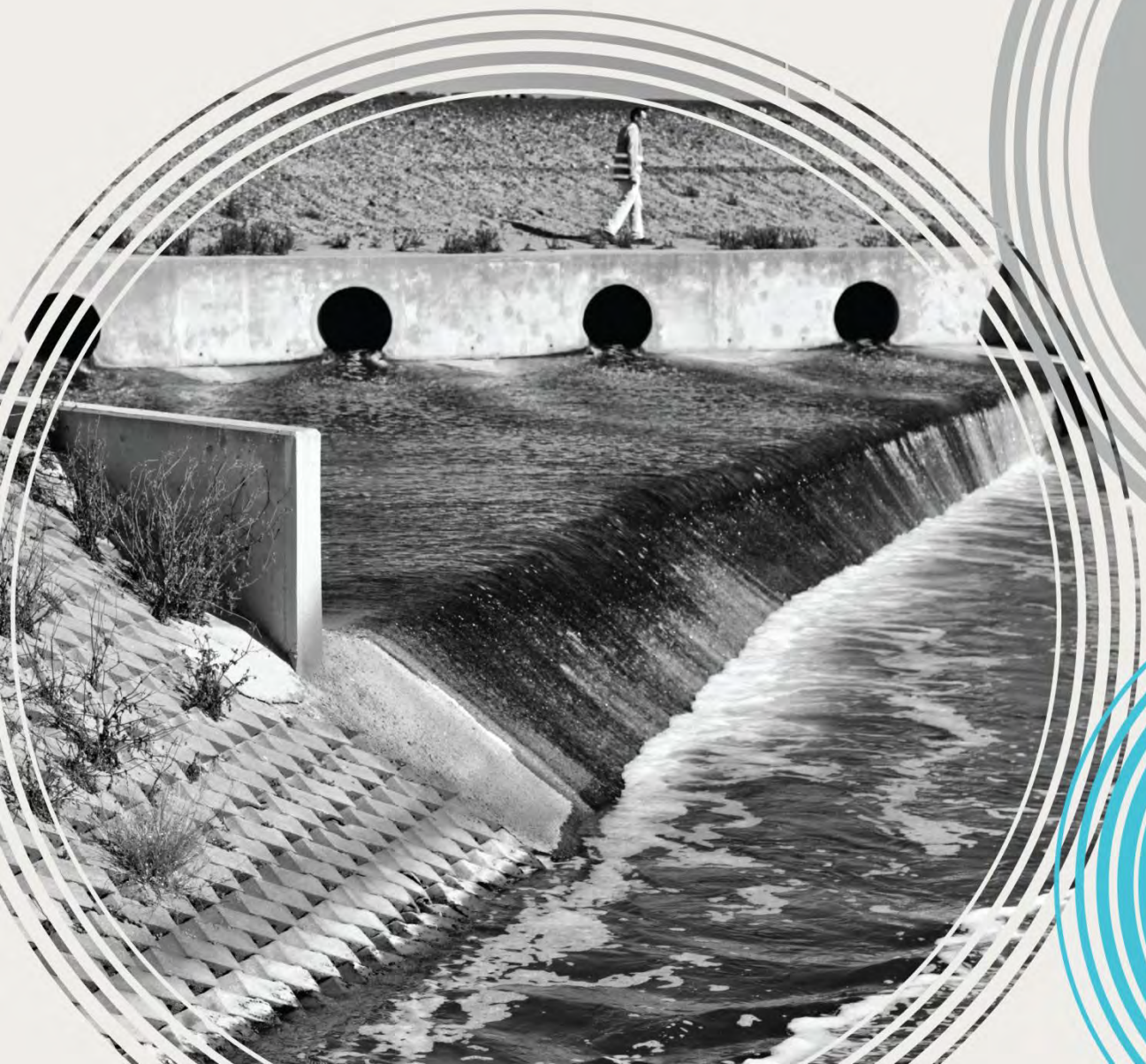
The VDP costs will represent around 60% of Melbourne Water's total annual operating expenditure over the 2013 Water Plan and result in a further and final year of large price increases in 2013-14. While a significant cost for the business and community, the VDP will provide ongoing value by ensuring Melbourne's water supply is better prepared against the impacts of future droughts in a variable and changing climate as well as extreme events, such as major bushfires in our catchments, and projected population increases.

To assist in managing these cost pressures, the 2013 Water Plan adopts a greater focus on organisational efficiency, including through integrated planning activities that will deliver decentralised water source augmentations beyond the 2013 Water Plan. This is consistent with the Government's vision for Melbourne's water system of 'A smart resilient water system for a liveable, sustainable and productive Melbourne'.

At the same time, we understand that our customers and the water consumers need to see the value in the work that we do. The 2013 Water Plan demonstrates that beyond the costs of the VDP, there is less emphasis over the 2013 regulatory period on water security projects, and an increased focus on renewal and compliance projects as well as maintenance of our increasing asset base to ensure ongoing high quality service provision.

Chapter 03

Outcomes over 2008 and 2009 Water Plan periods



This Chapter reports on Melbourne Water's performance and progress in delivering outcomes and service standards set as part of the ESC 2008 and 2009 Price Determinations. Actual capital and operating expenditures associated with the delivery of these outcomes – and the reasons for varying from the Price Determination benchmarks – are also detailed along with actual demand and revenue outcomes.

OVERVIEW

- Melbourne Water has continued to supply high-quality, safe and reliable drinking water, fit-for-purpose alternative water sources (recycled water) and safe sewage treatment and disposal services over the 2008 and 2009 Water Plan periods. Similarly it has continued to protect and enhance the health and amenity of waterways and the bays within Melbourne Water's operating area and to manage flood risk.
- In a limited number of instances, Melbourne Water has not met some performance indicators. Many of these instances relate to one-off or infrequent events, and do not reflect significant, systemic or ongoing issues.
- Overall actual demands are close to those included by the ESC in its 2008 and 2009 Price Determinations, although exceptional wet weather in more recent times have seen water demands below and sewerage flows above those set by the ESC.
- Significantly, in the context of a $3.756B capital program, Melbourne Water's actual and forecast capital expenditures are $218M or 6% above those incorporated in the 2008 and 2009 Price Determinations. Melbourne Water's actual and forecast operating expenditures are $279M or 12% below those in the 2008 and 2009 Price Determinations.

3.1 ACTUAL OUTCOMES

3.1.1 Water

Melbourne Water has continued to deliver high-quality, safe and reliable drinking water by meeting water quality, pressure, dam safety, drought response and water conservation obligations. In some instances, compliance with some performance indicators was not met. The non-compliance did not have a significant impact on the water received by the water retailers or their customers. The outcomes of key performance indicators for water (and all other products) are set out in Appendix 2.

3.1.2 Sewerage

Over the period 2008–09 to 2011–12, Melbourne Water has reliably transferred, treated and discharged sewage in compliance with its EPA Victoria discharge licence and offensive odour requirements at the ETP and WTP. The targets for compliance with the EPA Victoria discharge licence requirements have been met despite the recent exceptional wet weather that has increased sewage flows at the treatment plants.

Similarly, wet weather has impacted sewerage system spills (hydraulic), however, investment during the 2009 regulatory period in the Northern Sewerage Project will virtually eliminate these spills and enable the target of no spills to be achieved by 2013. Other challenges have impacted the management of odour complaints and identifying cost effective biosolids reuse opportunities over the 2009 regulatory period.

3.1.3 Waterways and drainage

From 2008–09 to 2011–12, Melbourne Water has continued to protect and enhance the health and amenity of waterways and the bays and manage flood risk throughout the Port Phillip and Westernport catchment.

Melbourne Water has largely met its waterways and drainage service standards. Significantly, all new development complies with flood protection standards and the implementation targets assigned to Melbourne Water from the Regional River Health Strategy and Addendum have been achieved. In addition, since 2009-10 Melbourne Water has met its targets for reducing the waterway nitrogen load to Port Phillip Bay through targeted stormwater action.

This has been achieved in a challenging environment with an expanding management boundary and wet weather events which have caused floods in some areas of Melbourne. It is unlikely that the target of a 10% reduction in intolerable flood risk by 2013 will be fully met at the end of the 2008 regulatory period. This reflects increased costs for some projects, limiting the number of projects undertaken, and delays as a result of community consultation and council approvals. A number of projects in the 2013 Water Plan will enable Melbourne Water to achieve this target in the next regulatory period.

3.1.4 Alternative water sources

Melbourne Water met its recycled water service standards and key performance indicators, including the target to recycle 20% of Melbourne's sewage by 2010. This is currently the only alternative water source supplied by Melbourne Water. Although this target has now been met, Melbourne Water will continue to maintain (as a minimum) capacity to supply at this level, however year-to-year climatic variations significantly impact on customer demand. In addition, Melbourne Water achieved its target of contributing to supply 964ML per year of recycled water to the water retailers for potable substitution by 2013. The outcomes of key performance indicators for alternative water sources are set out in Appendix 2.

3.1.5 Corporate

Over the period 2008–09 to 2011–12, Melbourne Water met its corporate service standards and key performance indicators. Significantly, these include the target to reduce greenhouse gas emissions by 40% of Melbourne Water's 2000–01 emissions by 2012–13, and to increase renewable energy used or exported as a percentage of total energy use to 61% by 2012–13.

Almost all EWOV complaints were responded to within the established timeframe, with only one out of 147 cases over four years not being responded to within the time allotted. This one case related to an assisted referral from the Ombudsman.

3.2 NEW OBLIGATIONS

Since the ESC's 2008 and 2009 Price Determinations, there have only been minor changes to the legislative and regulatory obligations that apply to Melbourne Water.

Table 3.1 lists these with the most significant change being the Federal Government's carbon pricing scheme that will have an impact on Melbourne Water's operating and capital expenditures from 2012–13 onwards.

Another is the requirement to supply water to three regional water businesses (Barwon Water, South Gippsland Water and Westernport Water), reflecting the obligations in the bulk water entitlements. Two of the three businesses have advised they will not require water in 2012-13. Barwon Water has confirmed their intention to take 0.5GL of commissioning water in 2012-13.[3] The new metering legislation for diversions (in waterways) has also been included but will not have an expenditure impact until the 2013 Water Plan period.

Table 3.1: New obligations

Additional obligations	Regulatory instrument	Outcomes to be delivered	2008 and 2009 Water Plan Operating Costs ($M)
Carbon pricing mechanism	Federal legislation - Clean Energy Legislation Package	• Purchase and surrendering of appropriate number of Australian Emissions units needed for all Scope 1 emissions. • Payment of increased costs through purchasing electricity attributed to the new legislation. • Payment of increased costs incurred by upstream suppliers attributed to the new legislation.	4.9
Supply to Westernport Water Supply to South Gippsland Water Supply to Barwon Water	Bulk Water Supply Agreement are being negotiated	• Set up of interface agreements with new water retailers covering volume, reliability and quality issues. • Review asset planning requirements with supply from desalinated water • Develop new pricing arrangements for new water retailers to supply water if required	0.025
Metering for river diversion customers	National Water Initiative Agreement (Para. 87 and 88), National Framework for Non-urban Water Metering Policy, Victorian State Implementation Plan	• Dependent on Melbourne Water's metering action plan to be completed in 2012	0

[3] Commissioning water is used to test and verify that the asset is functioning according to its designs and specifications.

3.3 DEMAND OUTCOMES

Table 3.2 provides an outline of planned versus actual water and sewerage demand, recycled water demand and waterways and drainage customer numbers. Allowing for the exceptional wet weather in 2010–11 and 2011-12, these were within an acceptable range to those included by the ESC in its 2008 and 2009 Price Determinations.

Table 3.2: Water and sewerage, recycled water and waterways and drainage customer forecasts

	2008–09		2009–10		2010–11		2011–12		2012–13	
	Water Plan	Actual	Water Plan	Actual	Water Plan	Actual	Water Plan	Actual	Water Plan	Forecast
Water and sewerage (GL)										
Water	372.3	371.2	369.7	361.4	388.5	351.8	391.9	365.6	402.5	379
Sewerage	261	261.8	251.7	271.1	264.9	325.3	270.7	320.1	275.9	295.6
Recycled water (GL)[4]										
	20.4	22.4	19.4	19.1	18.1	4.1	18.4	4.0	18.7	12.4
Waterways and drainage										
Customer numbers	1.718	1.712	1.751	1.740	1.784	1.772	1.815	1.831	1.865	1.884

Actual water demands have been lower than planned due mainly to wetter than average conditions. In contrast, the actual sewage demands are higher than planned. This is due to higher than expected rainfall resulting in greater inflow and infiltration of water into the sewerage transfer network and possibly altered customer behaviour such as a reduction in grey water diversions. This pattern of variance from plan is forecast to continue in 2012–13.

Recycled water demands were consistent with the 2009 Water Plan forecast for the first two years, but from 2010–11 onwards have been much lower due to wet weather.

Despite waivers provided to customers impacted by the Black Saturday bushfires (approximately 1,000 customers) and the delay in lifting farm exemptions, again due to the bushfires, variations between the ESC's 2008 Water Plan determination and actual customer numbers remains within 1%.

3.4 ACTUAL CAPITAL EXPENDITURES

Melbourne Water has and will deliver, significant security of supply, water treatment, sewage treatment and transfer, as well as flood protection projects in the 2008 and 2009 Water Plan periods. This significant program of works was developed in response to unprecedented drought conditions, increasing compliance obligations and a larger asset renewal program to ensure a sustainable operating risk profile. Major projects such as the Northern Sewerage Project and the Desalinated Water Integration Project have been delivered on time and under budget. Some projects had a change of scope or encountered unforeseen risks during the design phases, which have required increased expenditure to achieve the desired outcome.

Melbourne Water's actual and forecast capital expenditures are $218M or 6% above those incorporated in the 2008 and 2009 Price Determinations. This is illustrated in Figure 3.1. Except for water, all other products' actual and forecast expenditures are marginally higher than originally planned.

[4] Recycled water actual and forecast demands do not include supply to on-site customers or to meet environmental obligations, as these customers were not included in the 2009 Water Plan forecasts. Forecasts for the 2013 Water Plan include these demands to better capture all recycled water uses (see Chapter 5).

Melbourne Water regularly reviews its capital expenditures and has actively managed and prioritised projects during the current regulatory period to minimise expenditures above those incorporated in the 2008 and 2009 Price Determinations. Melbourne Water considers the higher expenditures are prudent and efficient as the appropriate drivers, option assessments, risk, financial analysis and approvals were considered prior to commencing construction.

Figure 3.1: Total capital expenditure 2008–09 to 2012–13 (real $12-13)

	08-09 WATER PLAN	08-09 ACTUAL	09-10 WATER PLAN	09-10 ACTUAL	10-11 WATER PLAN	10-11 ACTUAL	11-12 WATER PLAN	11-12 ACTUAL	12-13 WATER PLAN	12-13 FORECAST	08-09 WATER PLAN	5 YEARS TOTAL	VARIANCE TOTAL
WATER	740.4	743.5	531.2	504.1	173.4	158.0	75.0	86.6	39.5	52.9	1559.6	1545.1	14.5
SEWERAGE	281.9	295.5	442.0	351.8	419.1	456.4	193.7	277.3	59.3	146.1	1395.9	1527.1	-131.2
WATERWAYS	117.7	122.8	147.9	148.0	133.0	131.6	134.2	131.3	123.8	141.6	656.6	675.3	-18.7
ALT. WATER SOURCES	0.6	0.7	0.2	0.7	0.3	4.9	0.2	8.6	0.3	3.7	1.7	18.6	-16.9
CORPORATE	48.2	43.5	40.9	41.8	17.2	39.4	16.6	52.2	19.6	31.1	142.5	208.0	-65.6
TOTAL	1,188.9	1,206.0	1,162.2	1,046.4	742.9	790.3	419.8	556.1	242.6	375.4	3,756.4	3,974.2	-217.8

3.4.1 Water

Actual and forecast capital expenditure for water is lower than planned by $14.5M, achieved primarily through project efficiencies. In particular, the competitive alliance process for the Desalinated Water Integration Project brought the project cost in lower than project plan estimates, saving $31.6M. Innovations in repair methodologies and techniques for the Multiple Tanks Refurbishments project also delivered a saving of $19.1M. These under expenditures have been partially offset by increases in other projects, including Tourourrong Reservoir Embankment and Spillway remedial works ($14.8M) following increased cultural heritage, geotechnical and ANCOLD requirements.

3.4.2 Sewerage

Actual and forecast sewerage expenditures are $131.2M higher than planned, largely influenced by some significant additional costs at ETP including:

- An additional $74.2M for the ETP Tertiary Upgrade Project. These costs were the result of a change in scope after the ESC's 2009 Price Determination, and followed the completion of EPA Victoria's works approval in January 2010. They largely relate to a change in preferred treatment technology, which while more expensive in the short term, results in a better overall outcome for customers by negating the need to construct an outfall extension (at a cost of $400M) in the 2013 Water Plan period. This saving was announced in July 2009 subject to EPAV Works Approval which was granted in January 2010
- An additional $49.9M for the ETP Aeration Tanks Project, reflecting forecasting of additional costs associated with rectifying significant structural defects in the tanks
- An additional $16.2M for ETP Grit and Screenings Project, following the results of extensive risk assessments and design review processes. These costs were not adequately incorporated into the initial cost assessment for these works.

Capital expenditures at WTP and in the transfer system have also increased primarily due to:

- An additional $24.8M for the 55 East and 115 East Cover Renewal Project reflecting the high level of innovation required to address risks unique to this project
- An additional $18.2M for Melbourne Main Sewer Replacement Project for the new shaft construction due to poor ground conditions and the increased cost of branch and reticulation works.

The over expenditure has been offset by savings in other projects, in particular the Northern Sewerage Project that resulted in expenditure savings and efficiencies due to risk allowances and contingencies not being realised during construction (saving of $39.2M).

3.4.3 Waterways and drainage

Actual and forecast capital expenditure for waterways and drainage is $18.7M higher than planned, largely as the result of higher than planned drainage and flood protection expenditure, for example:

- Patterson River Tidal Gates (an additional $10.3M) – a risk assessment identified the need to replace tidal gates rather than conduct remedial work

Waterways condition is another contributor to the higher than planned expenditure:

- Yarra River Dights Falls Rehabilitation (an additional $7.3M) – due to alterations in scope such as the construction methodology for the weir and the inclusion of a vertical slot fishway in the design. The wet weather delays also added to the costs of the project.

3.4.4 Alternative water sources

Planned alternative water sources capital expenditure on bulk recycled water services over the 2009 Water Plan period was approximately $1.7M. In addition to planned expenditure, Melbourne Water invested $13.5M in the Class C Reliability Improvement Project at the WTP in response to customer supply requirements. This project was required to increase the quantity and reliability of Class C recycled water supply to WTP onsite customers.

3.4.5 Corporate

Higher than planned capital expenditure of $65.6M is forecasted for the 2008 and 2009 regulatory periods. A significant reason for this increase is the fit out costs associated with the corporate office relocation ($22.8M). In the past few years, growth in the business's capital projects, expansion of the area of responsibility for managing waterways and the co-location of IT services in order to reduce costs and improve service levels, led to leases of additional office space at up to 4 different locations at East Melbourne and Collingwood. The lease for its main building in East Melbourne also expired in mid-2012.

The age and condition of these buildings did not meet State Government guidelines. There were also issues emerging with aging office infrastructure e.g. lifts, fire suppression. Under the *State Government's Office Accommodation Guidelines 2007* and the *Office Building Standards 2008*, when entering a new lease, standard accommodation for new buildings is 5-star Green Star and existing buildings is 4-star NABERS (National Australian Built Environment Rating System) for leases in excess of 2,000 square metres (Melbourne Water's total business need). The main building in East Melbourne had a 3.5 star NABERS rating while the other buildings had lower ratings.

Therefore, it would not have been possible to meet the State Government's guidelines if Melbourne Water were to remain at these locations unless the offices were upgraded.

Following a rigorous analysis of relocation options and market tendering, Melbourne Water has been able to relocate its corporate office to a single location and achieve a 6-star Green Star rating at 5-star Green Star cost in its new building. Consolidation has also improved efficiency and organisational culture.

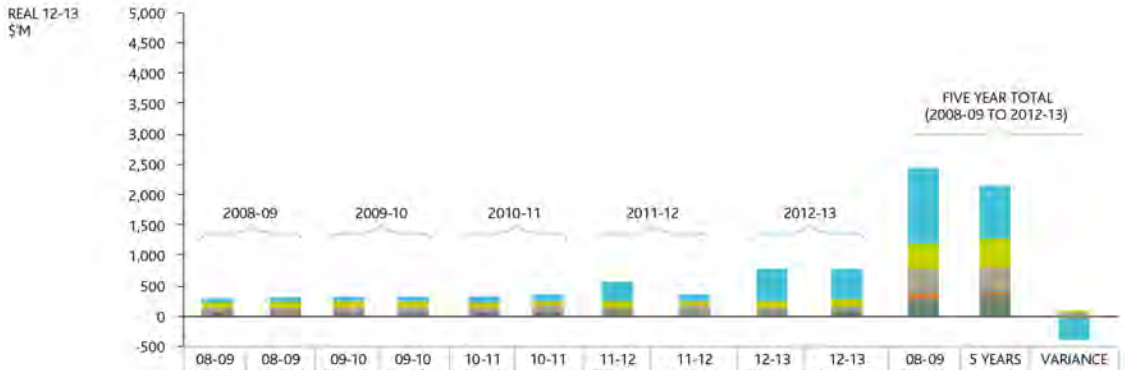
Other contributors to the increase include:

- Motor Vehicle Purchases (an additional $12.2M) – reflecting a change in fleet procurement policies, from leasing to purchasing. This will achieve cost savings across Melbourne Water and the water retailers based on a 'shared services' approach. The net effect is to shift operating expenditure to capital expenditure
- Information Technology expenditures – Common Wide Area Network Upgrade (an additional $7.6M to address SCADA security concerns during the course of independent review), Brooklyn Data Centre (an additional $10M required to provide a secure and sustainable facility capable of supporting ongoing growth in systems and data in line with the move to 990 La Trobe Street) and Asset Management System renewal (an additional $1.6M to undertake a full replacement as the current system was approaching obsolescence and no simple upgrade path was available).

3.5 ACTUAL OPERATING EXPENDITURES

As illustrated in Figure 3.2, Melbourne Water's actual and forecast operating expenditures are $278.6M, or 12%, below those allowed by the ESC in its 2008 and 2009 Price Determinations. This is primarily the result of a change in the date for completion of the VDP, as well as the North-South Pipeline not being used for water supply. Planned operating expenditure relating to the VDP that has not been incurred is being returned to customers in 2012-13 (see Chapter 6).

Figure 3.2: Total operating expenditure 2008–09 to 2012–13 (real $12-13)



	08-09 WATER PLAN	08-09 ACTUAL	09-10 WATER PLAN	09-10 ACTUAL	10-11 WATER PLAN	10-11 ACTUAL	11-12 WATER PLAN	11-12 ACTUAL	12-13 WATER PLAN	12-13 FORECAST	08-09 WATER PLAN	5 YEARS TOTAL	VARIANCE TOTAL
WATER	77.5	80.0	87.2	83.7	94.9	84.9	324.3	83.5	554.0	473.8	1,137.8	805.8	-332.0
SEWERAGE	76.5	76.8	87.4	81.3	87.1	85.5	86.6	90.5	89.2	106.6	426.7	440.7	13.9
WATERWAYS	75.5	72.3	75.5	73.8	78.6	83.8	78.9	81.0	79.8	86.1	388.4	397.0	8.6
ALT. WATER SOURCES	8.0	6.7	9.0	6.1	8.7	6.4	8.4	5.4	8.4	6.2	42.6	30.8	-11.8
CORPORATE	60.8	67.8	62.6	63.7	60.2	63.6	56.0	72.4	56.2	71.0	295.8	338.5	42.7
TOTAL	298.3	303.6	321.7	308.5	329.4	324.2	554.3	332.8	787.6	743.7	2,291.3	2,012.7	(278.6)

3.5.1 Water

Actual and forecast operating expenditure for water is $332M less than planned. The reasons for this underspend include:

- A change in the date for completion of the VDP, with commissioning supply not occurring until late 2012 (a saving of $298M)
- The operations of the North-South Pipeline ceased, following a directive from the Minister for Water to only use the pipeline for 'critical human need' (a saving of $26M).

3.5.2 Sewerage

The actual and forecast operating expenditures for sewerage are slightly higher than planned (an additional $13.9M). The main contributors include:

- Expenditures relating to the ETP Tertiary Treatment Upgrade, in particular energy and mechanical and electrical maintenance requirements (an additional $6.8M)
- The increase in general, mechanical and electrical maintenance (an additional $5.0M). This is being managed through savings in other areas of the mechanical and electrical maintenance expenditure at Melbourne Water, resulting in the overall expenditure being on track
- The increase in costs relating to the carbon pricing scheme, which will come into effect as at 1 July 2012 (an additional $3.8M)
- Significantly higher flows driven by weather conditions has also increased variable flow related costs such as energy costs at WTP (an additional $1.9M).

3.5.3 Waterways

The actual and forecast operating expenditures for waterways and drainage are $8.6M higher than planned. The main reasons for this include:

- Higher than planned labour costs to manage the increased level of urban development in the Melbourne region. A large part of this expenditure will be offset by the various grants that are received for waterways projects (an additional $14.5M)
- Increased flood recovery costs as a result of recent exceptional wet weather across the region, primarily in the south-east (an additional $3.4M). Some of this expenditure will be eligible to be offset when the claim for flood recovery from the Federal Government is processed
- Increased land tax costs, reflecting a higher rate of development and land values (an additional $2.8M).

3.5.4 Alternative water sources

The actual and forecast operating expenditures for recycled water services (the alternative water source currently supplied by Melbourne Water) are $11.8M lower than planned. This is primarily as a result of lower than anticipated demand for recycled water. In particular, recent exceptional wet weather has meant the demand for recycled water, particularly in the west, has been significantly lower than expected, leading to lower costs for maintenance and energy (a saving of $6.2M). Correspondingly, there has also been lower revenue than forecasted as a result of lower than expected demand, see Table 3.3 for more detail.

3.5.5 Corporate

Corporate operating expenditure is $42.7M higher than planned. This is partly attributable to higher than planned corporate labour costs (an additional $27M) to support and manage the growing business.

Primarily this relates to increased staff to support greater IT investment, an increased number of IT users and sites along with an increasing number and complexity of information systems. Another significant contributor is a greater number of corporate staff to support the delivery of an unprecedented volume and scale of infrastructure projects. The transition of community education staff from Waterways operational roles to corporate roles was also a contributing factor. Melbourne Water's information management and traineeship programs (an additional $4.3M) have also contributed to the increase.

3.6 REVENUE OUTCOMES

Table 3.3 below outlines planned revenues allowed for in the ESC 2008 and 2009 Price Determinations as compared to actual revenues (excluding developer contributions and small fees and charges). Variances in revenue are largely attributed to changes in forecast demand (see Table 3.2) and the 2012-13 wholesale water and sewerage price freeze at 2011-12 levels to return early-recovered desalination funds (see Chapter 6). Alternative water sources (recycled water) revenue is substantially below forecast, largely due to wetter conditions that have led to lower demand for recycled water, particularly for irrigation use.

Table 3.3: Melbourne Water tariff revenue (real $12-13)

Revenue performance	2008–09		2009–10		2010–11		2011-12		2012-13	
	Water Plan	Actual	Water Plan	Actual	Water Plan	Actual	Water Plan	Actual	Water Plan	Forecast
Water										
Revenue performance	249.5M	251.5M	356.8M	351.5M	425.0M	398.6M	545.1M	520.4M	707.5M	494.3M
Sewerage										
Revenue performance	262.7M	266.1M	265.2M	269.2M	309.6M	323.5M	396.8M	413.3M	508.9M	379.5
Recycled water										
Revenue performance	5.3M	3.8M	6.5M	3.4M	6.3M	0.9M	6.4M	1.0M	6.5M	2.5M
Waterways and Drainage										
Revenue performance	187.6M	188.6M	196.3M	197.6M	205.9M	207.2M	216.4M	217.2M	216.2M	217.2M

Developer contributions are collected to fund drainage-related work for urban expansion. Land developers pay these contributions on the basis of land area and development density. Developer contributions can be difficult to forecast due to changing development patterns. However, to date, these forecasts have matched well against actual performance (see Table 3.4). Forecasts for the remaining year of the period is lower than planned largely due to a forecast drop in development activity.

Table 3.4: Melbourne Water developer contributions forecasts and actual (real $12-13)

	2008–09		2009–10		2010–11		2011–12		2012–13	
	Water Plan	Actual	Water Plan	Actual	Water Plan	Actual	Water Plan	Actual	Water Plan	Forecast
Developer contributions	44.1M	45.8M	51.6M	47.9M	54.9M	55.5M	59.3M	66.9M	60.4M	48.9M

Chapter 04

Planned service outcomes over the 2013 Water Plan period

This Chapter outlines key service outcomes proposed by Melbourne Water for the 2013 Water Plan period and the basis for these outcomes, including customer, regulatory and legislative requirements. The Chapter also outlines proposed changes to selected key performance indicators since the 2008 and 2009 Water Plans, to meet the changing needs of our customers and stakeholders.

OVERVIEW

- Melbourne Water has consulted extensively in relation to the proposed service outcomes for the 2013 Water Plan period that apply under a wide range of customer, regulatory and legislative requirements.
- Minimal changes are proposed to the water, sewerage and recycled water key performance indicators for the 2013 Water Plan period. Some more significant changes are proposed in relation to measurement of some waterway health and stormwater performance as well corporate service indicators.
- Key outcomes proposed over the 2013 Water Plan continue business as usual activities and relate to:
  - Supplying high-quality, safe and reliable drinking water
  - Supplying safe sewage treatment and disposal services
  - Supplying fit-for-purpose alternative water sources (recycled water)
  - Protection and improvement of the health and amenity of waterways and the bays
  - Reducing currently known intolerable flood risks
  - Achieving water sensitive urban design in new developments
  - Reducing greenhouse gas emissions
  - Improving business responsiveness (customer service and satisfaction with community committees and education programs).
- Melbourne Water's role in delivering the above outcomes and activities encompasses integrated management of water resources throughout the water cycle.
- Melbourne Water has looked for opportunities to implement a risk-based approach to compliance with legislative requirements where it considered this would deliver value for money to its customers and is consistent with regulatory requirements.

4.1 CUSTOMER, REGULATOR AND STAKEHOLDER CONSULTATION

Melbourne Water delivers a wide range of customer and regulatory requirements which are expressed through legislation. These include customer bulk supply agreements, Melbourne Water's SoO and various pieces of legislation including the *Safe Drinking Water Act 2004* and the *Environment Protection Act 1970*.

Melbourne Water has looked for opportunities to consult with regulators about implementing a risk-based approach to compliance with legislative requirements where it considered this would deliver value for money to its customers. For example, Melbourne Water consulted with EPA Victoria in relation to a risk-based water quality strategy for waterways to assist sewerage system capacity planning in relation to one-in-five year storm events. It is anticipated this will result in improved customer outcomes for significantly reduced cost. Melbourne Water also consulted with the DoH in relation to a risk-based approach to recycled water quality requirements that will deliver safe recycled water at a reasonable cost.

In addition, Melbourne Water contributed to the ongoing development and refinement of various compliance requirements and resulting service outcomes. This included proposed refinements to the draft SoO.

In some cases, Melbourne Water's regulatory and legislative requirements are not definitive. Where this is the case, steps are proposed that are consistent with the intent of the requirements and informed by customer willingness to pay. The customer feedback received during this process has resulted in changes to Melbourne Water's planned service outcomes. Examples of this are:

- The proposed greenhouse gas emission reductions, which have been developed in consultation with the water retailers
- The end of period biosolids reuse target, which was developed in consultation with the water retailers taking into account the EPA Victoria's aim of 100% of biosolids reuse, including the reduction and reuse of existing stockpiles, over time.

In preparing the draft and final 2013 Water Plan, Melbourne Water has also consulted extensively in relation to the planned service outcomes. This consultation occurred throughout 2011 and during 2012 and involved a series of meetings, workshops, briefing sessions and information updates.

There was also a significant amount of consultation regarding the strategies that underpin proposed outcomes over the 2013 Water Plan period. For example, the Healthy Waterways and the Stormwater strategies have been developed with extensive input from customers, stakeholders and community groups in order to ensure the planned outcomes meet community expectations. This has included eight workshops across the region attended by over 400 people, an online forum, Indigenous consultation and agency and regulator engagement.

4.2 INTEGRATED WATER MANAGEMENT

The Victorian Government's *Living Melbourne, Living Victoria* policy objectives are to:

- Establish Victoria as a world leader in liveable cities and integrated water cycle management
- Drive generational change in how Melbourne uses rainwater, stormwater and recycled water
- Drive integrated projects and developments in Melbourne and regional cities to use stormwater, rainwater and recycled water to provide Victoria's next major water augmentation.

Melbourne Water is committed to contributing to meeting these objectives, as reflected in our organisational vision to *'Enhance life and liveability'.*

Melbourne Water has multiple roles and we are one of many decision makers across the water cycle. Through these roles we provide services to many different customers as outlined in the following sections. These multiple services gives us the scope to identify city and local scale opportunities for integrated water management but can also create confusion when the roles we play change and overlap as projects progress.

In the following sections the key requirements and planned outcomes across these services are outlined. During the 2013 Water Plan period, Melbourne Water will deliver these outcomes and requirements by incorporating, where possible, a whole-of-system approach, such that all assets, natural or built, are considered part of one integrated system.

4.3 WATER OUTCOMES

Melbourne Water collects, stores, treats and transfers bulk water to the water retailers. These services are supplied in compliance with DSE and customer requirements as well as the DoH's guiding principles for the 2013 Water Plan.

Table 4.1 highlights the key requirements and planned outcomes for water for the 2013 Water Plan period. These are significant business activities for Melbourne Water and in some cases reflect activities where significant capital expenditure or an increase in operating expenditure is proposed.

Table 4.1: Water requirements and outcomes summary

Requirement	Response	Key outcomes
Water production and storage		
Bulk supply systems – SoO Assess efficiency of bulk supply system and implement programs to improve efficiency. Operate storages effectively and efficiently, to mitigate flood risks and enhance environmental outcomes where possible	• Aqueduct renewal, lining replacement and leak control • Regular reporting to Bulk Entitlement holders and daily reporting on storage levels • Develop and make available a policy detailing approach to dam management in responding to flood events • Mechanical and electrical allocations	Maintain system losses to <1% as a percentage of water supplied to water retailers, to ensure losses do not result in augmentations that would otherwise not occur.
Dam safety – SoO Establish processes to both improve and review safety of dams, having regard to the Australian National Committee on Large Dams (ANCOLD) guidelines	• Review dam safety management programs • Dam filter upgrades • Seepage monitoring improvements • Piping risk reduction • Liquefaction work	Maintain the safety of its dams having regard to ANCOLD guidelines to minimise the risk of dam failure.
Water supply and demand – SoO Support the Government response to the Living Melbourne, Living Victoria Implementation Plan	Proactive investment approach with a planning focus in the 2013 Water Plan	Implement water security framework to ensure transparent and adaptive management of supply security.
Water transfer		
Water pressure – Bulk Water Supply Agreements (BWSA) Maintain specified pressures at monitoring points in the water supply zones	Transfer system capital plan developed to ensure agreed pressure standards are maintained in light of forecast growth	Achieve 99.9% compliance with water retailers pressure requirements, which are set out in the BWSA Maintain system losses to <1.0% as a percentage of water supplied to water retailers
Water quality		
Safe Drinking Water Act 2004 Manage drinking water quality risks with water supplied from Melbourne Water's systems	Maintain integrated risk management system for drinking water quality Implement necessary capital works Undertake risk investigation and management projects that support the Drinking Water Strategy	Comply with the Safe Drinking Water Act requirements and as a result provide safe good quality drinking water
Health (Fluoridation) Act 1973 Fluoridate water supplies to Melbourne and monitor and report results to the Department of Health	Undertake the necessary fluoridation and chlorination works	Comply with the Health (Fluoridation) Act requirements and as a result provide safe and healthy drinking to end users

Requirement	Response	Key outcomes
Water quality		
Water quality standards – BWSA Supply water of a specified quality at specified points in the water supply system	Maintain integrated risk management system for drinking water quality	Provide safe and good quality water to customers by achieving: • 100% compliance with microbiological standards (E. coli), disinfection by-products and aesthetic water standard for aluminium • 91.5% compliance with the aesthetic water standard for turbidity.

The proposed key performance indicators for water are set out in Appendix 3. Melbourne Water proposes to maintain its 2008 and 2009 Water Plan key performance indicators, with one exception. Melbourne Water will increase the water pressure requirements in the transfer network to achieve 99.9% compliance with the pressure requirements specified in the supply agreements with water retailers. It has been consistently outperforming the current measure, which it will alter to reflect historical performance and to continue to drive up our performance.

4.4 SEWERAGE OUTCOMES

Melbourne Water transfers, treats and discharges bulk sewage to comply with the Bulk Sewage Agreements, State Government, customer and community expectations, as well as EPA Victoria's environmental obligations.

EPA Victoria has issued guiding principles for the 2013 Water Plan period. While most requirements remain the same as in the 2008 and 2009 Water Plan period, EPA Victoria expects water businesses to develop programs to reduce risks, particularly in relation to discharges to waterways and the marine environment, and continuously review and improve operational approaches. This is consistent with the approach already adopted by Melbourne Water.

For example, through the Ringwood Sewerage Strategy Melbourne Water has adopted a risk based approach that will see pollution abatement and environmental improvement projects carried out in the catchment through the 2013 Water Plan period, at a cost of around $12M. This will allow a major sewer augmentation, with a cost of around $100M, to be deferred to the next regulatory period. This represents a considerable saving and will provide greater environmental and social benefits.

The key sewerage requirements and outcomes for the 2013 Water Plan period are outlined in Table 4.2. These are significant business activities for Melbourne Water and in some cases reflect activities where significant capital expenditure or an increase in proposed operating expenditure is planned.

Table 4.2: Sewerage requirements and outcomes summary

Requirement	Response	Outcomes
Sewerage transfer		
Compliance with sewerage system spills requirements under the Environment Protection Act and SEPP (WoV): • Hydraulic deficiency achieve zero spills due to storm events of one in five years frequency • System failure – zero spills • EPA Victoria air quality management compliance • Reduction in odour complaints.	• A risk-based strategy focusing on waterway water quality impacts has been developed for system capacity planning in relation to one-in-five year storm events • Asset renewal program developed to ensure safe, sustainable and efficient transfer of sewage • An odour and corrosion management program has been developed • Implement Integrated Sewage Quality Management System to set standards and manage priority pollutants	• Wet weather compliance achieved • Reduced risk of system failure • Reduced odour complaints and optimised asset life through corrosion protection • Rehabilitation of critical infrastructure at end of life • Growth requirements addressed • Priority pollutants identified for future management
Eastern Treatment Plant		
Compliance with Environment Protection Act licence requirements for: • Discharge • Ammonia reduction • Odour management • Spills • Sewage quality • Sustainable management and reuse of biosolids.	• Operation of the new Tertiary Treatment Upgrade to meet changing licence requirements and address SEPP objectives • The majority of Stage 2 odour works will be completed within the 2008 Water Plan with some works planned for completion in the 2013 Water Plan • Odour emissions from biosolids harvesting to be carefully managed • No works are required to manage spills • A Biosolids Strategy has been developed for ETP • Renewals program to maintain level of service	• ETP will continue to meet its treatment licence requirements • 28,000 dry tonnes of annual biosolids production will be beneficially reused by 2018 at ETP
Western Treatment Plant		
Compliance with Environment Protection Act licence and EPBC Act requirements for: • Discharge and mixing zone reduction • Nitrogen reduction • Odour management • Flood protection • Sewage quality • Biodiversity compliance – including enhanced management and protection of the Ramsar wetland at WTP. Ramsar wetlands are those that are representative, rare or unique wetlands, or are important for conserving biological diversity. • Sustainable management and reuse of biosolids	• Treatment Augmentation and Sludge Management Strategy developed for 2013 Water Plan • 2013 Water Plan treatment strategies adapted for the environment • Odour management strategy developed consisting of lagoon cover renewals and an intermittent dosing/monitoring program to defer further works until the next Water Plan period • Minor flood protection works identified for the 2013 Water Plan period • A Biosolids Strategy has been developed for WTP	• WTP will continue to meet its treatment licence requirements • Mixing zone minimized and international treaty obligations for habitat and biodiversity conservation addressed • Priority pollutants identified for future management • Compliance achieved with EPBC Act obligations • Capacity provided for flow and load growth from customers

The proposed key performance indicators for sewerage are set out in Appendix 3. These targets have varied in some cases from the 2008 and 2009 Water Plan periods. In particular, the sewerage transfer annual hydraulic spills target has increased – from progressively achieving zero spills to maintaining zero spills. Other proposed changes include the target for odour, where the focus will now be on achieving no offensive odours caused by sewerage transfer activities (that result in regulatory action). This ensures alignment with the approach to odour at ETP and WTP and moves away from a system of dealing with odours based solely on customer complaints. Melbourne Water also proposes an end of period biosolids reuse target to reflect the reuse opportunities expected to be identified during the 2013 Water Plan.

4.5 WATERWAYS AND DRAINAGE OUTCOMES

Melbourne Water undertakes a range of programs to protect and improve the health and water quality of rivers, creeks, estuaries, wetlands and bays throughout the Port Phillip and Westernport region. It also undertakes programs to enhance the economic and social values of waterways. Melbourne Water provides drainage infrastructure to service urban growth and provides a safe level of flood protection for communities within the region to meet State Government requirements as well as its obligations under the Waterways Operating Charter.

Melbourne Water's Operating Charter[5], seeks to clearly articulate the responsibilities and goals for its:

- Waterways functions
- Key service commitments/outcomes
- Priority setting processes for work programs
- Performance targets and measures.

These reflect both the legislative requirements under which Melbourne Water operates, as well as the results of customer and stakeholder consultation.

The Waterways Operating Charter outlines service outcomes in the following areas:

- Healthy waterways
- Valued stormwater
- Effective flood management and drainage
- Integrated urban development
- Engaged customers and stakeholders
- Expert knowledge.

The key waterways and drainage outcomes to be delivered over the 2013 Water Plan period are detailed in Table 4.3. These are significant business activities for Melbourne Water and in some cases reflect activities with significant capital expenditures or increases in operating expenditure.

[5] The Operating Charter is developed with the assistance of the Waterways Advisory Committee. The Committee is made up of representatives from the land development industry, community groups, government, universities and key stakeholders. The Healthy Waterways, Stormwater and Flood Management and Drainage Strategies, and the Operating Charter together represent Melbourne Water's Waterways and Drainage Strategy as required by the SoO.

Table 4.3: Waterways key requirements and outcomes

Requirement	Response	Key outcomes
Waterways condition		
Melbourne Water is the caretaker of waterway health, designated waterway manager and manager of the Environmental Water Reserve for the Port Phillip and Westernport region. In collaboration with others, we are responsible for achieving healthy rivers, creeks, estuaries, wetlands and floodplains that meet the environmental, economic, recreational and cultural needs of current and future generations.	The Healthy Waterways Strategy[6] outlines our program of work to improve the health and condition of our waterways and manage streamflow diversions over the period 2013-18 and beyond. This includes the key strategic areas of: • Delivering and maintaining waterway health works • Improving environmental flows • Protecting the groundwater Environmental Water Reserve • Managing streamflow diversions • Maintaining our assets.	**5-year target** Supporting waterways values by: establishing 802km of vegetation, management of 7,559km of vegetation, 546km of stock exclusion fencing, improving 193ha of aquatic habitat and removing 16 fish barriers. **Medium-term goal** By 2033 the condition of waterways enables significant improvement in the health of environmental values and amenity in waterways. **Vision** Healthy and valued waterways are integrated with the broader landscape and enhance life and liveability. They: connect diverse and thriving communities of native plants and animals; provide amenity to urban and rural areas and engage communities with their environment; and are managed sustainably to balance environmental, economic and social values.
Stormwater		
Melbourne Water is the regional drainage and floodplain management authority for the region. As such, we are responsible for the provision, management and/or maintenance of numerous structures that control the path, quantity and quality of stormwater that reaches our waterways and bays. These include 168 wetland systems, 104 urban lakes, 1500 km of drainage pipes, numerous retarding basins, levee banks, pump stations and flood gates across the Port Phillip and Westernport region.	The Stormwater Strategy[7] outlines our program of works to reduce the negative impacts of stormwater on our waterways and bays and use stormwater as a valuable resource over the 2013-18 period and beyond. This includes the key strategic areas of: • Working together with organisations who manage stormwater to build partnerships, establish a shared vision and support capacity building • Improving planning, policy and regulation for stormwater management • Achieving better on-ground outcomes, particularly in the management of urban and rural stormwater and through the construction and maintenance of assets.	**5-year target** Protection of local waterways through: technical and financial support to our partners to deliver 125 stormwater projects; construction of a minimum of five regional stormwater assets; engagement of 250 rural landholders to increase action for pollution reduction from agricultural land; reduction in nitrogen loads to Port Phillip Bay by a further 10 tonnes; targeted disconnection projects to improve urban runoff management practices in priority areas. **Medium-term goal** Stormwater is collaboratively managed to protect and improve waterways and bays resulting in multiple outcomes for the community **Vision** Sustainable stormwater management supports prosperous communities, thriving landscapes and healthy waterways and bays.

[6] The Healthy Waterways Strategy was released in May 2012 and underwent customer consultation until mid-June 2012.

[7] The Stormwater Strategy was also released in May 2012 and underwent customer consultation until mid-June 2012.

Requirement	Response	Key outcomes
Effective flood management and drainage		
Melbourne Water is the floodplain management authority for the Port Phillip and Westernport region. We are responsible for managing major drainage systems that carry stormwater to our rivers and bays and have catchment areas greater than 60ha. Melbourne Water operates a flood-monitoring network for our major rivers and creeks. We map flood risks, build, operate and maintain infrastructure to contain, detain and convey stormwater or flood flows. We also work with local government, the Victorian State Emergency Services and other stakeholders to develop and implement collaborative approaches for flood and drainage management, and implement flood risk awareness education programs.	Our Flood Management and Drainage Strategy, Flood Risk Assessment Framework and Asset Management Framework guide the priorities and expenditure for our flood management, drainage and associated asset maintenance work programs. These strategies aim to provide a safe and effective system for dealing with stormwater, coastal, tidal and riverine run-off by operating and maintaining drainage systems, determining how high floodwaters will rise and how far they will extend, and developing and implementing plans to minimise flood damage.	**5-year target** Flood protection measures reduce currently known intolerable flood risks by a further 10% by 2018. **Medium-term goal** Flood protection measures reduce currently known intolerable flood risks by a further 20% by 2023. **Vision** Intolerable flood risks to public health and safety, property and infrastructure are minimised. Our communities understand flood risks and are well prepared for flood events.
Integrated urban development		
Melbourne Water is the regional drainage and floodplain authority under the Water Act 1989 and a Statutory Referral Authority under the Planning and Environment Act 1987. We ensure that urban development meets appropriate standards of flood protection and provides for safe and effective conveyance of stormwater while: • Protecting waterway health • Being sensitive to other environmental and social values of waterways • Offering integrated water management solutions, such as stormwater harvesting.	Our Integrated Water Management Strategy, Development Planning Strategy and Developer Services Strategy guide the priorities and expenditure for our urban development services to customers, councils and developers. This includes a program of drainage works to service growth areas and achieve Waterways Operating Charter goals and performance targets covering flood protection standards, and industry-agreed response times.	**5-year target** All new Development Services Schemes (or equivalent) will consider stormwater harvesting as a component of integrated water management best practice. **Medium-term goal** Urban development applies the principles of water sensitive urban design and integrated water management, generating environmental, social and economic benefits. **Vision** Water is integrated in and enhances our built environment. Sustainable water management in urban development and redevelopment offers appropriate levels of flood protection, preserves river health, creates attractive urban landscapes, and provides diversified water supplies.

The proposed key performance indicators for waterways and drainage are set out in Appendix 3. The proposed indicators are largely consistent with those presented in the 2008 Water Plan with some changes to capture targets expressed in the supporting strategies, outlined above. For example:

- A change has been made to the way the performance of the Healthy Waterway Strategy is measured. 'Key values' are now used to express long-term expected outcomes rather than targets based on the Index of Stream Condition, which were used in the previous Regional River Health Strategy. This approach better aligns with community expectations
- A further change is proposed to the flood protection measure. A 10-year target initially established in 2008 had a goal of reducing intolerable flood risk by 30% by 2018; with a 10% reduction by 2013 and a further 20% by 2018. The target to 2018 has been reduced to a 10% reduction, with a further 10% proposed by 2023. This decision was made to reduce the required price increase.

4.6 ALTERNATIVE WATER SOURCE OUTCOMES

Melbourne Water is committed to efficiently managing the urban water cycle in a holistic and integrated way. This is also reflected through the SoO which requires Melbourne Water to collaborate with water retailers, public authorities and government agencies to develop and implement integrated water cycle management. The treatment and supply of fit-for-purpose recycled water from Melbourne Water's sewerage treatment plants, in compliance with DoH's guiding principles, is a key element in this approach.

The key alternative water sources requirements and outcomes are outlined in Table 4.4. These are significant business activities, which in some cases reflect capital expenditure or increased operating expenditure proposed in this Water Plan.

Table 4.4: Alternative water sources key requirements and outcomes

Requirement	Response	Outcomes
Integrated Water Strategy		
• Develop and implement integrated water cycle management, as supported by Melbourne Water's SoO and the Government response to the *Living Melbourne, Living Victoria* policy	• Collaborate with customers, regulators and stakeholders to investigate the need for and viability of alternative water supply schemes, and implement schemes where viable	• Successful adoption of integrated water management into Melbourne Water's strategic planning • Expand 'Class A' recycled water capacity at WTP to meet customer demand
Bulk recycled water supply		
• Comply with obligations as specified in Bulk Recycled Water Supply Agreements (BRWSA), including obligations relating to quality, volume and reliability • Comply with DoH guidelines and EPA Victoria requirements relating to water quality	• Undertake necessary renewal works and maintenance to ensure BRWSA requirements can be met • Undertake a program of works, including required research to support compliance with recycled water requirements	• Achieve 100% compliance with BRWSA requirements • All recycled water supplied to customers is fit for purpose • Recycled water made available to address summer supply constraints

The proposed key performance indicators for alternative water sources, including recycled water, are set out in Appendix 3. Relative to the 2009 Water Plan, Melbourne Water notes the 20% by 2010 recycling target was achieved and it is now increasing its focus on meeting customer service requirements for the quality, volume and reliability of recycled water supply. This approach also supports the direction set by the State Government's response to The Living Melbourne, Living Victoria Implementation Plan.

4.7 CORPORATE OUTCOMES

There are a number of requirements that are business-wide and relate to each of Melbourne Water's services. These corporate service requirements for the 2013 Water Plan period are set out in Table 4.5 and reflect various legislative requirements as well as internal targets determined in consultation with customers. These are significant business activities and in some cases reflect activities where significant capital expenditure or increased operating expenditure is proposed (see Chapter 7).

Table 4.5: Key corporate requirements and outcomes

Requirements	Response	Outcomes
Sustainable management		
• Comply with State and Commonwealth Government obligations to monitor, report and improve energy efficiency	• Prepare formal plans, undertake energy efficiency audits annually, identify, implement and report progress on energy reduction actions	• Improve energy efficiency and maintain compliance with State and Commonwealth Government obligations
• Comply with Commonwealth Government National Greenhouse and Energy Reporting System to estimate and report annually on energy and greenhouse gas emissions and purchase emission permits for direct greenhouse gas emissions under the new carbon pricing scheme	• Annual reporting of direct and indirect greenhouse gas emissions and purchase of emission permits	• Measure direct greenhouse gas emissions from ETP and WTP to confirm emission estimation methodology and maintain compliance with State and Commonwealth Government obligations • Offset 85% of Melbourne Water's greenhouse gas emissions by 2017–18, in line with the target of net zero emissions by end of December 2018
Customers		
• Complaints referred to EWOV responded to within established time	• Review systems and processes to minimise EWOV cases, and where they do eventuate, resolve them in the shortest possible time • Implement the 'Think Customer' Strategy to increase customer focus within business	• 100% of complaints referred from EWOV responded to within established timeframe
• Provide more responsive service and improve reputation	• Measure and track our reputation and use the results to improve our organisation's service	• Improved business responsiveness as reflected by an improved reputation score. Target for 2012-13 is 70% and will increase by 2% every two years, with a target of 72% in 2014-15 and 74% in 2016-17, consistent with the timing of the survey.

Requirements	Response	Outcomes
Community		
• Effective community committee and community consultation processes – SoO • Effectiveness of community educational programs – SoO	• Develop and implement open and transparent processes to engage customers, stakeholders and the community • Make information available to the public about our services, significant projects and assets • Make educational resources available for schools about the services Melbourne Water provides	• Achieve 85% committee satisfaction with the operation or function of the community committees • Achieve 90% satisfaction with education programs
Corporate services obligations		
Managing assets • Develop and implement plans, systems and processes to efficiently manage assets	• Continue to review assets in line with agreed Asset Management Systems.	• Ensure assets are managed to maintain standards and conditions of service, while minimising whole-of-life asset cost of providing the service
Managing risks • Ensure that risks to Melbourne Water's assets or services are identified, assessed, prioritised and managed, having regard to ISO31000	• Continue to refine risk management practices and controls by: • Implementing an organisation-wide Quality Management System (ISO9001) • Implementing an integrated risk management software system	• Improved risk management document control and efficiency • More dynamic, efficient and improved recording and reporting and risk management
Managing incidents and emergencies • Develop an emergency management plan(s) for incidents and emergencies covering all hazards and measures	• Conducting a comprehensive review of security and emergency management systems	• Ensuring continuity of services in the event of an incident/emergency • Up-to-date and effective procedures for managing incidents/emergencies
• Develop and make available to the public a policy detailing Melbourne Water's approach to dam management in responding to flood events	• Develop and make available to the public a policy detailing Melbourne Water's approach to dam management in responding to flood events	• Public policy developed and implemented addressing the use of dams in flood events
• Undertake such periodic training and exercises as may be necessary to ensure the emergency management plan and business continuity plan are tested and can be implemented effectively	• Incident and emergency management training	• Relevant staff trained and practiced in incident/emergency management procedures

Information Technology projects, which are corporate activities, are a key enabler for Melbourne Water to efficiently and effectively deliver outcomes across all of its products.

The proposed key performance indicators for corporate requirements and outcomes are included in Appendix 3. There are two changes relative to the 2008 and 2009 Water Plans. Firstly, in 2011 the greenhouse gas emissions and renewable energy targets were reviewed by Melbourne Water in consultation with water retailers. These include an 85% reduction in total emissions by 2017–18. Melbourne Water will discontinue its renewable energy target at the end of the 2009 Water Plan. Additionally, Melbourne Water will no longer measure greenhouse gas reduction against a baseline – instead it will measure the proportion of total operational emissions offset. This change in methodology aligns with the *National Greenhouse and Energy Reporting Act 2007* and reflects that a baseline becomes increasingly irrelevant as zero net emissions are approached.

Consistent with our new Strategic Direction, a new key performance indicator reflecting an overall reputation score is proposed for the 2013 Water Plan period. This will be measured by a reputation survey and an online annual customer survey, and reflects Melbourne Water's increased customer focus and improved business responsiveness.

Chapter 05

Forecast demand

This Chapter reports on proposed demands that have been prepared by the water retailers and reviewed and adopted by Melbourne Water for the 2013 Water Plan period. Details of the assumptions used by the water retailers to establish these forecasts are provided for bulk water, sewerage, and alternative water demand forecasts. Waterways and developer charges forecasts were separately prepared by Melbourne Water.

OVERVIEW

- Water demand is expected to remain stable over the 2013 Water Plan period, reflecting a range of assumptions including limited bounce-back in demand following restrictions being eased, population growth and completion of potable substitution projects.
- Sewage forecasts are also stable and generally align with water demands, underlying expectations for population growth, economic activity and average weather conditions.
- In relation to waterways and drainage services, a customer growth rate of 1.8% per annum has been assumed over the 2013 Water Plan period. This is consistent with the available forecasts and is also broadly in line with estimates provided by the water retailers.
- In the west of Melbourne, there is a changing mix of recycled water demands over the 2013 Water Plan period, with City West Water proposing increased demand while the supply to WTP for environmental obligations is reducing. In the east, demands are growing slowly as a result of increased demands proposed by South East Water.

5.1 CUSTOMER CONSULTATION

Close collaboration with the water retailers in the development of water and sewerage demand forecasts, and in the forecasting of drainage property demand, has been critical to the development of this 2013 Water Plan. The forecasts have been developed using the best available data and methodologies.

The demand forecast preparation process consisted of:

- Agreeing on common assumptions
- Investigating issues that could introduce uncertainty into the forecasts
- Reviewing output for consistency
- Verifying adjustments for factors specific to individual water retailers, for example population growth, potable substitution, alternative sources of supply.

Generally, forecasts prepared by the metropolitan water retailers are consistent with Melbourne Water's own models.

The process involved Melbourne Water providing the water retailers with forecasts of climatic conditions and water storage levels under various restrictions assumptions to inform their forecasting of demand estimates. Melbourne Water's historical sewage volume and load at the major treatment plants was used in the development of water retailer forecasts, which were then reviewed by Melbourne Water's asset planners for consistency with capacity planning assumptions. As noted in Section 5.3 this included a review and sewage load forecast refinement process between the draft and final 2013 Water Plans being submitted. Historical drainage property estimates were also reviewed to assess future demands.

Recycled water demands reflect projected future use in light of increased potable substitution projects and predictions about future climatic conditions.

Key issues addressed through ongoing customer consultation processes consisted of:

- Identifying issues and challenges where the application of collaborative work would improve the robustness of the forecasts (e.g. uncertainty around the increase in demand or bounce-back following the lifting of restrictions)
- Clarifying the extent to which water and sewage volumes would be influenced by water reuse and the development of more sustainable new communities, within the context of evolving State Government policy
- Consulting with the regional urban water authorities regarding the potential need for demand forecasts to draw on the Melbourne pool while regional water storages recover from the drought
- Consulting with the urban water authorities on an agreed methodology to forecast revised growth in sewage load
- Obtaining the best available population and customer growth estimates
- As a further check the water retailers engaged Deloitte to review and compare their forecasts. Deloitte recommended that the water conservation effectiveness assumptions be moderated and otherwise endorsed the forecasts.

5.2 WATER DEMAND

The water retailer's water demand forecasts take into account the continuing recovery in water storage levels following above average rainfall in 2010–11 and 2011-12 and relaxation of water restrictions.

The following assumptions were agreed when developing the forecasts for the 2013 Water Plan period:

- Stage 1 water restrictions in 2011–12 and permanent water saving rules in subsequent years based on forecast storage levels and demand
- The behavioural change following the lifting of water restrictions is expected to lock in a permanent reduction in water demand, with the bounce-back in demand being limited to a 3% increase. This was confirmed through a Deloitte analysis commissioned by Melbourne Water and the metropolitan water retailers based on bounce-back in other Australian cities
- Ongoing replacement of washing machines, toilets and showers to more water efficient appliances
- The urban water industry will support the State Government's *Living Melbourne, Living Victoria* policy by investing in water efficiency programs that meet the policy's integrated water management goals
- Household and population growth is consistent with *Melbourne 2030,* and the underlying base in the Department of Planning and Community Development (DPCD's) *Victoria in Future 2012* forecasts and/or retailer estimates of lot/population growth and occupancy rates. Yarra Valley Water and South East Water assumed a population growth of 1.4% per annum whereas City West Water forecast continued population growth at a higher rate of between 2-3% per annum
- Retail potable substitution savings will increase from 10GL in 2013–14 to around 19GL in 2017–18. Contributing projects include the Altona Industrial and Golf Courses Project (up to 7,300ML/year), Hastings Industrial Project (up to 300ML/year), Werribee Employment Precinct (about 520ML/year) and Kalkallo Stormwater Substitution Project (ultimately 365ML/year)

- Further reductions in demand are expected associated with the implementation of real increases in retail prices.

The demand forecasts reflecting the above assumptions are set out in Table 5.1.

Table 5.1: Water demand forecasts (GL)

	2011–12 Actual	2012–13 Forecast	2013–14 Plan	2014–15 Plan	2015–16 Plan	2016–17 Plan	2017–18 Plan
City West Water	96.3	98.6	95.6	97.4	98.5	97.3	95.6
Yarra Valley Water	133.9	138.5	139.4	139.1	139.9	140.1	140.5
South East Water	129.9	131.6	130.8	130.0	131.0	132.0	132.5
Western Water	5.1	9.5	1.5	2.0	2.0	8.0	8.0
Gippsland Water	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Westernport Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barwon Water	0.0	0.5	0.0	0.0	0.0	0.0	0.0
South Gippsland Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**365.6**	**379.0**	**367.6**	**368.8**	**371.7**	**377.7**	**376.9**

Water demand by Melbourne's water retailers is expected to remain stable over the 2013 Water Plan period, ranging from 367.6GL in 2013–14 to 376.9GL in 2017–18. Changes in Western Water's demand are explained by its water resource optimisation modelling and the ability to source water from its own storages early in the 2013 Water Plan period.

5.3 SEWAGE DEMAND

Sewage volume is affected by changes in water demand. The following assumptions were used by the water retailers to develop forecasts for sewage flows and loads for the 2013 Water Plan period:

- A permanent decrease in domestic sewage volumes due to the flow-on effects of an observed decline in water demand within households, taking into account household and population growth. Domestic load forecasts reflect assumed load per household and household growth
- Household and population growth is consistent with *Melbourne 2030,* and the underlying base is DPCD's *Victoria in Future 2012* forecast and/or retailer estimates of lot/population growth
- Transfer of some sewage load and volume to local treatment plants operated by the retail water companies
- Commercial and greasy waste will grow in proportion to domestic growth rates, with some adjustment for more efficient appliances
- Domestic volumes reflect population growth forecasts consistent with water demand assumptions
- Discharges from trade waste customers reflect individual water retailer strategies and:
  - the overall level of economic activity overlaid with the effect of cleaner production initiatives
  - new customers are expected to employ water-saving and waste minimisation technologies
  - industrial closures have been explicitly factored into the analysis, where known

- Inflow and infiltration will return to levels associated with average weather conditions and remain stable as a result of the effects of ageing sewers being offset by rehabilitation measures, new technologies and network expansion
- Further reduction in demand associated with the implementation of real price increases for all customers.

Sewage volume forecasts reflecting the above assumptions are set out in Table 5.2. The total volume in 2011-12 reflects the wetter than average conditions experienced in that year which contributed additional volume through inflow and infiltration.

Table 5.2: Sewage demand forecasts (GL)

	2011–12 Actual	2012–13 Forecast	2013–14 Plan	2014–15 Plan	2015–16 Plan	2016–17 Plan	2017–18 Plan
City West Water	82.9	75.4	75.5	77.3	78.6	79.9	81.1
Yarra Valley Water	124.3	117.0	114.8	113.2	112.2	112.2	112.3
South East Water	113.0	103.2	103.3	103.6	104.1	104.9	105.7
Total	**320.1**	**295.6**	**293.6**	**294.1**	**294.9**	**297.0**	**299.1**

The sewage demand forecasts generally align with water demand, underlying population growth, economic activity and average weather conditions. The flatter demand for South East Water and Yarra Valley Water is attributable to proposed reuse of sewage volume for potable substitution purposes in programs to be rolled out for new communities in Melbourne's west and north.

The water retailers also provided forecasts of sewage load. The forecasts in Table 5.3 represent a significant revision to the draft 2013 Water Plan figures. This is due to a recalibration to reflect unexpected recent year on year increases, particularly for Biological Oxygen Demand and Suspended Solid loads. The recalibration was agreed between Melbourne Water and the water retailers following several workshops in relation to the observed increases in loads. It is based on a three year average from 2009-10 to 2011-12. Load growth is expected to stabilise and track population growth over the 2013 Water Plan period as population and economic growth outweigh the effects of waste management initiatives and industrial closures. The 2011-12 actuals are estimates pending completion of treatment plant capacity reports.

Table 5.3: Sewage load forecasts (`000 tonnes)

	2011–12 Actual	2012–13 Forecast	2013–14 Plan	2014–15 Plan	2015–16 Plan	2016–17 Plan	2017–18 Plan
Western system							
BOD	105.1	97.6	99.7	101.8	103.9	106.1	108.4
SS	77.1	74.9	76.5	78.2	79.8	81.5	83.2
TKN	13.4	12.4	12.6	12.9	13.2	13.4	13.7
Inorganic TDS	121.3	127.8	129.5	130.4	131.2	132.4	133.3
Eastern system							
BOD	51.5	52.1	52.6	53.2	53.8	54.4	55.0
SS	48.6	49.1	49.7	50.2	50.8	51.4	51.9
TKN	9.2	8.5	8.6	8.7	8.8	8.9	9.0
Inorganic TDS	67.1	67.6	68.1	68.6	69.1	69.6	70.1

5.4 WATERWAYS AND DRAINAGE DEMAND

Waterways and drainage services are based on the total number of rateable properties within Melbourne Water's management area. Therefore demand is influenced both by household and population growth as well as property development.

Waterways and drainage charge

Melbourne Water provides services to improve and protect the health of rivers and creeks, as well as drainage infrastructure to provide a safe level of flood protection. All Melburnians benefit from the reliable, safe and effective management of these systems and all rateable properties across Melbourne Water's waterways management district pay a charge for the provision of these services. Melbourne Water's property/customer forecasts reflect likely property growth, taking into account inputs from the water retailers[8] and *Victoria in the Future 2012* forecasts completed by DPCD. These forecasts are assessed for reasonableness by Melbourne Water by comparing them against historical growth rates and other forecasts such as the Australian Bureau of Statistics.

Melbourne Water's overall average growth rate across all customer groups is 1.8% per annum over the 2013 Water Plan period. It is consistent with available forecasts and is broadly in line with estimates provided by the water retailers. Year-end customer numbers are set out in Table 5.4 with the annual mid-point customer numbers used for revenue modelling.

Table 5.4: Waterways and drainage customer numbers at year end (`000)

Customer numbers	2011–12 Actual	2012–13 Forecast	2013–14 Plan	2014–15 Plan	2015–16 Plan	2016–17 Plan	2017–18 Plan
Residential	1,592.0	1,639.8	1,676.0	1,705.8	1,735.5	1,764.6	1,793.9
Non-residential – minimum	36.2	37.8	38.7	39.2	39.7	40.2	40.7
Non-residential – above minimum	100.2	101.6	102.9	104.3	105.7	107.1	108.5
Rural	99.6	101.4	100.0	101.9	103.7	105.6	107.4
Previously exempt farms	-	-	3.0	3.0	3.0	3.0	3.0
Koo Wee Rup Longwarry Flood Protection District[9]	3.5	3.5	3.5	3.5	3.5	3.5	3.5
TOTAL	**1,831.5**	**1,884.0**	**1,924.2**	**1,957.6**	**1,991.2**	**2,024.0**	**2,057.1**

Developer charges

Melbourne Water supports the land development industry by providing drainage, flood protection and stormwater treatment infrastructure that caters for growth. The pricing of these infrastructure works reflects future expected developer activity. Future property development activity was forecast by examining detailed planning and expected development rates sourced from the land development industry as well as by engaging a housing industry economist. The forecasts were converted into annual growth rates which were applied to actual rates of demand for various development densities. A total demand of about 800ha per annum of equivalent residential density land is forecast for the 2013 Water Plan period. This is approximately 20% less than the actual rates of development during the 2008 Water Plan period and reflects a forecast downturn in land development activity over the 2013 Water Plan period.

[8] The water retailers are contracted to provide billing and collection services on behalf of Melbourne Water. This includes maintenance of the customer database and assistance with revenue forecasts, based on expected property growth in the respective retail operating areas.

[9] These customer pay a separate precept area rate.

5.5 ALTERNATIVE WATER SOURCES DEMAND

Melbourne Water's alternative water source demand reflects bulk supply of recycled water from its sewage treatment plants. Recycled water forecasts (set out in Table 5.5) are based on advice from customers for supply to:

- City West Water for residential use and a significant increase in industrial use due to the proposed Altona Stage 2 Recycled Water Project
- Southern Rural Water and WTP on-site customers for agricultural use
- WTP to comply with Melbourne Water's environmental obligations
- South East Water and Topaq Pty Ltd to remain constant over the 2013 Water Plan period.

Table 5.5: Recycled water demand forecast (ML)

	2011–12 Actual	2012–13 Forecast	2013–14 Plan	2014–15 Plan	2015–16 Plan	2016–17 Plan	2017–18 Plan
Western Treatment Plant							
City West Water (Class A)	152	410	550	1,134	4,292	8,395	8,646
Southern Rural Water (Class A)	9	5,500	5,500	5,500	5,500	5,500	5,500
WTP on-site customers (Class C)	13,988	23,907	23,907	23,907	23,907	23,907	23,907
WTP Environmental Obligations (Class C)	16,467	17,199	17,199	17,199	8,599	8,599	8,599
Total	**30,616**	**47,016**	**47,156**	**47,740**	**42,298**	**46,401**	**46,652**
Eastern Treatment Plant							
Topaq Pty Ltd	3,089	5,000	5,000	5,000	5,000	5,000	5,000
South East Water	719	1,500	1,934	2,159	2,390	2,657	2,926
Total	**3,808**	**6,500**	**6,934**	**7,159**	**7,390**	**7,657**	**7,926**

Chapter 06

Desalination

The VDP, currently under construction by DSE as a Public Private Partnership, will be capable of providing up to 150GL per year of water (greater than one third of Melbourne's total annual water use). It will ensure Melbourne's water supply is better prepared against the impacts of future droughts in a variable and changing climate, extreme events, such as major bushfires in our catchments, and projected population increases.

The service and price proposals included in this 2013 Water Plan reflect the significant impact of VDP, including the contractual arrangements, operational costs, impact on prices and the water ordering process. This Chapter outlines each of these issues, along with a proposed mechanism to address the variability associated with any future desalinated water orders. Consultation with water retailers and DSE has occurred in relation to each of the above issues.

OVERVIEW

- Consistent with its SoO (System Management), Melbourne Water has entered an agreement with the State Government (DSE) in relation to its obligations for the VDP. It is currently under construction by DSE in a Public Private Partnership.
- The costs associated with the VDP are significant and while not having increased within the contract, the costs have increased compared to the 2009 Water Plan assumptions. VDP related costs contribute almost 90% of the significant wholesale price increase proposed for 2013-14.
- Payments will be made in two parts, an annual security charge (i.e. the costs associated with a 0GL water order) and a supply cost depending on the annual volume ordered over the 2013 Water Plan period. The costs associated with a 0GL order average approximately $610M per year over the 2013 regulatory period (representing around 60% of Melbourne Water's total annual operating expenditure). The supply costs associated with any future annual desalinated water order during the 2013 Water Plan period will be between $0 and $110M per year.
- The increase in VDP costs compared to the 2009 Water Plan contribute almost 90% of the CPI+60.4% average wholesale water and sewerage price increase Melbourne Water is proposing in 2013-14 (which is an increase of around CPI+34% in retail bills).
- As a result of a change in the VDP completion date, Melbourne Water collected funds for the plant early. Strong community feedback was received during the consultation period on the draft 2013 Water Plan in relation to the early-recovery of desalination funds in 2011-12 and 2012-13 and the proposed approach to return these funds to customers.
- The water industry will work closely with the ESC to ensure that a complete reconciliation of costs occurs once the VDP is fully commissioned in 2012-13 and that all early-recovered funds are returned to customers as soon as possible.
- The impact on customer bills of any future desalinated water orders is material. The actual amount of water taken each year will vary depending on variables including storage levels, climate conditions and system water demands. Therefore, an annual price adjustment is proposed to reflect any VDP supply costs, which would result in further annual price increases to the base price proposed in this 2013 Water Plan.

6.1 DESALINATION AGREEMENT

The construction and operation of the VDP is being delivered through a Public Private Partnership between project proponent AquaSure and the State Government. Melbourne Water is not a party to this agreement, however, as required by its SoO (System Management), Melbourne Water has entered arrangements with DSE in relation to VDP. Under these arrangements, Melbourne Water receives water supply (when ordered), water security and associated project management services. The arrangements also outline Melbourne Water's obligations, including requirements for water supply volume advice, operating protocols, payments, information sharing and governance arrangements for the management of the contract and interface with DSE.

Melbourne Water's arrangements with DSE requires it to provide advice to DSE on 1 March each year (who in turn provide this advice to the State Government) about the volume of water required for the next supply period (financial year) and a non-binding forecast for the two years thereafter. The State Government makes the decision as to the annual water order volume and DSE places that order with AquaSure by 1 April each year, on behalf of the State Government.

Operating protocols have been established with DSE, AquaSure and the water retailers to manage distribution, monitor water quality and quantity, and oversee industry emergency response plans.

6.2 DESALINATION COSTS

The costs associated with the VDP are significant and substantially change the operating expenditure profile for Melbourne Water. The costs associated with a 0GL water order alone will comprise approximately 60% of Melbourne Water's total annual operating expenditure in the 2013 Water Plan period (see Chapter 7 for further detail).

In February 2011, the Premier and Minister for Water announced ongoing VDP operating expenditures would be higher than the provisions included in the 2009 Water Plan period and provided a schedule of VDP costs. Table 6.1 sets out the revised VDP costs associated with a 0GL water order and, for illustrative purposes, the supply costs associated with a 50GL order compared to a 0GL water order.

Table 6.1: Forecast VDP security and illustrative supply costs (real $12-13)

Assumed VDP expenditure	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Base volume (GL)	40	-	-	-	-	-
VDP 0GL costs ($M)	389.74	644.24	632.23	620.58	577.96	567.74
Illustrative volume (GL)	-	50	50	50	50	50
VDP supply costs (associated with illustrative water order) ($M)	-	25.37	25.70	26.00	26.27	26.52

Melbourne Water's 2009 Water Plan and subsequent ESC Price Determination made allowance for VDP costs in both prices and revenues. These provisions were made prior to the finalisation of the VDP tender process. Due to a change in the VDP completion date, no VDP expenditure was incurred in 2011-12, resulting in an early-recovery of funds of $228M in that year.

In the draft 2013 Water Plan, Melbourne Water sought feedback from customers and water consumers on its proposal to start returning early-recovered desalination revenue over five years, with interest and inflation.

During the consultation period that followed the release of the draft 2013 Water Plan, water consumers expressed a strong view that funds recovered early should be

returned immediately and that prices should only reflect the actual costs of the VDP as they are incurred.

In response, the 2012-13 wholesale water and sewerage prices were frozen at 2011-12 levels to commence returning early-recovered desalination funds to water consumers.

The ESC's *Opinion Report – Return of additional desalination payments*, released on 3 October 2012, notes that VDP costs in 2012-13 could be within a range of $286M to $497M. The final commissioning date and cost will impact on the amount returned to customers in 2012-13. The water industry will work closely with the ESC to ensure that a complete reconciliation of costs occurs once the VDP is fully commissioned and that all early-recovered funds are returned to customers as soon as possible.

6.3 IMPACT OF DESALINATION SECURITY PAYMENTS ON PRICES

The increases in cost outlined in Tables 6.1 contributes almost 90% to the CPI+60.4% initial average base water and sewerage price increase Melbourne Water is proposing in 2013-14 (refer to Figure 9.1 in Chapter 9). Following this large increase, based on the planned VDP expenditures released in February 2011, VDP costs associated with a 0GL water order are projected to decrease over the 2013 Water Plan period. This decrease in costs contributes to the total CPI–0.5% average water and sewerage price movement from 2014–15 to 2017–18 (refer Figure 9.2 in Chapter 9).

For water consumers, the increase in VDP costs compared to the 2009 Water Plan period will contribute to the proposed increase of around CPI+34% in retail bills. The base water price increase reflects a 0GL desalinated water order for each year of the period. Further price increases may occur if desalinated water is ordered (see sections 6.5 and 6.6).

The duration of the VDP Public Private Partnership (outlined in section 6.2) post completion is 27 years, while on average the actual assets will have a life closer to 50 years[10]. Melbourne Water has considered spreading a portion of the annual cost associated with a 0GL water order for VDP over the life of the VDP asset itself (50 years). This would have the effect of lowering the initial price increase in the 2013 Water Plan period to some extent, however, it would leave Melbourne Water without enough cash flow to cover the annual contract payments.

Melbourne Water has modelled multiple scenarios for this approach. The results of this modelling indicate that to achieve a material impact on prices, Melbourne Water would need to spread a large amount of the annual VDP costs, which would result in a significant cash flow shortfall. This would mean reductions in service, deferral or cancellation of planned projects. Alternatively, it would have to be funded through significant borrowings.

Given these results, Melbourne Water does not support spreading of VDP costs over 50 years. While it may result in lower initial prices, it is likely to impact on service levels or will significantly increase borrowings, which is counter to maintaining safe and reliable services and sound financial governance on behalf of the community.

[10] Some aspects of the VDP asset such as the transfer pipeline and the marine tunnels have a 100 year design life.

6.4 DESALINATION WATER ORDER

As noted in section 6.2, Melbourne Water's arrangements with DSE require it to provide advice to DSE by 1 March each year (who in turn provide this advice to the State Government) about the volume of the desalinated water order for the following year and non-binding orders for the following two years. These volumes will be reassessed annually in light of climatic conditions and other criteria through the water order advice process. Desalinated water can be ordered in the following annual volume increments: 0GL, 50GL, 75GL, 100GL, 125GL and 150GL.

The State Government makes the decision as to the annual water order volume and DSE places that order with AquaSure by 1 April each year, on behalf of the State Government. On 2 April 2012, the Minister for Water publicly advised that the State Government's desalinated water order for 2012–13 was 0GL.

6.5 MANAGING FUTURE VARIABILITY AROUND DESALINATION WATER ORDERS

If desalinated water is ordered within the 2013 Water Plan period this would result in additional costs. At its full extent, the magnitude of the annual cost variation (ordering 0GL as compared to ordering 150GL) is approximately $110M. The price path proposals included in this 2013 Water Plan are based on a 0GL desalinated water order over the 2013 Water Plan period, (see Chapter 9, section 9.3). Melbourne Water has consulted with water retailers on ways to adequately manage future water orders during the 2013 Water Plan period and included a proposal in its draft 2013 Water Plan.

Melbourne Water and the water retailers are proposing an annual adjustment whereby any VDP supply costs (linked to the desalinated water order) will be passed on to Melbourne Water's customers each year. This will ensure customers will only pay for the desalinated water ordered and required, promoting cost reflective pricing.

To implement this, it is proposed there would be a schedule of possible price increases for the desalinated water order increments. At retail level, these increases would translate into a maximum increase of approximately $50 on an average customer bill (for a 150GL water order).

It is proposed this annual adjustment could use the existing water order process in the following way:

- On 1 March each year, Melbourne Water will provide its advice to DSE in relation to the desalinated water order for the following year (who in turn provide this advice to the State Government)
- By 1 April each year, the State Government makes the decision as to the annual water order volume for the following year and DSE places that order with AquaSure
- Melbourne Water will use any desalinated water order to propose adjustments to its ESC approved water price path in April each year. This would be in accordance with a pre-approved schedule of price increases and additional to the normal annual inflation adjustment.

Chapter 07

Planned expenditure

This Chapter sets out the proposed operating and capital expenditures required for the 2013 Water Plan period to deliver the service outcomes outlined in Chapter 4. Significant projects and areas of increased operating expenditure are included, along with expenditure drivers. Key areas of capital and operating expenditure efficiency are also detailed.

OVERVIEW

- Melbourne Water has consulted extensively with its customers, regulators and stakeholders in relation to its expenditure proposals for the 2013 Water Plan period. Broadly, the proposed outcomes and associated expenditures are supported by customers, regulators and stakeholders.
- Planned capital and operating expenditures will enable Melbourne Water to meet the proposed business as usual outcomes relating to supplying high-quality, safe and reliable drinking water, fit-for-purpose alternative water sources (recycled water) and safe sewage treatment and disposal services. They will also enable Melbourne Water to continue to protect and enhance the health and amenity of waterways and the bays - reflecting the revised approaches in its Healthy Waterways Strategy and Stormwater Strategy - and to manage flood risk. This will be done incorporating where possible a whole-of-system, integrated water management, approach.
- Proposed capital expenditure over the 2013 Water Plan period is $2,457.1M. This is $1,517.0M less than actual and forecast investment in the 2008 and 2009 Water Plan periods following the completion of several major capital projects. It reflects a significant prioritisation process, undertaken in consultation with customers, regulators and stakeholders.
- Proposed operating expenditure over the 2013 Water Plan period totals approximately $5,052M. On average, this equates to an annual expenditure of $1,010M, of which VDP costs represents $608M, compared to $333M in 2011-12. The VDP costs fundamentally change Melbourne Water's cost profile. Other increases include new expenditures relating to operating the Tertiary Treatment Upgrade at ETP, the introduction of a carbon price and increases in maintenance costs to meet the needs of a growing city and increasing asset base.
- 99% of Melbourne Water's capital expenditures and 88% (or 75% excluding VDP costs) of operating expenditures are contracted out and are therefore subject to competitive market processes which have the potential to drive significant efficiencies. Melbourne Water has recently undertaken a significant tendering process in relation to its maintenance contracts and is currently tendering for specific aspects of its Capital Delivery Strategy.

7.1 CUSTOMER, REGULATOR AND STAKEHOLDER CONSULTATION

While preparing its 2013 Water Plan, Melbourne Water has consulted extensively with its customers, regulators and stakeholders to prioritise investments (resulting in the deferral of some expenditures) and to find efficiencies. This has resulted in several refinements to proposed expenditures.

In relation to its water and sewerage expenditures, Melbourne Water held several consultation sessions with the water retailers (both metropolitan and regional) in September, October and November 2011. While all outcomes and associated expenditures were presented, feedback was specifically sought on growth-related expenditures. In addition, the DoH, EPA Victoria and DSE were consulted about proposed expenditures relating to compliance obligations. This culminated in briefing sessions in November 2011.

Broadly, the proposed outcomes and associated expenditures are supported by customers, regulators and stakeholders. The water retailers did note that while some water and sewerage capital expenditures have been deferred, they did not support altered levels of service and that demands should be closely monitored to ensure growth requirements could be met.

Engagement with expert groups (including the Waterways Advisory Committee), local community workshops, online forums, and engagement with regulators and Indigenous groups also informed the development of the waterways and drainage strategies and the Waterways Operating Charter. These strategies underpin the basis for the proposed waterways and drainage expenditures in the 2013 Water Plan.

Feedback was also sought from customers and regulators in relation to the proposed alternative water sources expenditures. This included discussions with City West Water and Southern Rural Water about their recycled water demands at WTP, South East Water about their demands at ETP and the DoH about compliance requirements at ETP and WTP. These discussions have been ongoing since mid-2011.

Since preparing the draft 2013 Water Plan, there have been changes in individual capital project costs, although no net increase in total proposed capital. For example, costs ($81.4M) associated with the WTP Stage 2 Augmentation have been brought forward but been offset by deferral of water and sewer projects. These decisions have been made following consultation with water retailers. There have also been reductions in operating expenditure relating to labour, energy, the carbon price and maintenance.

7.2 INTEGRATED WATER MANAGEMENT - MELBOURNE WATER'S CONTRIBUTION

Melbourne Water is committed to contributing to meeting the Government's *Living Melbourne, Living Victoria* policy objectives over the 2013 Water Plan, as reflected in our organisational vision to *'Enhance life and liveability'*. The principle of adopting a whole-of-system approach, which underpins these objectives, has formed the basis on which the 2013 Water Plan expenditure estimates have been formed. This is demonstrated through the examples set out below.

- Melbourne Water is taking a systematic approach to integrated water management, working to develop strategies with this focus and building capability. This is achieved through working with the Office of Living Victoria, water retailers and other stakeholders to develop Regional Strategies and contributing to alignment of water servicing plans at a local level. Melbourne Water will support the Office of Living Victoria in building capability through the development of a water modelling toolkit, the Integrated Water Cycle Management Atlas and in establishing an investment evaluation framework.
- Melbourne Water is proposing to partner with Local Government and land developers with seed funding of $1.6M in capital expenditure to assess stormwater diversion and reuse opportunities and implement demonstration projects in new and existing suburbs.
- Melbourne Water deferred capital expenditure in the 2013 Water Plan by applying an outcome / risk based approach under the Ringwood Sewerage Strategy. This will see pollution abatement and environmental improvement projects carried out in the catchment during the period at a cost of around $12M. This will allow a major sewer augmentation, with a cost of around $100M, to be deferred to the next regulatory period. This represents a considerable saving and will provide greater environmental and social benefits. Melbourne Water worked collaboratively with EPA Victoria, South East Water and Yarra Valley Water to achieve this saving.
- Integrated water management contributed to a forecast $12M capital expenditure saving achieved through down-sizing the St Albans Werribee Pipeline Stage 2

augmentation. Water demand from City West Water zones of Cowies Hill and West Werribee is forecast to increase significantly over the next 25 years, requiring construction of a new main to service growth. Mandating 'third-pipe' use of recycled water for non-potable demands within households, and resulting reductions in the peak day demands, have contributed to a reduced pipe diameter. Melbourne Water worked collaboratively with City West Water to achieve this saving.

- Melbourne Water has integrated projects to significantly reduce operating expenditure through increased energy efficiency. These include reduced energy expenditure:
  - At WTP and ETP (up to $6M annually) resulting from on-site renewable energy generation.
  - Across the water supply system (up to $3M annually) through the avoided purchase of grid electricity resulting from hydroelectric power stations.

7.3 CAPITAL AND OPERATING EXPENDITURE PLANNING

Melbourne Water's approach to capital planning is set out in its Capital Investment Framework and Capital Investment Policy. The Framework provides an overview of capital investment at Melbourne Water, acting as a 'bridge' between high level policy and operational level processes, procedures and guidelines, as well as defining Melbourne Water's capital investment objectives.

The Policy sets out Melbourne Water's commitment to ensuring that capital investment contributes to the effective and efficient achievement of the organisation's business objectives. The Policy supports Melbourne Water's Strategic Direction and the achievement of outcomes as outlined in Melbourne Water's 2013 Water Plan.

Capital projects performed by Melbourne Water require cost estimates at various stages of the project lifecycle and approval gateways. For projects expected to cost over $1M, the method of cost estimation required is a Risk Adjusted Nominal Estimate (RANE), providing a 50th percentile project cost (P50) and a 95th percentile project cost (P95). These values are required to be updated at all four project approval gateways.

Regular review and continuous improvement are central to Melbourne Water's overall approach to capital planning. The Water Services Association of Australia's 2011 report: *Capital Prioritisation – A Practices Review, Principles and Guideline*, identified Melbourne Water as a leader in its capital prioritisation processes.

In developing the proposed 2013 Water Plan capital and associated operating expenditures, Melbourne Water undertook a significant prioritisation exercise. For each of its products, the associated projects were prioritised using a consequent risk methodology. This grouped projects into expenditure reduction / deferral scenarios associated with increasing levels of risk, ranging from as low as reasonably practicable risk management and monitoring, to medium risk and higher risk projects with asset failure and customer service level implications.

These groupings were tested with customers, regulators and stakeholders to determine opportunities for expenditure reductions / deferrals. Following customer and regulator feedback, some projects initially proposed for deferral were put back into the program. As noted above, during this process the water retailers indicated that they did not support altered levels of service and that demands should be closely monitored to ensure growth requirements could be met.

Approximately $300M of capital expenditure and $150M of operating expenditure will be avoided in the 2013 Water Plan period as a result of this process.

Operating expenditure planning is guided by Melbourne Water's Strategic Direction, which is supported by detailed Operating Guidelines and Templates for water, sewerage and waterways and drainage. These documents detail the operational activities that Melbourne Water undertakes, key strategic considerations, performance obligations, risk assessments, life cycle costing and prioritisation considerations that inform the preparation of the operating expenditure plans. Program Plans ensure capital and operating expenditures are optimised for key business activities.

Melbourne Water's Financial Sustainability Strategy outlines the objectives, operating activities, governance structure and key performance indicators necessary to achieve the aim of financial sustainability set out in Melbourne Water's Strategic Direction. Important in this regard are the functions of capital and operating expenditure planning. This strategy is of significant importance in light of significant changes in Melbourne Water's operating environment, most notable the introduction of the VDP and the associated operating expenditure.

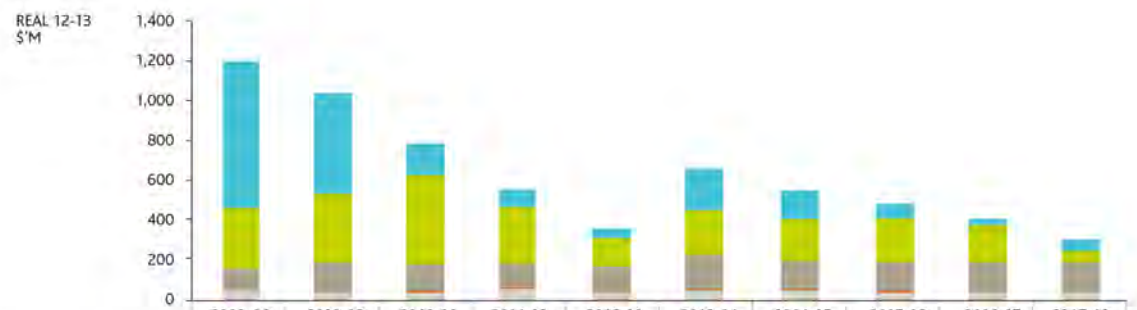
7.4 CAPITAL EXPENDITURE

7.4.1 Overview

Planned expenditure over the 2013 Water Plan period of $2,457.1M is $1,517.0M less than actual and forecast investment in the 2008 and 2009 Water Plan periods. This decrease is primarily due to the completion of major capital expenditure projects including the North-South Pipeline, Melbourne Main Sewer Replacement, ETP Tertiary Treatment Upgrade and the Northern Sewerage Project. The 2013 Water Plan is characterised by a large number of smaller projects with renewals playing a greater role, increasing from 18% to 38%. Details for Melbourne Water's top 10 capital projects are set out in Appendix 4.

Forecast capital expenditure for the 2013 Water Plan period, in the context of actual expenditures for the 2008 and 2009 Water Plan period, is set out in Figure 7.1

Figure 7.1: Actual and forecast capital expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
WATER	743.5	504.1	158.0	86.6	52.9	209.7	162.9	79.6	39.1	54.1
SEWERAGE	295.5	351.8	456.4	277.3	146.1	235.6	209.7	228.3	196.0	65.8
WATERWAYS	122.8	148.0	131.6	131.3	141.6	162.8	145.0	141.0	143.3	150.1
ALT. WATER SOURCES	0.7	0.7	4.9	8.6	3.7	9.9	3.5	10.4	0.8	0.9
CORPORATE	43.5	41.8	39.4	52.2	31.1	49.3	43.0	40.3	41.9	33.9
TOTAL	1,206.0	1,046.4	790.3	556.1	375.4	667.3	564.3	499.6	421.1	304.9

7.4.2 Water

Planned water expenditure totals $545.4M or approximately 22% of total proposed capital expenditure over the 2013 Water Plan period. Figure 7.2 summarises the major drivers of investment for water during the 2013 Water Plan period. Figure 7.3 shows historical and proposed expenditure by program.

Figure 7.2: Water capital drivers 2013–14 to 2017–18 (real $12–13)

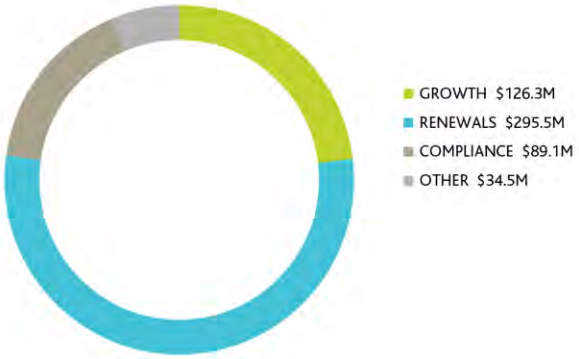
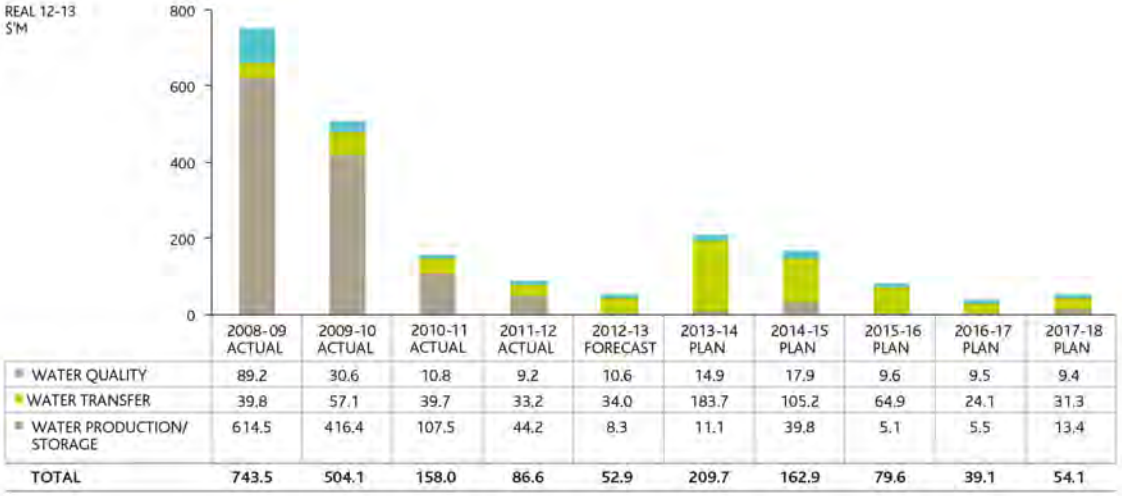


Figure 7.3: Water actual and forecast capital expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
WATER QUALITY	89.2	30.6	10.8	9.2	10.6	14.9	17.9	9.6	9.5	9.4
WATER TRANSFER	39.8	57.1	39.7	33.2	34.0	183.7	105.2	64.9	24.1	31.3
WATER PRODUCTION/ STORAGE	614.5	416.4	107.5	44.2	8.3	11.1	39.8	5.1	5.5	13.4
TOTAL	743.5	504.1	158.0	86.6	52.9	209.7	162.9	79.6	39.1	54.1

Compliance works for dam safety, renewal of existing pipelines, and service development growth in Melbourne's west are all major drivers of investment in the water supply system. Key projects over the 2013 Water Plan period include:

- Remediation of the Greenvale Reservoir ($40.2M) to achieve compliance with ANCOLD dam safety standards. Until this work is done water supply to adjacent areas must be supplied by more costly methods
- Kenny Street Link Main Duplication Works ($23.8M) to ensure compliance with water pressure standards over summer in the St Albans area. Delay risks water pressure not meeting customers' expectations, particularly on hot summer days
- Growth-related works in Melbourne's west, consisting of the St Albans Werribee Pipeline Stage 2 ($96.0M). This project may benefit from expenditure savings, partly the result of down-sizing related to the application of integrated water management

- Renewal of existing water supply pipelines reflecting critical risk rating and specifically the risk of major pipe burst and associated interruption to supply, water loss and other costs (i.e. disruption to commercial activity). In particular, the M40/41 Water Mains ($46.5M), the M102 North Essendon-Footscray Water Main Renewal ($54.2M)), the M039 St Kilda Punt Road Water Main renewal ($19.5M) and the Maroondah Aqueduct Refurbishment ($33.3M)
- Renewals of water tanks ($21.5M). Melbourne Water relies on regionally located water tanks to supply water retailers. Some of these assets are reaching the end of their useful lives and have reached a critical risk rating. A failure would require additional pumping costs from alternative supplies or could disrupt supply to thousands of households
- Renewals of water quality mechanical and electrical equipment ($33.8M) to ensure ongoing continuity of service.

7.4.3 Sewerage

Planned sewerage expenditure totals $935.6M or approximately 38% of total proposed capital expenditure over the 2013 Water Plan period. Figure 7.4 summarises the major drivers of investment for sewerage, and Figure 7.5 shows historical and proposed expenditure by program.

Figure 7.4: Sewerage capital drivers 2013–14 to 2017–18 (real $12–13)

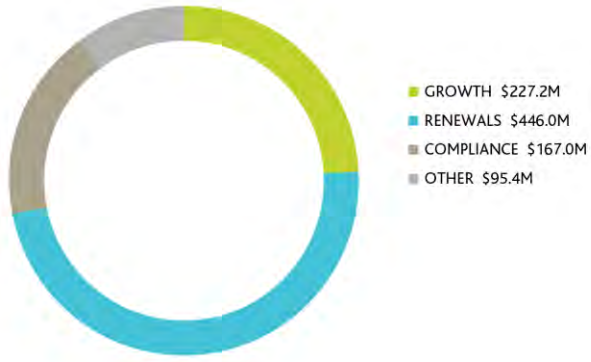
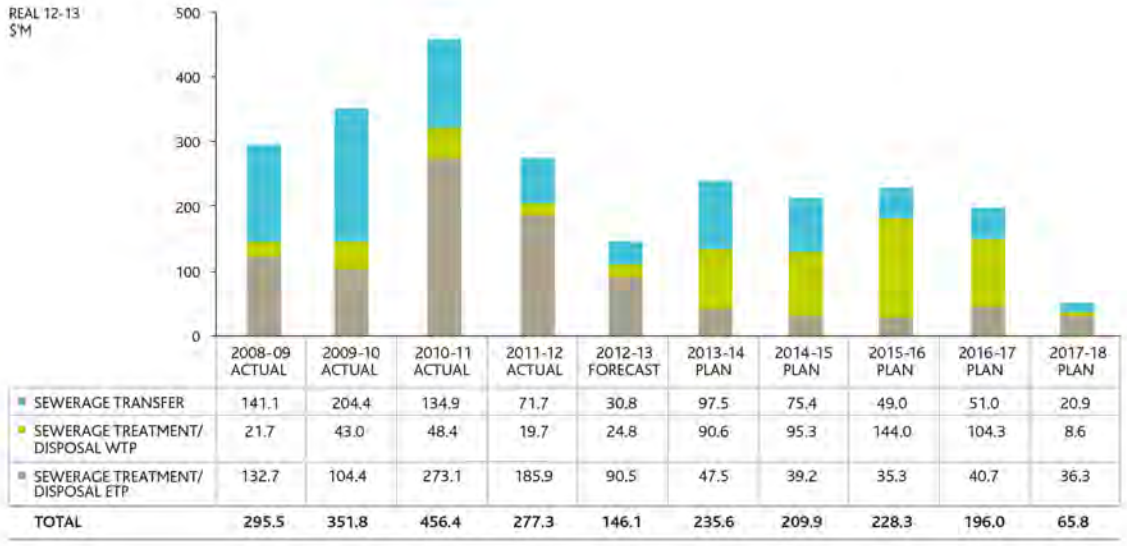


Figure 7.5: Sewerage actual and forecast capital expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
SEWERAGE TRANSFER	141.1	204.4	134.9	71.7	30.8	97.5	75.4	49.0	51.0	20.9
SEWERAGE TREATMENT/ DISPOSAL WTP	21.7	43.0	48.4	19.7	24.8	90.6	95.3	144.0	104.3	8.6
SEWERAGE TREATMENT/ DISPOSAL ETP	132.7	104.4	273.1	185.9	90.5	47.5	39.2	35.3	40.7	36.3
TOTAL	295.5	351.8	456.4	277.3	146.1	235.6	209.9	228.3	196.0	65.8

The primary driver for sewerage services is renewals, with significant expenditure planned in the rehabilitation of major sewerage transfer mains, components of both treatment plants, and mechanical and electrical renewals in both the transfer system and treatment plants.

Key projects over the 2013 Water Plan period include:

- WTP Treatment Capacity Augmentation Stage 1 ($38.7M), Stage 2 ($187.5M) and WTP Sludge Drying Augmentation ($56.1M). These projects have been designed as a package and closely match treatment capacity with growth in customer loads
- 25 West Lagoon Biogas Cover Upgrade ($41.7M) and Sludge Drying Pans renewal ($38.0M) will maintain existing treatment functionality for these assets at WTP and reduce costs through on site energy generation
- Mechanical and electrical renewals at ETP ($78.8M) and across the sewerage transfer system ($27.1M) to rehabilitate critical infrastructure and ensure ongoing continuity of service
- Rehabilitation of the Hobsons Bay Sewer Main ($42M), duplication of the North Yarra Main ($44.6M) and corrosion and odour management activities in the sewerage transfer system ($45.2M).

7.4.4 Waterways and drainage

Planned waterways and drainage expenditure totals $742.2M or approximately 30% of total proposed capital expenditure over the 2013 Water Plan period. Figure 7.6 summarises the major drivers of investment for waterways and drainage during the 2013 Water Plan period while Figure 7.7 shows historical and proposed expenditure by program.

Figure 7.6: Waterways capital drivers 2013–14 to 2017–18 (real $12–13)

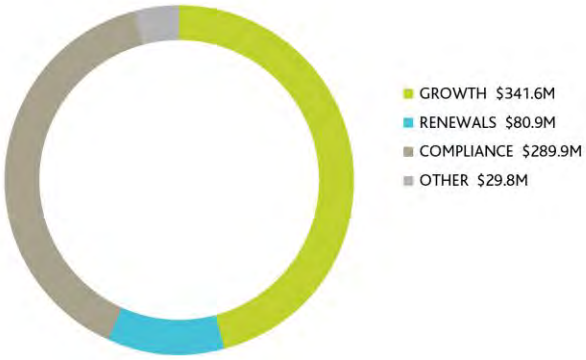
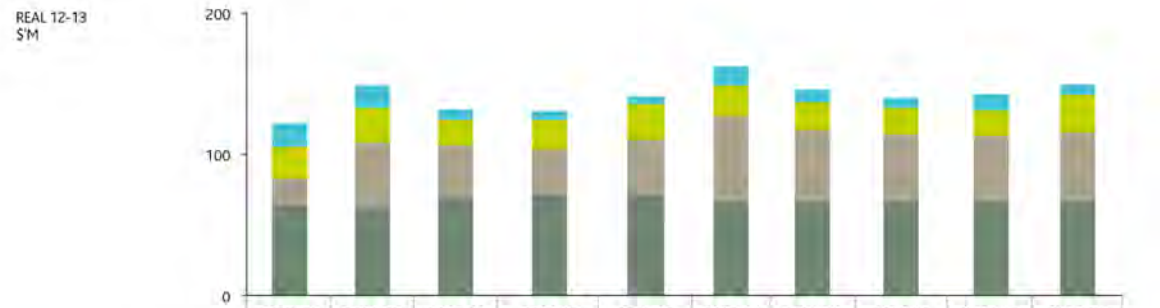


Figure 7.7: Waterways capital expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
STORMWATER QUALITY	17.4	15.9	6.4	5.1	4.9	13.8	7.4	7.4	11.1	7.2
WATERWAYS CONDITION	20.7	23.3	18.4	22.2	26.3	21.9	19.8	18.5	18.6	24.5
DRAINAGE AND FLOOD PROTECTION	20.9	45.5	36.4	31.7	37.9	60.1	50.8	48.1	46.5	51.4
LAND DEVELOPMENT	63.8	63.3	70.4	72.3	72.5	67.0	67.0	67.0	67.1	67.0
TOTAL	122.8	148.0	131.6	131.3	141.6	162.8	145.0	141.0	143.3	150.1

The largest single driver of capital expenditure is growth, primarily associated with the land development program. This expenditure is used to service the growth areas of Melbourne and fund works such as drainage infrastructure, wetlands and retarding basins.[11]

Within the rest of the waterways and drainage expenditure, the most significant projects are associated with:

- Flood Mitigation Works Program ($105.7M) to provide a significantly reduced level of flood risk to as many flood-affected residential, industrial and commercial properties as possible, taking into account the cost of the works. This will improve public safety
- Retarding Basin Spillway Upgrades ($56.4M) to help manage flood risk and improve public safety
- Drainage renewals ($16.4M)
- Flood Mapping Program ($14.6M) to identify and prioritise projects for flood mitigation investigations as well as helping to manage development planning
- Healthy Waterways Strategy ($103.3M) to meet identified river, estuary and wetland improvement targets. For example
  - Protect and improve frog, fish, bird, platypus and macro invertebrate habitat areas within waterways, estuaries and wetlands
  - Target improvements to channel form and stability issues (e.g. erosion) in a strategic manner
- Rehabilitation of existing wetlands ($15.8M) to ensure designed stormwater treatment provides ongoing protection to receiving waterways and bays
- Regional water quality treatment works ($16.7M)
- Sediment treatment and disposal ($7.9M) to efficiently manage contaminated material from sediment traps and wetlands.

[11] This capital expenditure is not recouped through the Waterways and Drainage Charge, but rather through developers. Melbourne Water funds the works in new development areas and then recoups this cost via developer charges as areas develop. More information is provided on this charge in Chapter 9.

7.4.5 Alternative water sources

Planned alternative water source investments total $25.5M or approximately 1% of total proposed capital expenditure over the 2013 Water Plan period. Figure 7.8 summarises the major drivers of investment during the 2013 regulatory period. Figure 7.9 shows historical and proposed expenditure by program.

Figure 7.8: Alternative water sources capital drivers 2013–14 to 2017–18 (real $12–13)

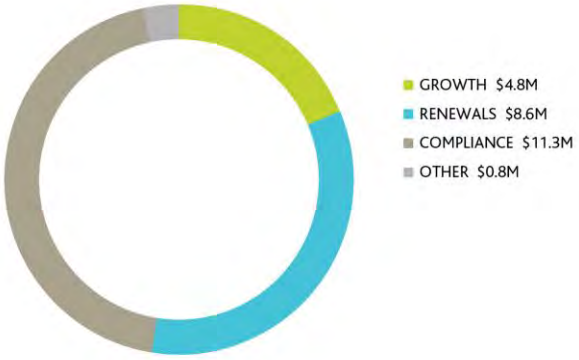
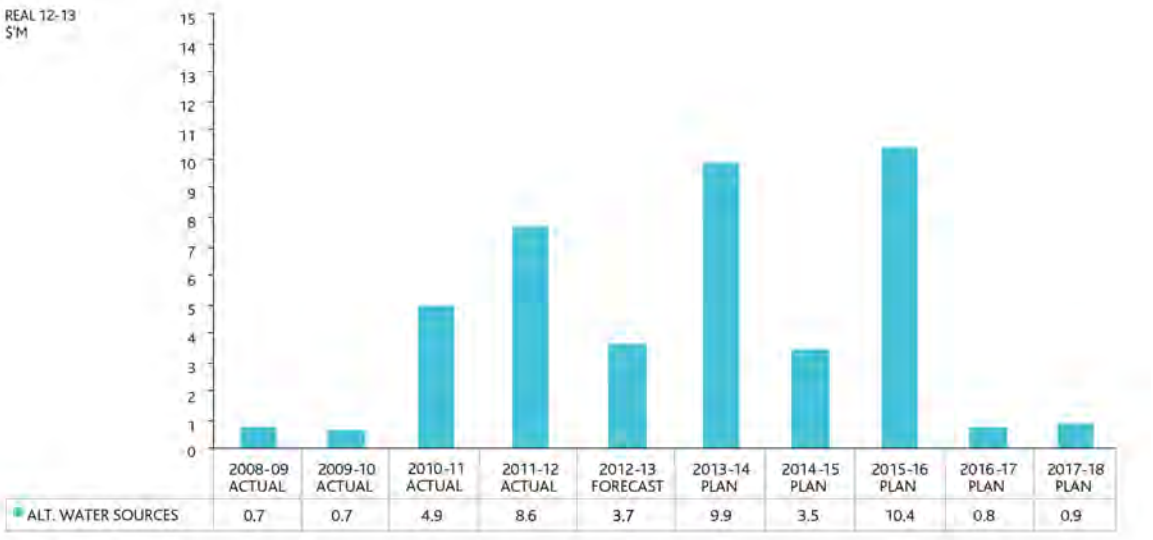


Figure 7.9: Alternative water sources capital expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
ALT. WATER SOURCES	0.7	0.7	4.9	8.6	3.7	9.9	3.5	10.4	0.8	0.9

Almost all of the proposed alternative water sources capital expenditure is for Melbourne Water's recycled water activities at the ETP and the WTP. The key projects over the 2013 Water Plan period have three drivers:

- Renewals – Re-lining of WTP recycled water supply channel ($5.3M) and mechanical and electrical renewals of WTP Recycled Water Treatment Plant ($3.3M) to ensure ongoing continuity of service
- Growth – WTP Recycled Water Treatment Plant Capacity Upgrade ($4.8M) to meet customer demands
- Compliance – WTP Recycled Water Treatment Plant Treatment Upgrade ($7.5M) and South East Outfall Recycled Water Interface Upgrades ($2.6M) to meet DoH requirements and supply fit for purpose water.

7.4.6 Corporate

Planned corporate expenditure totals $208.4M or approximately 8% of total proposed capital expenditure over the 2013 Water Plan period. Figure 7.10 summarises the major drivers of investment for corporate during the 2013 regulatory period. Figure 7.11 shows historical and proposed expenditure by program.

Figure 7.10: Corporate capital investment drivers 2013–14 to 2017–18 (real $12–13)

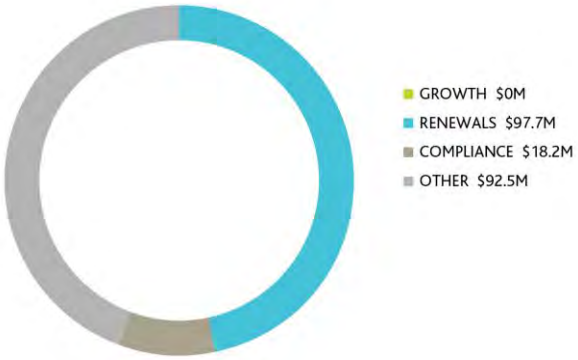


Figure 7.11: Corporate capital expenditure 2008–09 to 2017–18

	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
CORPORATE SUPPORT-OTHERS	28.4	19.9	15.4	28.9	11.4	15.1	14.5	9.4	9.6	7.5
INFORMATION TECHNOLOGY	15.1	21.9	24.0	23.3	19.7	34.2	28.5	30.9	32.3	26.4
TOTAL	43.5	41.8	39.4	52.2	31.1	49.3	43.0	40.3	41.9	33.9

The most significant component of corporate investment relates to renewal and investment in IT over the 2013 Water Plan period ($152.3M). This expenditure is aimed at sustaining the level of service from existing assets, while ongoing investment is required to maintain technological currency, respond to changing business and customer needs, and address continued growth in the volume and complexity of information. Examples include renewal of major IT infrastructure components such as a Storage Area Network and Common Wide Area Network ($34.0M) and major upgrade or replacement of a number of large existing business systems such as the ATLAS referrals system and Geographical Information System ($16.7M).

There is also a significant component of IT strategic spending to enable delivery of key business outcomes. This includes customer service delivery ($5.4M), business intelligence ($8.3M), corporate systems such as the Contract Management System and human resources management ($8.0M), and asset-centric systems such as SCADA, Electronic Permit to Work and CAD Management ($13.9M).

Other corporate investments over the 2013 Water Plan period include:

- Ongoing motor vehicle purchases in line with the metropolitan water industry-wide approach to purchasing vehicles rather than leasing to achieve savings in operating expenditure ($23.3M)
- The impact of the carbon price on the supply chain for Melbourne Water's capital works, estimated at ($9.6M).

7.4.7 Capital delivery efficiency

The Capital Delivery Strategy has been developed to address our current operating environment and is characterised by a 'design and construct' approach to capital delivery, while drawing on key learnings from previous delivery models. This approach will be used to deliver capital projects for the 2013 Water Plan period.

It has been informed by our Services Strategy 2010, which contained the following recommendations:

- Deliver smaller lower risk projects through maintenance contracts
- Develop an individual fit-for-purpose delivery strategy for major (>$50M) stand–alone projects
- Bundle the majority of remaining projects into programs based on activity type.

The Capital Delivery Strategy bundles treatment plant and pipeline projects, which will be delivered utilising three service providers competitively selected and operating under 'framework agreements'. These agreements will:

- Establish terms and conditions for services
- Award projects individually following competitive tendering
- Appoint service providers for an initial period of three years.

The other significant bundle of projects relating to waterways and water production will be delivered utilising the existing Consultancy Services Panel and tendering processes.

Melbourne Water has modified its Capital Delivery Strategy for the 2013 Water Plan in order to improve its cost efficiency. An independent review of its capital efficiency and productivity concluded that in spite of the reduction in capital spend compared to the 2008 and 2009 regulatory periods, the required improvement in delivery cost effectiveness means that project management levels will need to increase in the 2013 regulatory period. Therefore, while proposed capital expenditure in the future is less, to efficiently deliver the proposed program (with a large number of projects) a significant project management effort will be required.

7.5 OPERATING EXPENDITURES

7.5.1 Overview

Forecast operating expenditure over the 2013 Water Plan totals approximately $5,052M. This equates to an average annual expenditure of $1,010M (or $402M excluding VDP costs) compared to $333M in 2011-12. The primary cause of the significant increase in average annual planned operating expenditure relative to 2011-12 actuals is the costs associated with the VDP (see Chapter 6). Other significant causes of average annual expenditure increases include:

- New expenditures such as the Tertiary Treatment Upgrade at ETP ($13.9M) and costs associated with the introduction of a carbon price ($8.8M)

- Market driven movements in resource input, business as usual costs such as maintenance contract labour and sub-contractors ($4.0M) and land tax ($3.1M)
- Increases to implement standards, including maintenance costs to meet the needs of a growing city and increasing asset base ($27.3M), and to ensure Melbourne Water's office relocation meets the Office Accommodation Guidelines 2007.

Melbourne Water continually seeks to minimise operating expenditure wherever possible. For example, 88% (or 75% excluding VDP costs) of Melbourne Water's operating expenditure is contracted out and therefore subjected to market competition. Section 7.5.7 illustrates this and also outlines several examples of the efficiency initiatives that Melbourne Water has and will implement over the 2013 Water Plan period.

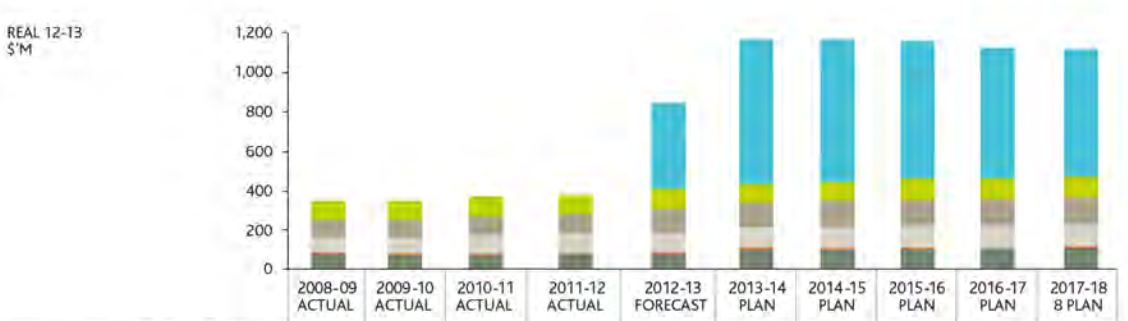
Since the draft 2013 Water Plan was released in May 2013, Melbourne Water has further reviewed its operating expenditures in consultation with its customers and other stakeholders. This has resulted in the following reductions to the proposed expenditures (partially offset by other increases):

- A decrease in labour costs mainly as a result of aligning Enterprise Agreement and other management salary increases with Government's policy of 2.5% per year ($16M)
- A decrease in net energy costs as a result of a revised market price assumption for the planned sale of Renewable Energy Certificates ($12.9M)
- A decrease in external service costs as a result of a competitive tendering process for the ongoing provision of maintenance resulting in lower contract costs ($4.7M).
- A decrease in fees and charges costs as a result of reduced carbon tax expenditure associated with Victorian Desalination Plant ($3.7M) given the assumed water order of 0GL.

The draft 2013 Water Plan used 2011-12 forecast operating expenditure as the reference for any movements in expenditure over the 2013 Water Plan period. The forecast has now been updated to reflect actual expenditures to 30 June 2012. In some instances, as outlined below, changes between the forecast and actual expenditures have driven movements in expenditures over the 2013 Water Plan compared to those reported in the draft 2013 Water Plan.

Figure 7.12 illustrates operating expenditure for each product on an annual basis since 2008–09.

Figure 7.12: Actual and forecast operating expenditure 2008–09 to 2017–18

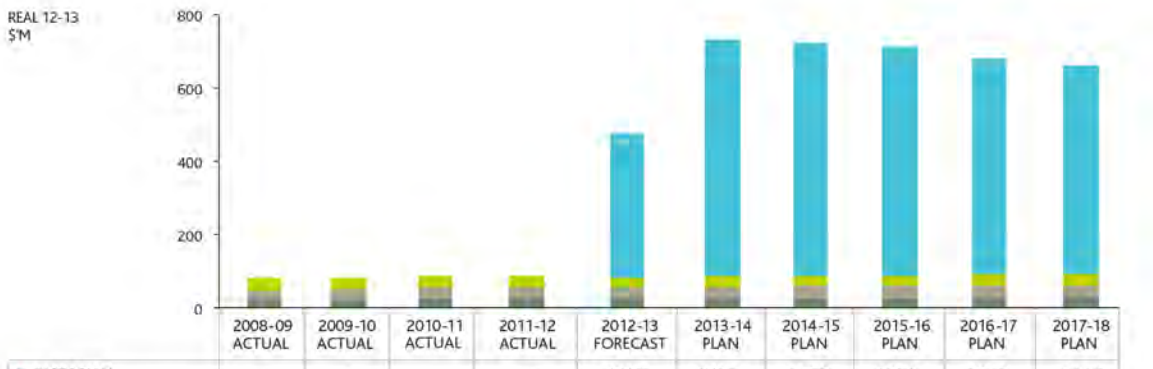


	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 8 PLAN
VICTORIAN DESALINATION PLANT	-	-	-	-	389.7	644.2	632.2	620.6	586.1	575.7
WATER	80.0	83.7	84.9	83.5	84.0	83.8	85.5	88.1	89.7	90.0
SEWERAGE	76.8	81.3	85.5	90.5	106.6	111.5	116.7	118.4	121.8	122.0
WATERWAYS	72.3	73.8	83.8	81.0	86.1	94.0	95.8	96.5	95.8	98.1
ALT. WATER SOURCES	6.7	6.1	6.4	5.4	6.2	5.3	5.5	5.9	6.1	6.5
CORPORATE	67.8	63.7	63.6	72.4	71.0	88.1	89.5	91.9	92.4	94.2
TOTAL	303.6	308.5	324.2	332.8	743.7	1,026.9	1,025.3	1,021.4	992.0	986.6

7.5.2 Water

Forecast water operating expenditure is $3,496M over the 2013 Water Plan period, accounting for 69% of total expenditure. This equates to an average annual expenditure of $699.2M. Excluding desalination costs, average annual operating expenditure equates to $90.7M compared to $83.5M in 2011-12. Figure 7.13 illustrates the operating expenditure for each program on an annual basis since 2008–09, with the largest increase in the production program resulting from desalination costs.

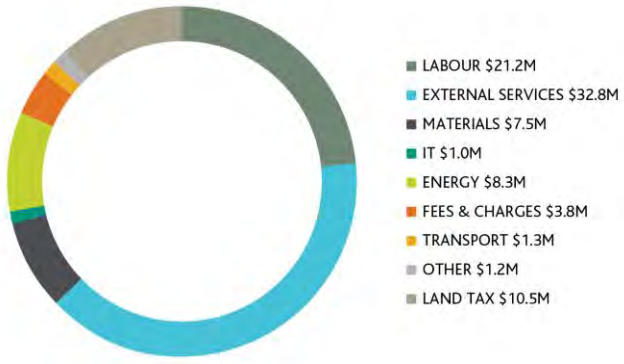
Figure 7.13: Water operating expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
VICTORIAN DESALINATION PLANT	-	-	-	-	389.7	644.2	632.2	620.6	586.1	575.7
PRODUCTION / STORAGE	31.9	31.5	28.8	28.8	28.4	27.3	28.7	29.2	29.8	30.0
DRINKING WATER QUALITY	24.7	29.5	31.1	29.2	30.9	32.4	33.3	33.7	34.3	34.0
WATER TRANSFER	23.4	22.7	25.0	25.6	24.7	24.0	23.6	25.3	25.7	26.1
TOTAL	80.0	83.7	84.9	83.5	473.8	728.0	717.8	708.7	675.8	665.7

Figure 7.14 shows the average annual composition of the forecast operating expenditure on water services by resource input, excluding desalination costs.

Figure 7.14: Average annual water operating expenditure by resource input (excluding desalination costs) 2013–14 to 2017–18 (real $12–13)



The key drivers of the increase in average annual expenditure relative to 2011-12 actuals, excluding desalination costs, include:

- External services ($2.2M), due partially to lower than planned expenditures in 2011-12[12], and increases in mechanical and electrical maintenance (as a result of an increasing asset base over the 2009 and 2013 Water Plan periods) and increases in maintenance labour rates above CPI

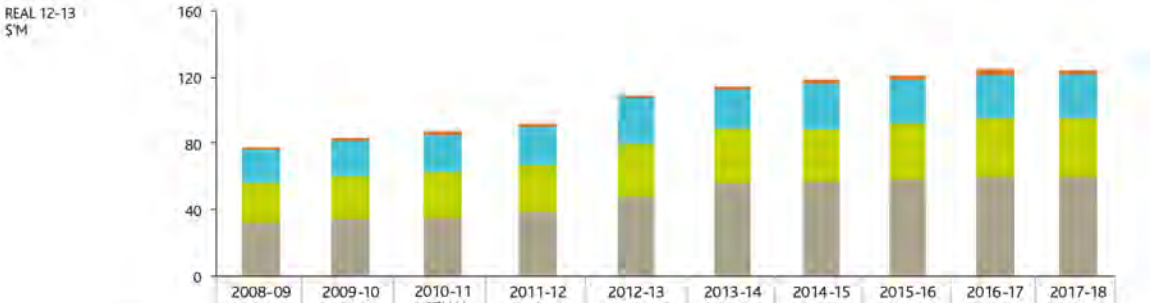
[12] These reflect lower Winneke sludge disposal costs, as a result of better water quality, leading to less sludge, and water supply headworks maintenance, reflecting deferral of maintenance due to wet weather and cooler conditions.

- Increased energy costs ($3.1M) due to additional consumption and higher electricity prices (relative to 2011-12, prices are forecast to increase by 13.2% by 2013-14 and then increase by 2.1% thereafter). Significant drivers of the consumption increase (which are offset by some other decreases) are:
  - Winneke-Yerring Gorge Pump Station ($3.5M)
  - Realising the full energy cost impact from new projects in the 2009 Water Plan period – Preston Pump Station ($0.8M) and Cardinia Pump Station ($0.3M)
- Higher materials cost ($1.6M) due largely to lower than expected planned expenditures in 2011-12. These occurred primarily as a result of better quality water requiring less treatment.
- Higher fees and charges ($1.1M) due to carbon pricing impacts (Scope 3) associated with the VDP.

7.5.3 Sewerage

Forecast sewerage operating expenditure is $590M over the 2013 Water Plan period which accounts for 12% of total expenditure. Average annual expenditure is $118.1M compared to $90.5M in 2011-12. Figure 7.15 illustrates the operating expenditure for each program on an annual basis since 2008–09.

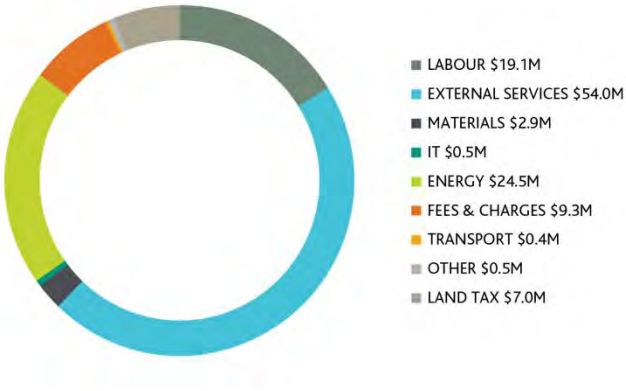
Figure 7.15: Sewerage operating expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
SEW BIOSOLIDS	1.2	1.1	2.1	1.4	1.0	1.2	2.8	3.1	3.4	3.1
SEWERAGE TRANSFER	20.4	20.5	21.7	23.8	27.2	22.8	24.1	24.9	25.5	26.0
SEW TREATMENT – WTP	22.9	25.8	27.2	27.0	31.3	32.3	33.8	33.3	34.4	34.4
SEW TREATMENT – ETP	32.4	33.9	34.5	38.3	47.1	55.1	56.0	57.1	58.5	58.5
TOTAL	**76.8**	**81.3**	**85.5**	**90.5**	**106.6**	**111.5**	**116.7**	**118.4**	**121.8**	**122.0**

Figure 7.16 shows the average annual composition of the forecast operating expenditure on sewerage services by resource input.

Figure 7.16: Average annual sewerage operating expenditure by resource input 2013–14 to 2017–18 (real $12–13)



Operating expenditure is expected to increase over the 2013 Water Plan period. Major drivers for the average annual increase in expenditure relative to 2011-12 actuals include:

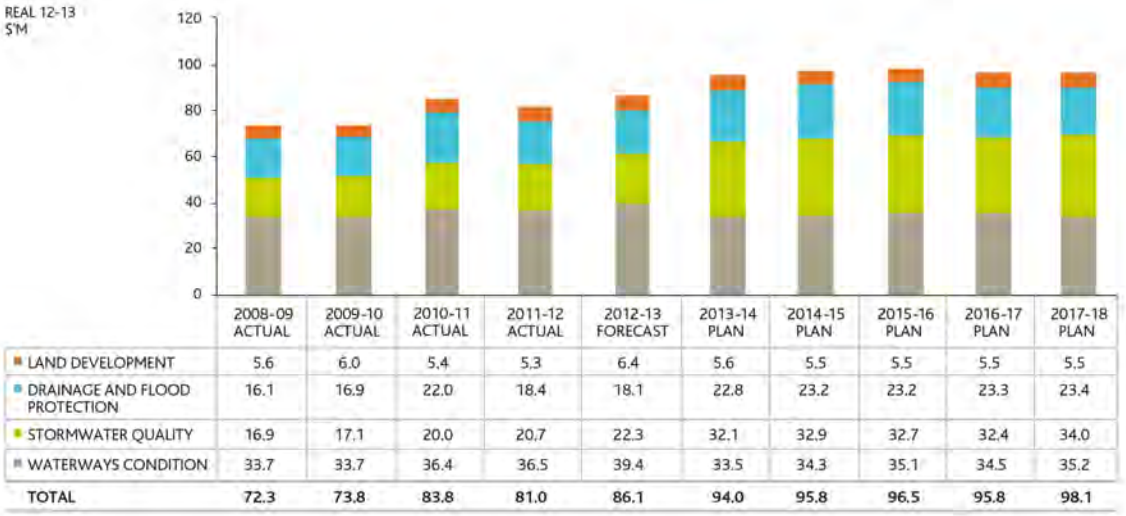
- The impact of the ETP Tertiary Treatment Upgrade ($13.9M), made up of energy costs ($8.3M), maintenance costs ($3.0M) and chemical costs ($1.5M) and other costs ($1.1M)
- Higher fees and charges ($6.1M[13]) primarily due to charges associated with the impacts of the carbon price (Scope 1) ($4.7M)
- Higher land tax ($2.0M) due to projected increases in the unimproved value of land
- Increased energy costs due to higher electricity prices[14] ($0.4M[15])
- Increased external services ($7.4M[16]) partially due to lower than planned expenditures in 2011-12[17] and more significantly due to:
  - An increase in maintenance expenditure at WTP ($1.6M), at ETP in addition to the Tertiary Treatment Upgrade ($1.8M) and the Sewerage Transfer System ($1.2M). This is due to an increasing asset base over the 2009 and 2013 Water Plan periods and increases in contract labour and sub-contractors rates above CPI
  - Major strategies and capital investments planned for the 2013 Water Plan period, in particular the Sewerage Treatment and Resource Recovery Strategy ($1.4M) and the WTP Sludge Drying Augmentation Project ($1.1M).

7.5.4 Waterways and drainage

Forecast waterways and drainage operating expenditure is $480M over the 2013 Water Plan period and accounts for 9% of total expenditure. Average annual expenditure is $96.0M compared to $81.0M in 2011-12. Figure 7.17 illustrates the operating expenditure for each program on an annual basis since 2008–09.

[13] Excludes fees and charges related to the Tertiary Treatment Upgrade at ETP.
[14] Relative to 2011-12, prices are forecast to increase by 13.2% by 2013-14 and then increase by 2.1% thereafter.
[15] Excludes energy costs related to Tertiary Treatment Upgrade at ETP.
[16] Excludes external services costs related to Tertiary Treatment Upgrade at ETP.
[17] These reflect the biosolids project for the Peninsula Link Freeway and Dingley Bypass not proceeding.

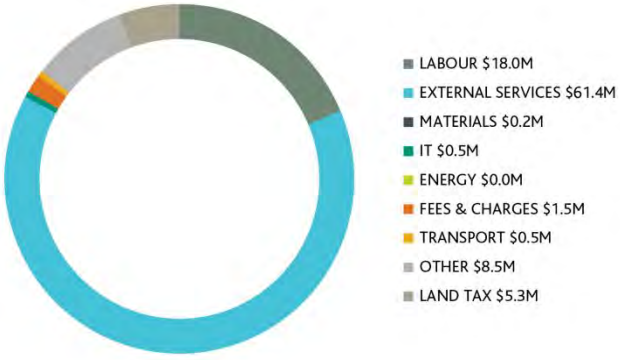
Figure 7.17: Waterways and drainage operating expenditure by program 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
LAND DEVELOPMENT	5.6	6.0	5.4	5.3	6.4	5.6	5.5	5.5	5.5	5.5
DRAINAGE AND FLOOD PROTECTION	16.1	16.9	22.0	18.4	18.1	22.8	23.2	23.2	23.3	23.4
STORMWATER QUALITY	16.9	17.1	20.0	20.7	22.3	32.1	32.9	32.7	32.4	34.0
WATERWAYS CONDITION	33.7	33.7	36.4	36.5	39.4	33.5	34.3	35.1	34.5	35.2
TOTAL	72.3	73.8	83.8	81.0	86.1	94.0	95.8	96.5	95.8	98.1

Figure 7.18 shows the average annual composition of the proposed operating expenditure on waterways and drainage over the 2013 Water Plan period, by resource input.

Figure 7.18: Average annual waterways and drainage operating expenditure by resource input 2013–14 to 2017–18 (real $12–13)



Waterways and drainage operating expenditure is expected to increase over the 2013 Water Plan period. Major drivers for the average annual increase in expenditure relative to 2011-12 actuals include:

- External services ($17.7M), due partially to lower than planned expenditures in 2011-12, and increases in maintenance expenditure driven by:
  - Maintenance of completed capital projects linked to the Regional River Health Strategy
  - Maintenance of an increased number of quality treatment wetlands coupled with an increase in wetlands sediment removal
  - Increased maintenance of hydrographic monitoring sites
  - Maintenance of an increased number developer constructed assets
  - Maintenance of an increased number of stormwater treatment assets
  - Maintenance of Beach Outlets (new activity)

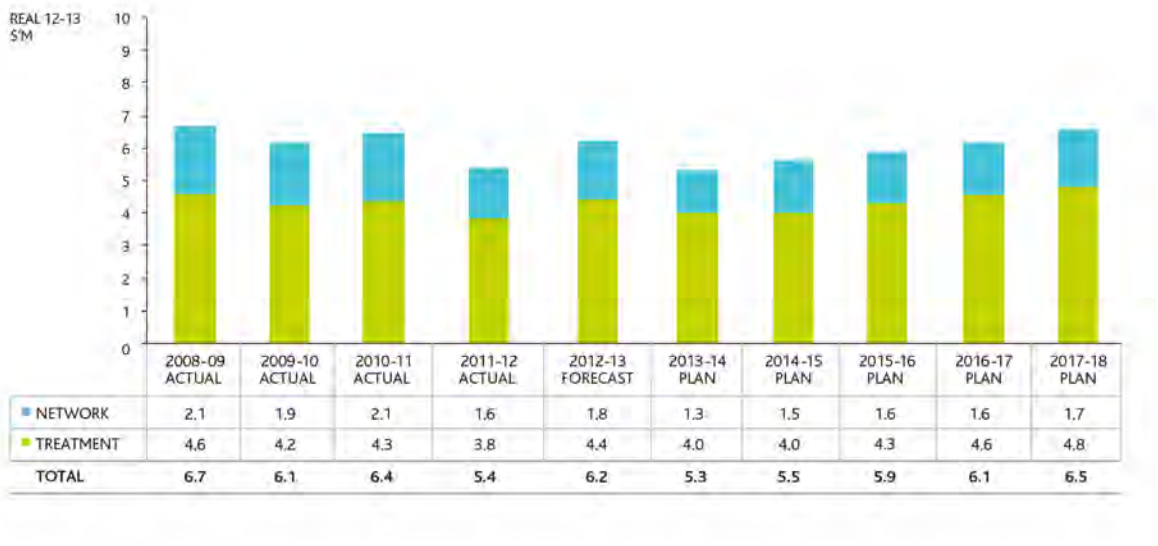
- Compliance with Aboriginal Affairs Victoria legislation (*Aboriginal Heritage Act 2006*)

- Higher land tax ($2.7M) due to projected increases in the unimproved value of land.

7.5.5 Alternative water sources

Forecast operating expenditure on alternative water sources (recycled water) is $29M over the 2013 Water Plan period which accounts for 1% of total expenditure. Average annual expenditure is $5.9M compared to $5.4M in 2011-12. Figure 7.19 illustrates the operating expenditure for each program on an annual basis since 2008–09.

Figure 7.19: Alternative water sources operating expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
NETWORK	2.1	1.9	2.1	1.6	1.8	1.3	1.5	1.6	1.6	1.7
TREATMENT	4.6	4.2	4.3	3.8	4.4	4.0	4.0	4.3	4.6	4.8
TOTAL	6.7	6.1	6.4	5.4	6.2	5.3	5.5	5.9	6.1	6.5

Figure 7.20 shows the average annual composition of the forecast operating expenditure on alternative water sources by resource input.

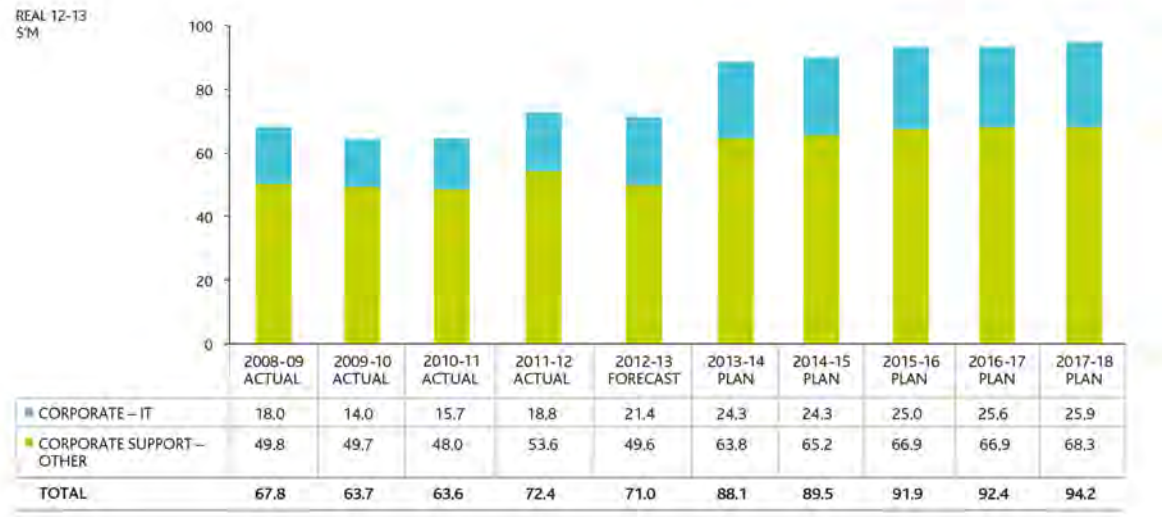
Figure 7.20: Average annual alternative water sources operating expenditure by resource input 2013–14 to 2017–18 (real $12–13)

Operating expenditure is expected to increase marginally over the 2013 Water Plan period relative to the 2008 and 2009 Water Plan period in line with growth in demands, particulary at ETP.

7.5.6 Corporate

Forecast operating expenditure on corporate activities is $456M over the 2013 Water Plan period, which accounts for 9% of total expenditure for the business. Average annual expenditure is $91.2M compared to $72.4M in 2011-12. Figure 7.21 illustrates operating expenditure for each program on an annual basis since 2008–09.

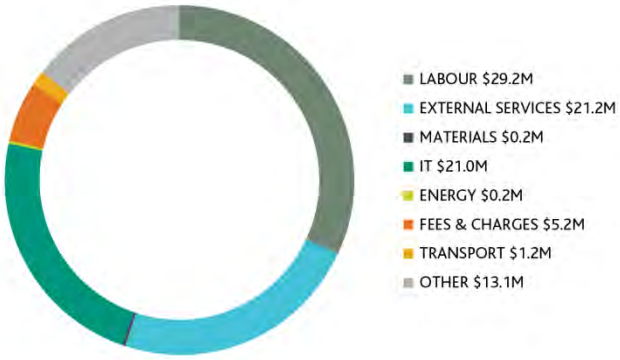
Figure 7.21: Corporate operating expenditure 2008–09 to 2017–18



	2008-09 ACTUAL	2009-10 ACTUAL	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 FORECAST	2013-14 PLAN	2014-15 PLAN	2015-16 PLAN	2016-17 PLAN	2017-18 PLAN
CORPORATE – IT	18.0	14.0	15.7	18.8	21.4	24.3	24.3	25.0	25.6	25.9
CORPORATE SUPPORT – OTHER	49.8	49.7	48.0	53.6	49.6	63.8	65.2	66.9	66.9	68.3
TOTAL	67.8	63.7	63.6	72.4	71.0	88.1	89.5	91.9	92.4	94.2

Figure 7.22 shows the average annual composition of the forecast operating expenditure on corporate services by resource input.

Figure 7.22: Average annual corporate costs by resource input 2013–14 to 2017–18 (real $12–13)



Operating expenditure is expected to increase over the 2013 Water Plan. Major drivers for the average annual increase in expenditure relative to 2011-12 actuals include:

- Higher IT costs ($6.8M) driven by increased capital expenditure in the 2008, 2009 and 2013 Water Plan periods required to implement Melbourne Water's IT Strategy ($2.8M) and reduced recovery of IT costs from construction Alliances as a result of the demobilisation of Alliance programs ($2M)
- Higher labour costs ($4.5M)
- Increased fees and charges ($1.9M) primarily due to charges associated with the carbon price (Scope 3)
- Increases in other expenditure ($6.0M), including:

- Net costs associated with the consolidation of multiple offices to a single sustainable premises creating opportunities to work smarter and more efficiently and to ensure Melbourne Water's corporate office standards are consistent with the Government's Office Accommodation Guidelines 2007 ($3.2M). This amount includes a target of $1.0M per year in efficiencies to be identified to fund the additional costs.
- Increased insurance costs ($1M) due to increases in premiums driven by a hardening market and an increase in natural disasters based on advice from Melbourne Water's external insurance advisor.

7.5.7 Operating efficiency

Proposed operating efficiency initiatives for the 2013 Water Plan period include:

- Recently, in line with its Service Strategy 2010, Melbourne Water renegotiated its maintenance contracts. This involved a competitive tender process, which resulted in a change to the previously incumbent providers. The new contracts include savings through increased efficiencies and innovation, and deliver improved safety and risk management processes.
- Initiatives related to Melbourne Water's 'Energy Productivity Strategy', including:
  - Improving efficiency at major water and sewage treatment plants and pumping stations
  - Reduced energy cost resulting from bio-gas energy generation at WTP and ETP along with energy generated through the Thomson, Cardinia and other mini hydros
  - Reduced energy costs resulting from building a new 'Green Data Centre' within the existing buildings at the Brooklyn Pumping Station.
- Reducing sediment disposal costs by developing our own treatment facility to remediate sediments from stormwater treatment wetlands and finding alternative uses for the cleaned product
- Reducing the cost of nitrogen treatment by expanding the Rural Land Program as a cost-effective means of managing runoff to our waterways and bays.

7.6 OPERATING EXPENDITURE EFFICIENCY HURDLE

The ESC has set a benchmark for all water businesses to achieve a minimum of 1% per year productivity improvement in operating expenditure for the 2013 Water Plan period. This takes into account customer growth and is applied to business as usual expenditures.

Melbourne Water believes this approach to driving productivity improvement is suitable in an environment where forecast operating expenditures are expected to be steady and customer growth is a key driver of increased costs. Melbourne Water considers the current environment does not demonstrate these properties, as illustrated by the changes outlined in Table 7.1. Removing the expenditures associated with these changes from Melbourne Water's business as usual operating expenditure results in Melbourne Water meeting the ESC's prescribed 1% productivity hurdle.

Table 7.1: Operating expenditure changes

Change	Influencing factors
New initiatives	• Contract and project management costs linked to the VDP ($3,043M) and ($16.1M) respectively • The Tertiary Treatment Upgrade at ETP ($69.6M) • Costs associated with carbon tax - scope 1&3 ($44.0M)
Significant increases in resource input costs	• Maintenance contract labour wage rate increases ($20.1) • Projected increases in unimproved value of land (4.5%) linked to Land Tax over the 2013 Water Plan period ($15.4M)
Impact of implementing standards	• Maintenance for waterways and drainage to meet standards across an increased asset base ($98.9M) • Increased expenditure to meet requirements in relation to the 2007 Office Accommodation Guidelines ($16.0M)

Chapter 08

Revenue requirement

This Chapter summarises Melbourne Water's forecast revenue requirement for the 2013 Water Plan period based on expenditure proposals and service outcomes discussed in earlier chapters. It outlines the forecast for each component of the revenue requirement as well as the basis for those forecasts.

OVERVIEW

- Over the 2013 Water Plan period, Melbourne Water's estimated revenue requirement (cost) is $8,612M in present value terms. This is significantly higher than the previous 5-year total of $4,840M.
- This reflects proposed operating costs, as well as a return on and of (depreciation) assets.
- The revenue requirement has changed since the draft 2013 Water Plan largely as a result of the return in 2012-13 of early-recovered desalination costs and changes to capital and operating costs.
- Prices are set such that revenue collected from customers is equal to the revenue requirement over the 2013 Water Plan period.

8.1 DETERMINING THE REVENUE REQUIREMENT

Melbourne Water calculates a revenue requirement which represents the amount of revenue it needs to deliver service outcomes and obligations while remaining a sustainable business. The revenue requirement is calculated using a 'building block' approach, represented by the following major components:

- Operating costs
- Providing a return on assets
- Depreciation of assets
- Adjustments from previous periods, and
- Taxation.

Each of these components is described below. Prices are set such that revenue collected from customers is equal to the revenue requirement in present value terms over the regulatory period.

8.2 OPERATING COSTS

Operating costs are the major component (approximately 60%) of the revenue requirement with desalinated water security charge making up 60% of total operating costs. Each dollar of operating costs is reflected in the revenue requirement. The total 2013 Water Plan period operating cost is provided in Table 8.1 and further details are provided in Chapter 7.

Table 8.1: Total 2013 Water Plan operating cost (real $12-13)

	2013–14	2014–15	2015–16	2016–17	2017–18	TOTAL
Operating expenditure	$1,026.9M	$1,025.3M	$1,021.4M	$992.0M	$986.6M	**$5,052.3M**

8.3 RETURN ON AND OF ASSETS

Capital costs are treated differently to operating expenditures for price setting purposes. Through the regulatory process, Melbourne Water collects both a return on its assets (the cost of financing its asset investment) and return of its assets

(depreciation of its assets). The asset base for regulatory purposes is calculated with reference to the Regulatory Asset Base (RAB). The RAB for Melbourne Water was initially set by the Minister for Water at 1 July 2004, the start of the current price regulation regime, at $4,160M (in January 2004 prices). This is now $5,285M in January 2013 dollar terms. From that date, the RAB has been updated and forecast using the following formula:

Opening RAB

- *Plus* gross capital expenditure
- *Less* customer and government contributions
- *Less* proceeds from disposals
- *Less* regulatory depreciation

Equals closing RAB.

In determining the opening RAB for the 2013 Water Plan period, Melbourne Water proposes to use its actual expenditure for the period of 1 July 2008 to 30 June 2012 and its current forecast expenditure in the remaining year of the period. This represents a change from the ESC's guidance as it prefers to use forecast expenditure from the latest price review where actual data is not available. Melbourne Water considers that using more recent forecasts better represents the likely asset base of the organisation at the start of the period.

The changes to the RAB from the draft 2013 Water Plan are primarily related to movements in forecast capital and a reduction in forecast customer contributions associated with an expected slowing of the land development industry.

The forecast RAB for the 2013 Water Plan period is provided in Table 8.2.

Table 8.2: Forecast Melbourne Water RAB (real $12-13)

	2013–14	2014–15	2015–16	2016–17	2017–18
Opening RAB	**$8,935.6M**	**$9,389.3M**	**$9,722.6M**	**$9,966.5M**	**$10,113.9M**
Plus gross capital cost	$667.3M	$564.2M	$499.6M	$421.2M	$304.8M
Less customer contributions	$50.0M	$54.7M	$59.0M	$61.6M	$64.0M
Less disposals	$11.4M	$2.0M	$2.5M	$1.9M	$2.0M
Less regulatory depreciation	$152.2M	$174.1M	$194.2M	$210.4M	$220.3M
Closing RAB	**$9,389.3M**	**$9,722.6M**	**$9,966.5M**	**$10,113.9M**	**$10,132.5M**

8.3.1 Return on assets

The return on assets is calculated by multiplying the value of RAB in each year by the Weighted Average Cost of Capital (WACC). The WACC represents a benchmarked efficient return to the business owners and is calculated by a combination of the cost of borrowing (interest expense) and cost of equity, which is estimated based on the relative risk of the business. The WACC used in this final 2013 Water Plan is 5.1%, consistent with the approach taken in the current regulatory period. The key WACC parameters are provided in Table 8.3 and are consistent with ESC guidance. Melbourne Water notes, however, that the risk free rate is currently at historical lows and therefore could increase over the 2013 regulatory period. Melbourne Water considers a longer-term average would better reflect likely market conditions over the 2013 regulatory period than using a 40-day average as specified in the ESC guidance. The total return of assets is provided in Table 8.4.

Table 8.3: WACC parameters

Risk free rate	Equity beta	Market risk premium	Debt margin	Franking Credit	Real post-tax WACC
1.40%	0.65	6.00%	3.5%	60%	**5.1%**

Table 8.4: Return on assets (real $12–13)

	2013–14	2014–15	2015–16	2016–17	2017–18	TOTAL
Return on existing capital expenditure	$451.8M	$444.4M	$437.1M	$429.8M	$422.6M	**$2,185.7M**
Return on new capital expenditure	$15.4M	$43.0M	$65.0M	$82.2M	$93.7M	**$299.4M**

8.3.2 Regulatory depreciation

Capital costs are also returned to the business over the life of the asset. This means the full capital cost is not collected in the year of expenditure but spread over the asset's life. This approach is analogous to the accounting approach of depreciation. The depreciation is calculated both on the opening RAB value, which is based on the remaining life of assets, and the new capital expenditure during the 2013 Water Plan period, which is based on the assets' standard accounting lives. The straight line method, which spreads the costs evenly over the asset's useful life, is used to estimate economic depreciation. The depreciation of the RAB has been undertaken consistently within the previous regulatory period, using the estimated remaining lives as set out in Table 8.5. This results in estimated depreciation of the RAB as set in Table 8.6.

Table 8.5: Estimated average remaining lives

Asset Class	Remaining Life
Production / Storage Program	106
Water Transfer Program	118
Drinking Water Quality	42
Sewerage Transfer Program	82
Eastern Treatment Plant	37
Western Treatment Plant	61
Waterways and Drainage	77
Recycled Water	32
IT \ Corporate	11

Table 8.6: Estimated depreciation of RAB (real $12-13)

	2013–14	2014–15	2015–16	2016–17	2017–18	TOTAL
Depreciation of existing capital expenditure	$140.3M	$140.3M	$140.3M	$140.2M	$140.2M	**$701.3M**

Capital expenditure undertaken during the 2013 Water Plan period is also depreciated on a straight line basis. Consistent with the ESC's approach to depreciation, the top 10 projects are only depreciated once the project is commissioned. In the previous regulatory period, a weighted average asset life was used to depreciate assets associated with waterways and drainage services. For the 2013 Water Plan period, the capital expenditure in these areas is split into asset classes (as per Table 8.7), and depreciated on an asset class basis. This better represents the depreciation cost to the business and is consistent with the approach taken for water and sewerage assets. Table 8.8 outlines the depreciation cost of new capital expenditure.

Estimated remaining lives are used to calculate depreciation of current assets. This is because remaining life reflects the assumed economic life of the asset, which is an

indication of how much 'use' the asset still has before it becomes redundant or obsolete (i.e. fully depreciated). In contrast, standard asset lives reflect the expected useful life of the asset if it had just been built. This means that standard lives are more appropriately used to calculate depreciation of new assets but it will lead to different asset lives used for depreciating the RAB and new assets.

Table 8.7: Assumed asset lives for depreciating new capital expenditure

Asset Class	Asset Life
Water	
Production / Storage Program Long Life Assets	131
Production / Storage Program Short Life Assets	24
Drinking Water quality	18
Water Transfer Program Short Life Assets	25
Water Transfer Program Long Life Assets	140
Sewerage	
Sewerage Transfer Long Life Assets	91
Sewerage Transfer Short Life Assets	26
Eastern Treatment Plant	37
Western Treatment Plant	29
Waterways	
Drainage & Flood Protection Long life assets	100
Drainage & Flood Protection Short life assets	40
Stormwater Quality assets	25
Waterways Condition assets	25
Land Development Program assets	75
Alternative Water Sources	
Recycled Water	32
Corporate	
Corporate Support	11
IT	3

Table 8.8: Estimated total depreciation of new capital expenditure (real $12-13)

	2013–14	2014–15	2015–16	2016–17	2017–18	TOTAL
Depreciation of new capital expenditure	$11.8M	$33.9M	$54.0M	$70.1M	$80.1M	**$249.9M**

8.4 ADJUSTMENTS FROM PREVIOUS PERIODS

Where there has been a significant over or under recovery of costs during a regulatory period, there is the opportunity for the business to make up that loss, or to reduce prices in the following period such that customers can recoup any over collection. The draft 2013 Water Plan proposed returning $316M to customers over the 2013 Water Plan period. Following the customer consultation, Melbourne Water, with the water retailers, will return the early-recovered desalination costs as soon as possible. This means there currently are no forecast regulatory adjustments for the 2013 Water Plan period.

8.5 TAXATION

To allow for the recovery of equivalent tax liabilities, the ESC prescribes a calculation for benchmark tax liability that allows Melbourne Water to recoup company tax costs.

The benchmark tax liability is based on Melbourne Water's revenue forecasts less allowable deductions for operating expenditure, interest, tax depreciation and franking benefit. The change in the estimated tax liability since the draft 2013 Water Plan is largely due to the change in approach to managing the desalination early-recovery. The increase in the debt premium also altered the tax calculation by increasing the allowable interest deduction.

Table 8.9: Benchmark tax calculation (real $12-13)

	2013–14	2014–15	2015–16	2016–17	2017–18	TOTAL
Benchmark tax	$15.5M	$21.1M	$24.9M	$29.1M	$32.7M	**$123.3M**

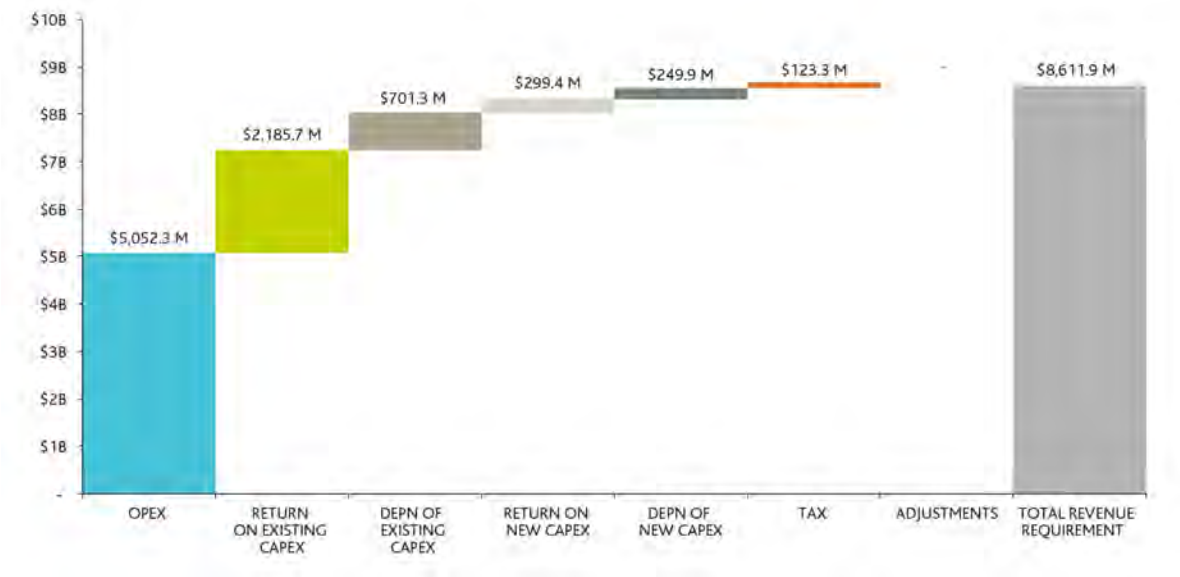
8.6 REVENUE REQUIREMENT

Table 8.10 shows a summary of the annual and total revenue requirement while Figure 8.1 represents this graphically for the entire 2013 Water Plan period. The total revenue requirement is $8,612M over the five-year regulatory period, with the major contributor being operating expenditure (over 60%).

Table 8.10: Total revenue requirement (real $12-13)

	2013–14	2014–15	2015–16	2016–17	2017–18	TOTAL
Operating expenditure	$1,026.9M	$1,025.3M	$1,021.4M	$992.0M	$986.6M	$5,052.3M
Return on existing capital expenditure	$451.8M	$444.4M	$437.1M	$429.8M	$422.6M	$2,185.7M
Depreciation of existing capital expenditure	$140.3M	$140.3M	$140.3M	$140.2M	$140.2M	$701.3M
Return on new capital expenditure	$15.4M	$43.0M	$65.0M	$82.2M	$93.7M	$299.4M
Depreciation of new capital expenditure	$11.8M	$33.9M	$54.0M	$70.1M	$80.1M	$249.9M
Tax liability	$15.5M	$21.1M	$24.9M	$29.1M	$32.7M	$123.3M
Adjustments	-	-	-	-	-	-
TOTAL	**$1,661.9M**	**$1,707.9M**	**$1,742.6M**	**$1,743.6M**	**$1,756.0M**	**$8,611.9M**

Figure 8.1: Melbourne Water Total Revenue Requirement (real $12-13)



8.7 FINANCIAL SUSTAINABILITY

In reviewing the revenue requirement, the ESC needs to consider the *Essential Services Commission Act 2001* objective of maintaining the industry's financial viability.

The significant capital program in the 2008 and 2009 Water Plan periods has created some financial challenges for Melbourne Water. This program, and the introduction of the desalinated water security charge, will mean higher gearing levels and borrowings are required. This has seen the 'shadow' credit rating for Melbourne Water fall to BBB- despite strong business fundamentals.

Table 8.11 shows Melbourne Water's forecast key financial indicators - interest cover and gearing - for the 2013 regulatory period. It shows that while gearing is reducing slightly over the period, it remains at the high end of Melbourne Water's target range and above the benchmark assessment assumed by the ESC in setting the WACC.

Table 8.11: 2013 Water Plan period financial indicators

	2013–14	2014–15	2015–16	2016–17	2017–18
Cash - Interest Cover (times)	1.8	1.7	1.7	1.8	1.8
Gearing (%)	66.3	66.3	66.0	65.3	64.5

While business fundamentals remain strong, Melbourne Water is seeking to strengthen its financial indicators over the 2013 regulatory through its Financial Sustainability Strategy.

Chapter 09

Prices

This Chapter sets out the current and proposed prices for each of Melbourne Water's services for the 2013 Water Plan period. These proposed prices include recovery of the expenditures and required revenue detailed in Chapters 7 and 8. The Chapter also details how the current price structures differ from those being proposed.

OVERVIEW

- Melbourne Water has consulted extensively with its customers, stakeholders and the community more broadly on its proposed prices and structures. As a result of these consultations, prices have changed from those proposed in the draft 2013 Water Plan.
- Revised prices reflect the fact that funds recovered early for the VDP are being returned to customers as soon as possible, including through the price freeze in 2012-13.
- Melbourne Water is proposing to maintain its current pricing structure for water and sewerage in the 2013 Water Plan period. Reflecting largely the significant increase in VDP costs compared to the 2009 Water Plan period, it is proposed to increase wholesale water and sewerage prices on average by CPI+60.4% in 2013-14 (which is an increase of around CPI+34% in retail bills) and CPI-0.5% from 2014-15 to 2017-18 (CPI+0% at retail). These wholesale prices will enable the costs for desalination to be met as they are incurred.
- Melbourne Water is proposing some minor changes to its current pricing structure for the Waterways and Drainage Charge. In particular, it is proposed to apply the new Urban Growth Boundary (UGB) as the boundary between urban and rural rates, and to remove the historical farm exemption. This will impact 4,000 and 3,000 landowners respectively and will mean all customers who receive the same level of service pay the same price.
- Based on the planned expenditure and forecast customer numbers, the proposed price increase for the Waterways and Drainage charge is CPI+2.6% per year for the 2013 Water Plan period.
- Melbourne Water is proposing a price cap for its water, sewerage and Waterways and Drainage Charge price path proposals. This means its revenues may vary depending on demands.
- It is proposed to reform the pricing approach in the Koo Wee Rup–Longwarry Flood Protection District special precept area. Following significant customer feedback from Patterson Lakes customers, Melbourne Water is participating in an independent review of the special precept, including the appropriate pricing approach. An addendum to this Plan will be submitted when this review and its findings are finalised on 1 March 2013.
- Melbourne Water supports the use of the ESC pricing principles to regulate its recycled water prices and is proposing to retain the current pricing principles.
- Melbourne Water understands higher prices will impact the water consumer and some may experience financial difficulties. Each of the water retailers have hardship policies in place to support those consumers.

9.1 CUSTOMER, REGULATOR AND STAKEHOLDER CONSULTATION

Following the release of its draft 2013 Water Plan, Melbourne Water consulted with customers, stakeholders and the community more broadly on proposed price increases and structures.

A summary of the major issues raised through consultation in relation to water and sewerage prices, and Melbourne Water's response, is provided in Table 9.1.

Table 9.1: Major water and sewerage prices issues raised during consultation

Issue	Response
Timing of returning early recovered desalination costs	
Significant customer feedback was received that the return of the early recovered funds over the five years of the 2013 Water Plan was not considered acceptable.	Melbourne Water and the water retailers have committed to returning early recovered desalination costs, with interest and inflation, initially through the price freeze in 2012-13 (see Chapter 6).
2013 Water Plan price path	
Feedback from metropolitan water retailers was that on balance, taking into account the mixed feedback from their customers, they would be proposing cost reflective price paths. The degree of cost reflectivity in the water and sewerage price paths in the draft 2013 Water Plan addendum was considered acceptable.	Melbourne Water is proposing a large water and sewerage price increase in 2013-14 and on-going small reductions from 2014-15 to 2017-18 to reflect the reduction in VDP costs during the period. While other options were considered, these would result initially in a significant gap between revenue and costs which would have to be funded through reductions in service or further borrowings. Melbourne Water does not support this option, as it is considered counter to maintaining safe and reliable services and sound financial governance on behalf of the community.
Managing desalination costs	
The water retailers were supportive of a mechanism to increase prices if desalinated water is ordered. Further consideration is required as to how to manage any variability in future changes to the desalination security costs.	It is proposed that if desalinated water is ordered in the future, further water price increases will occur. Melbourne Water will work closely with its customers and the ESC to ensure there is adequate pricing flexibility (adequate process) to respond to future changes in the desalination security costs.
Variable prices	
The water retailers expressed a preference for variable sewerage prices to be set solely with reference to long run marginal costs over the 2013 Water Plan Period. This would lower the variable revenue recovered by Melbourne Water.	Melbourne Water proposes to maintain its current percentage of variable revenue from variable water and sewerage prices throughout the 2013 Water Plan period. Given State Government policy requiring a minimum 60% variable component on water bills, Melbourne Water proposes to maintain its current percentage of variable revenue from variable sewerage prices.
Major trade waste prices	
Feedback from the water retailers was a strong preference for limiting substantial volatility in trade waste prices.	Melbourne Water proposes to limit customer impact by applying a CPI price path to variable major trade waste prices throughout the 2013 Water Plan period.

Feedback has been sought from customers in relation to the proposed recycled water prices. This has included discussions with City West Water South East Water and Southern Rural Water, particularly about the extent of the proposed price increases. These discussions have been ongoing since late 2011.

Further consultation also occurred in relation to all waterways and drainage price proposals, including the CPI+2.6% increase proposed in the Waterways and Drainage Charge, special precept area pricing proposals, Developer Service Scheme charges and diversion charges. This occurred via strategy development discussions, consultation with a representative number of waterways and drainage customers, direct mail to impacted customers, as well as surveys and targeted discussions with committees (including customer committees) and reference groups.

Most feedback received was associated with changes to the pricing structure of the Waterways and Drainage Charge, particularly the removal of the exemption of farmlands and to apply the 2010 Urban Growth Boundary as the boundary between urban (residential and non-residential) and rural customers. Significant feedback was also received in relation to Patterson Lakes special precept area pricing proposals.

A summary of the feedback received associated with these issues and Melbourne Water's response is provided in Table 9.2.

Table 9.2: Feedback associated with Waterways and Drainage Charge

Issue	Response
Removal farm exemption that applied to farmlands	
After an advertising campaign in local media and a direct mail campaign to 3,000 potentially impacted customers, Melbourne Water received around 50 submissions regarding the lifting of farm exemptions. Many raised concerns including that they considered they should not be subject to the Waterways and Drainage Charge as they have no water or sewerage services, had been exempt for many years, and cited cost of living pressures.	Melbourne Water considers that an equitable approach to charging in its Waterway Management District is to bring the currently exempt farms in line with all other properties, including an estimated 100,000 other rural customers of which many are farmland operations. Melbourne Water also sought to communicate with customers that the Waterways and Drainage Charge is not used to fund water and sewerage services. Melbourne Water also highlighted that it had ESC approval as part of the 2008 Water Plan to lift farmland exemptions effective 1 July 2009. However shortly before communications were planned to affected customers informing them of the change, the Black Saturday bushfires occurred. In clear recognition of the impact these fires had on many Victorians, the then State Government gave a Ministerial direction to utility companies to waive charges for properties within bushfire affected areas until 1 July 2013. With waivers relating to the bushfire exemption ending on 1 July 2013, it is proposed the exemption is removed from the start of the 2013 Water Plan period.
Extension of the Urban Growth Boundary	
After an advertising campaign in local media and a direct mail campaign to 4,000 potentially impacted customers, Melbourne Water received around 25 submissions regard the change to the urban billing boundary to the 2010 UGB. These submissions included raising concerns about the current lack of drainage infrastructure, having no water and sewerage services and also cited cost of living pressures.	While these properties are currently subject to Melbourne Water's rural Waterways and Drainage Charge, our drainage services are expected to expand in line with the UGB. This is why Melbourne Water is proposing that properties in the expanded area be brought in line with other properties within the UGB, which are subject to either the residential or non-residential charge.
Patterson Lakes pricing reform	
Melbourne Water received around 500 submissions regarding its pricing reform proposals. A variety of issues were raised, including the inequities of the approach and the size of the proposed price increases.	An independent review, comprising members from Panels Victoria, has been set up. This will examine the current Patterson Lakes special precept arrangements, including the appropriate pricing approach. An addendum to this Plan will be submitted when the review and its findings are finalised on 1 March 2013.

9.2 PRICING PRINCIPLES

Clause 14 of the *Water Industry Regulatory Order* sets out the matters that must be taken into account in setting prices. In particular prices must:

- Provide appropriate incentives and signals to customers about the sustainable use of Victoria's water resources by reference to the costs of providing particular services and choices regarding alternative supplies for different purposes
- Take into account the interests of customers, including low income and vulnerable customers
- Enable customers to understand the prices charged
- Be consistent with a sustainable revenue stream for the business and reflect efficient expenditures to deliver proposed outcomes

- Provide an appropriate mechanism to minimise the extent of any under or over recovery of revenue for the costs associated with the VDP.

Melbourne Water considers the proposed prices set out below comply with these principles and seek to manage customer price impacts and promote cost reflectivity over the 2013 Water Plan period.

9.3 BULK WATER AND SEWERAGE PRICES

The following section outlines the current prices for bulk water and sewerage services, as well as the proposed price increases and structures.

9.3.1 Current bulk water and sewerage prices

Melbourne Water currently has separate bulk water headworks and transfer prices, with each having a variable and fixed component (i.e. two part tariffs). There is one variable headworks price for all water retailers, reflecting the common security of supply benefit provided by the integrated headworks system to all water retailers irrespective of their location. There are different variable transfer prices for each water retailer that take into account the long-run marginal costs of the transfer network in the various supply areas. The variable and fixed prices for 2012-13, reflecting the price freeze, are set out in Table 9.3.

Table 9.3: Bulk water variable and fixed prices in 2012–13

	Variable prices ($/ML)		Fixed prices ($/month)	
Retailer	Headworks	Transfer	Headworks	Transfer
City West Water	736.4	212.9	2,711,356	739,500
South East Water	736.4	180.9	3,686,658	1,375,584
Yarra Valley Water	736.4	144.1	4,111,715	1,961,383
Western Water	736.4	149.3	267,337	134,210
Gippsland Water	139.3[18]	-	139	981

Melbourne Water currently has separate variable sewerage prices for its Eastern and Western sewerage systems. In addition, Melbourne Water also has separate variable prices for the major trade waste parameters (biological oxygen demand, suspended solids, total kjeldahl nitrogen and inorganic total dissolved solids) for the Eastern and Western systems. These reflect the different costs of transferring and treating sewage and major trade waste in the east and west of Melbourne. The variable and fixed prices for 2012–13, reflecting the price freeze, are set out in Table 9.4.

Table 9.4: Bulk sewerage variable and fixed prices in 2012–13

	Western System	Eastern System
Volume ($/ML)	283.4	454.7
Biological Oxygen Demand ($/tonne)	16.0	547.5
Suspended solids ($/tonne)	3.2	302.6
Total kjeldahl nitrogen ($/tonne)	267.4	1,131.9
Total dissolved solids ($/tonne)	27.4	27.4
	City West Water	**South East Water**	**Yarra Valley Water**
Fixed price ($/month)	5,670,403	8,608,986	9,452,976

[18] Note: As Gippsland Water only uses the Tarago Reservoir its variable headworks price is determined with reference to the Tarago Reservoir only. The other water retailers' variable headworks price is set with reference to the integrated headworks system less the Gippsland Water share of the Tarago Reservoir.

9.3.2 Proposed bulk water and sewerage price changes

Melbourne Water is proposing to maintain its current pricing structures for water and sewerage. Consistent with the favoured approach in the draft 2013 Water Plan addendum, Melbourne Water is proposing a cost reflective price path for the 2013 Water Plan period. Under a proposed price cap, the average price increase proposed across water and sewerage is CPI+60.4% in 2013-14 (which is an increase of around CPI+34% in retail bills) and CPI-0.5% from 2014-15 to 2017-18. These wholesale price increases will enable the higher costs associated with a 0GL desalinated water order, compared to the 2009 Water Plan period, to be met.

This proposed price path will mean that prices and revenues are reflective of costs, including the costs of desalination, in each year of the period. It also provides stability of pricing after the large initial increase in 2013-14, and will minimise over or under-recovered funds in any given year.

This price path, as well as the proposed retail bill movements of the metropolitan water retailers, are outlined in Table 9.5. The drivers for the wholesale price movements are illustrated in Figures 9.1 and 9.2.

During the 2013 Water Plan consultation period, Melbourne Water has considered different options for its wholesale price path profile. These include the following options:

- A smoothed price path, as included in its draft 2013 Water Plan addendum
- Spreading a portion of the desalination costs associated with a 0GL order over the life of the VDP asset (which on average is 50 years) instead of the VDP Public Private Partnership (which is 27 years).

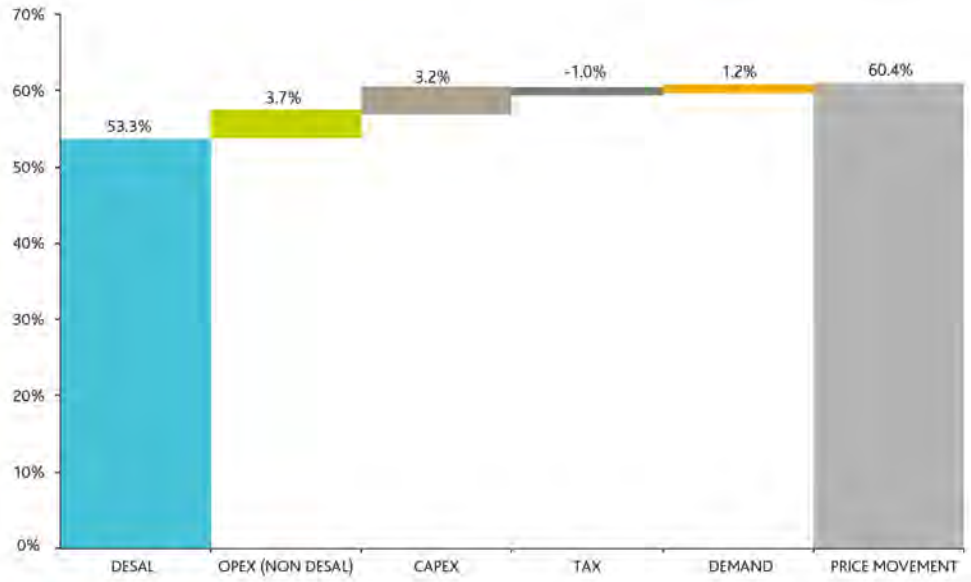
While both of these price path options would deliver a reduced upfront price increase in 2013-14 for wholesale water and sewerage customers, both would result in a significant gap between revenue and costs. This would have to be funded in the early years of the 2013 Water Plan period through reductions in service, leading to increased business risk due to deferral or cancellation of planned projects, or further borrowings. Melbourne Water does not support this option, as it is considered counter to maintaining safe and reliable services and sound financial governance on behalf of the community.

The proposed wholesale price increase in 2013-14 of CPI+60.4% is an average of water and sewerage price increases. With support from its customers, Melbourne Water is proposing to move away from averaging the price increase, towards an approach reflecting the separate costs for water and sewerage.

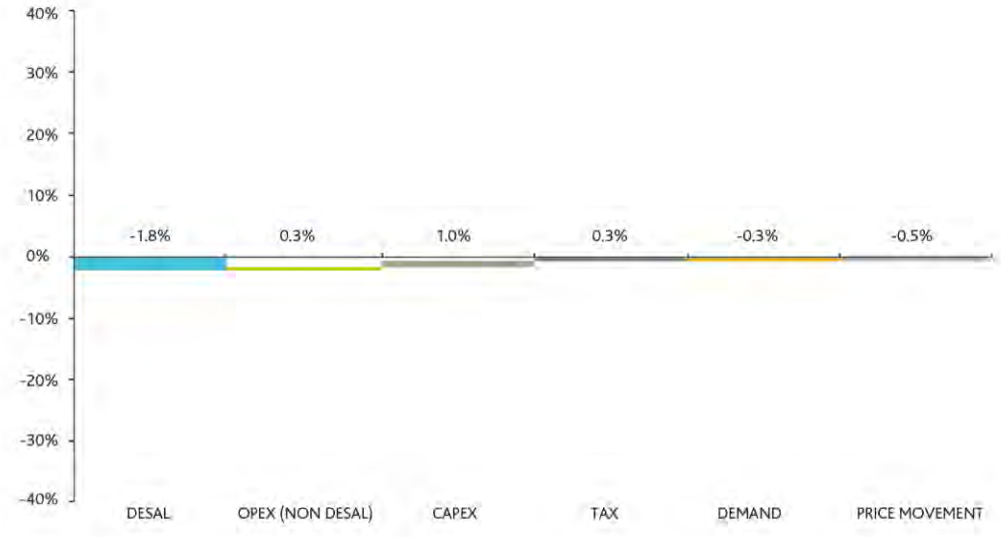
Table 9.5: Proposed bulk water and sewerage average price path 2013–14 to 2017–18

		Initial average price (wholesale) / bill (retail) increase (CPI+/-) 2013–14	Average annual price (wholesale) / bill (retail) movement (CPI+/-) 2014-15 to 2017-18
Wholesale			
Melbourne Water	Average water and sewerage price path	60.4%	-0.5%
Retail			
City West Water	Average water and sewerage	33.9%	0.0%
South East Water	Average water and sewerage	33.6%	0.0%
Yarra Valley Water	Average water and sewerage	33.7%	0.0%

Figure 9.1: Drivers of the average water and sewerage price increase in 2013–14



Figures 9.2: Drivers of the average water and sewerage price path from 2014–15 to 2017–18



Melbourne Water is proposing an annual adjustment to prices if desalinated water is ordered during the 2013 Water Plan (see Chapter 6 for the proposed approach). After consultation with the water retailers, it is proposed that any water orders will be reflected through increased headworks charges.

In addition, beyond variability in water orders, there may also be other material changes in the annual costs associated with a 0GL water order over the life of the VDP contract. The nature and extent of these changes is unknown, but includes cost increases or decrease resulting in under or over-recovery situations.

Informed by the community feedback received in the 2013 Water Plan consultation period (see section 6.1), Melbourne Water will work closely with its customers and the ESC to ensure there is adequate pricing flexibility and processes to respond to future changes in VDP costs. Consistent with the Water Industry Regulatory Order, this will serve to protect water consumers against over-recovery situations and to properly manage the impact of any VDP cost increases. Melbourne Water proposed the following principles to guide these further considerations:

- Cost changes should be known with certainty and be auditable
- Cost changes should be material
- Cost increases and decreases should be considered to ensure future under or over-recovery situation do not occur
- Prices should only be adjusted following a transparent process overseen by the ESC in relation to any cost changes.

It is proposed that, on average, bulk water and sewerage prices will increase by CPI+60.4% in 2013–14, however different percentage increases will apply to specific variable and fixed prices. This is consistent with the pricing principles and the combination of a variety of factors, including:

- The increased costs associated with provision of bulk water and sewerage services, including the increased proportion of water cost that is largely driven by the desalination costs
- The impact of the price freeze in 2012-13 on prices at the start of the 2013 Water Plan period
- The revised cost shares for the water retailers (compared to the 2009 Water Plan period) which determine how bulk water and sewerage costs are shared between customers based on their use of the Melbourne Water system
- Maintaining the same percentage of variable revenue from bulk water and sewerage prices as in the 2009 Water Plan period
- Forecast demands for the 2013 Water Plan period.

Tables 9.6 and 9.7 outline the proposed water and sewerage prices for 2013–14. A full list of Melbourne Water's proposed water and sewerage prices is at Appendix 5.

Table 9.6: Proposed bulk water prices in 2013–14 (excluding CPI)

	2012–13	2013–14
Bulk water variable prices - headworks (per ML)		
City West Water	736.4	1,491.1
South East Water	736.4	1,491.1
Yarra Valley Water	736.4	1,491.1
Western Water	736.4	1,491.1
Gippsland Water	139.3	58.1
Bulk water variable prices - transfer (per ML)		
City West Water	212.9	260.0
South East Water	180.9	177.4
Yarra Valley Water	144.1	160.0
Western Water	149.3	268.7
Gippsland Water	-	-
Bulk water fixed prices - headworks ($/month)		
City West Water	2,711,356	4,105,205
South East Water	3,686,658	8,037,848
Yarra Valley Water	4,111,715	7,484,694
Western Water	267,337	260,510
Gippsland Water	139	62
Bulk water fixed prices - transfer ($/month)		
City West Water	739,500	399,155
South East Water	1,375,584	1,827,004
Yarra Valley Water	1,961,383	1,982,604
Western Water	134,210	27,355
Gippsland Water	981	1,237

Table 9.7: Proposed bulk sewerage prices in 2013–14 (excluding CPI)

	2012–13	2013–14
Bulk sewerage variable price – Volume (per ML)		
Western system	283.4	371.6
Eastern system	454.7	648.5
Bulk sewerage variable price – Load, MTW (per tonne)		
BOD – western system	16.0	16.0
BOD – eastern system	547.5	547.5
SS – western system	3.2	3.2
SS – eastern system	302.6	302.6
TKN – western system	267.4	267.4
TKN – eastern system	1,131.9	1,131.9
TDS – western system	27.4	27.4
TDS – eastern system	27.4	27.4
Bulk sewerage fixed price ($/month)		
City West Water	5,670,403	9,012,263
South East Water	8,608,986	11,769,848
Yarra Valley Water	9,452,976	12,756,782

The impact of the proposed 2013–14 prices on each water retailer's annual bill is set out in Table 9.8. It is noted the changes relative to 2012–13 also reflect the impact of changed demands (e.g. Western Water has a significant reduction in demand in 2013–14).

Table 9.8: Customer impacts in 2013–14 (excluding CPI) of proposed prices

	City West Water		South East Water		Yarra Valley Water	
Revenue from prices	Current ($M/yr)	Proposed ($M/yr)	Current ($M/yr)	Proposed ($M/yr)	Current ($M/yr)	Proposed ($M/yr)
Total – Water and sewerage	221.9	358.8	347.3	542.4	354.9	556.3
Change ($M)		137.0		195.1		201.4
Change %		61.7%		56.2%		56.7%

	Western Water		Gippsland Water		Total	
Revenue from prices	Current ($M/yr)	Proposed ($M/yr)	Current ($M/yr)	Proposed ($M/yr)	Current ($M/yr)	Proposed ($M/yr)
Total – Water	14.8	6.1	0.06	0.03	938.9	1,463.6
Change ($M)		-8.7		-0.03		524.70
Change %		-58.8%		-46.9%		55.9%

9.3.3 Proposed bulk water and sewerage price structures

Variable bulk water prices

Melbourne Water's current bulk water variable prices account for approximately 70% of bulk water revenue. This aligns with the water retailers' pricing approaches and enables signals to be sent to customers about water conservation and the benefits of deferring additional infrastructure investments (as prices reflected long run marginal costs). In the 2013 Water Plan period, adopting long run marginal costs would result in much lower variable prices and variable revenues. Given State Government policy requiring a minimum 60% variable component on water bills, and with the support of its customers, Melbourne Water proposes to maintain the current percentage of variable revenue from variable bulk water prices (as set out in Table 9.6 for 2013–14).

Bulk water prices for regional water businesses

Only two regional water businesses – Western Water and Gippsland Water - have currently forecast water demands during the 2013 Water Plan period. It is proposed these businesses have the same pricing approach as metropolitan water retailers.

There are, however, other regional water businesses that are not forecasting 2013 Water Plan period demands, but who could potentially require bulk water during the period. These are Barwon Water, Westernport Water and South Gippsland Water. If they do require bulk water during the 2013 Water Plan period, Melbourne Water's proposed prices, as outlined in Table 9.9, will be based on the following approach:

- Variable headworks price – the same as proposed for the metropolitan water retailers and Western Water
- Variable transfer price – derived using the same methodology proposed for the metropolitan water retailers and Western Water. This price will only apply to Barwon Water as Westernport Water and South Gippsland Water are directly connected to the headworks system
- Fixed price for headworks and transfer – derived by dividing the aggregate of metropolitan water retailer and Western Water fixed costs for headworks/transfer respectively by the total bulk entitlements amount to derive a price per ML

- Any additional variable and fixed revenue earned by Melbourne Water as a result of these regional prices, less marginal costs, will be passed back to the metropolitan water retailers and Western Water as a reimbursement.

Table 9.9: Proposed regional water retailer prices (excluding CPI) and price paths

	2012–13 ($/ML)	2013–14 ($/ML)	2014–15 to 2017–18 (CPI +/-)
Barwon Water			
Headworks variable price	954.3	$1,491.1	-0.5%
Transfer variable price	232.3	$207.0	-0.5%
Headworks fixed price	201.7	$294.5	-0.5%
Transfer fixed price	78.2	$62.7	-0.5%
South Gippsland Water			
Headworks variable price	954.3	$1,491.1	-0.5%
Transfer variable price	n/a	n/a	n/a
Headworks fixed price	201.7	$294.5	-0.5%
Transfer fixed price	n/a	n/a	n/a
Westernport Water			
Headworks variable price	954.3	$1,491.1	-0.5%
Transfer variable price	n/a	n/a	n/a
Headworks fixed price	201.7	$294.5	-0.5%
Transfer fixed price	n/a	n/a	n/a

Variable bulk sewerage prices

Melbourne Water's current bulk sewerage variable prices account for approximately 30% of bulk sewerage revenue. Variable sewerage prices have historically been set with reference to long run marginal costs. However, in the 2013 Water Plan period long run marginal costs would result in much lower variable prices and variable revenues (i.e. approximately 15%). The water retailers have expressed a preference for variable sewerage prices to be set solely with reference to long run marginal costs over the 2013 Water Plan Period. This would lower the variable revenue recovered by Melbourne Water overall. Given State Government policy requiring a minimum 60% variable component on water bills, Melbourne Water proposes to maintain its current percentage of variable revenue from variable sewerage prices (as set out in Table 9.7 for 2013–14).

In relation to trade waste prices, the water retailers have expressed a preference for adjusting the 2012–13 major trade waste prices by CPI throughout the 2013 Water Plan period. They report there is strong industry preference for limiting substantial volatility in these prices. Melbourne Water notes these prices are highly sensitive to long run marginal cost signals, which can cause them to change significantly. After careful consideration Melbourne Water proposes to limit customer impact by applying a CPI price path to variable major trade waste prices throughout the 2013 Water Plan period.

9.3.4 Proposed approach to managing uncertainty

Melbourne Water believes the regulatory framework and pricing approach should enable water businesses to deal with any significant risks and uncertainties that may arise over a regulatory period, including those around demands, major costs and obligations. The framework should enable uncertainty to be managed and ensure optimal risk allocation.

Melbourne Water proposes the following approaches to managing uncertainty within the 2013 Water Plan period:

- As outlined in Section 9.3.2, annual adjustments to the headworks price to reflect the actual volume of desalinated water ordered in a given year. For example, if 50GL is ordered in the first year, but 0GL in the second year, then prices would reduce to reflect the lower costs associated with the 0GL order
- As also outlined in Section 9.3.2, subject to further consultation, a transparent and timely process to respond to any future changes in desalination costs associated with a 0GL water order
- The use of a price cap for its water and sewerage services, which means its revenues may vary depending on demands
- For major but uncertain projects or externally imposed costs, a within-period review and pass through process where there are significant changes
- A cumulative, end-of-period, pass through mechanism should exist for unforseen, additional and new legislative or regulatory obligations arising once the 2013 Water Plan period has commenced.

With the exception of the first and second dot points, the above items represent a continuation of the current approach.

9.4 WATERWAYS AND DRAINAGE PRICES

The following section outlines the current prices for the various waterways and drainage services, as well as the proposed price increases and structures. The prices for the various services include:

- The Waterways and Drainage Charge
- Precept area charges
- Developer Service Scheme charges
- Diversion charges
- Charges for miscellaneous services.

9.4.1 Current Waterways and Drainage Charges

The Waterways and Drainage Charge is collected from all rateable residential and non-residential properties within the Waterways Management District (see map, Appendix 1) for programs to protect and improve waterway health and stormwater quality and provide drainage infrastructure to service urban growth and provide a safe level of flood protection.

As a result of pricing reforms introduced during the 2008 Water Plan period, customers are either charged a flat, occupancy-based fee, or one based on property value depending on their property type (residential or non-residential) and their location (inside or outside the UGB). All customers residing outside the UGB pay only the rural charge with no differentiation in price due to property type. A summary of the 2012–13 (the last year of the current price period) Waterways and Drainage Charge types,

customer numbers and the proportion of total revenue collected from each property type is provided in Table 9.10.

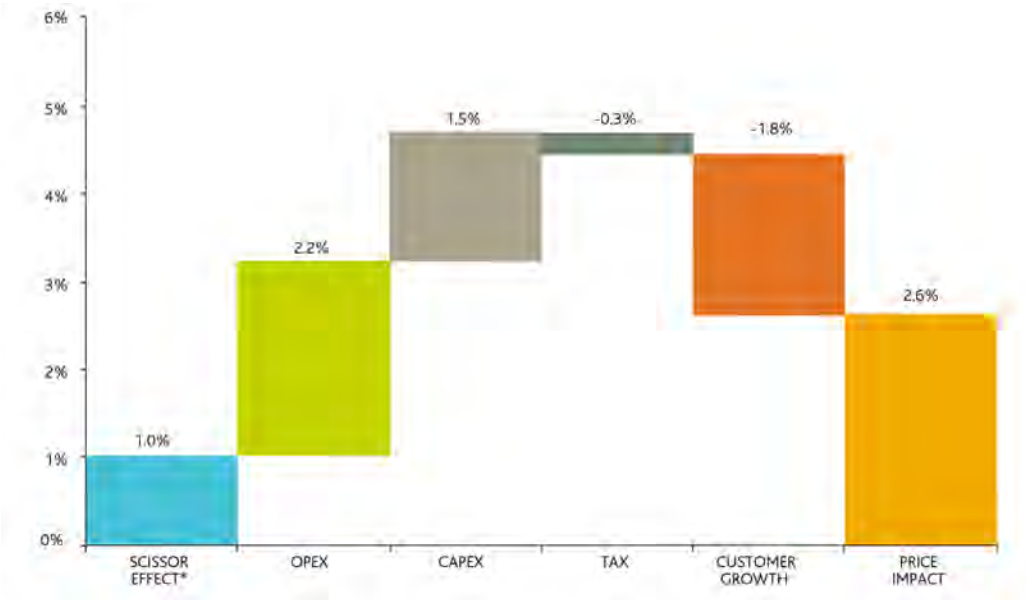
Table 9.10: 2012–13 Waterways and Drainage Charge (ex precept areas)

Customer type	Within UGB		Outside UGB
	Residential	Non-residential	Rural
Current charge	$85.08	Rate in dollar subject to minimum of $97.84.	$46.75
Total forecast customers in 2012-13 ('000 and %)	1,640 87.3%	139 7.4%	101 5.4%
Percentage of total charge revenue	64.2%	33.6%	2.2%

9.4.2 Proposed Waterways and Drainage Charge increases

Melbourne Water is proposing to maintain its current pricing structure for the Waterways and Drainage Charge, except as noted in section 9.4.3. The proposed price increase for the Waterways and Drainage Charge reflects the expenditures required to achieve proposed service outcomes. Under the proposed price cap, Melbourne Water is proposing an annual increase of CPI+2.6% in the Waterways and Drainage Charge over the 2013 Water Plan period. The major drivers of the proposed price increase are set out in Figure 9.3. Further detail relating to expenditures is provided in Chapter 7. Price is also impacted by population growth, which means the total cost is shared over a larger population.

Figure 9.3: Drivers of the proposed price path 2013–14 to 2017–18



* Adjustment to prices so that waterways specific revenue better matches cost

During the consultation period Melbourne Water sought feedback from customers on the proposed price increase. This occurred through via consultation associated with its Healthy Waterways and Stormwater Strategies and a targeted survey of a representative number of waterways and drainage customers. This survey was used to test Melbourne Water's price and service level offering through a conjoint analysis which aimed to understand and quantify the level of community support for waterways and drainage initiatives and charges associated with the 2013 Water Plan. Between 6-16 July 2012, 1,019[19] respondents completed a 20 minute online survey.

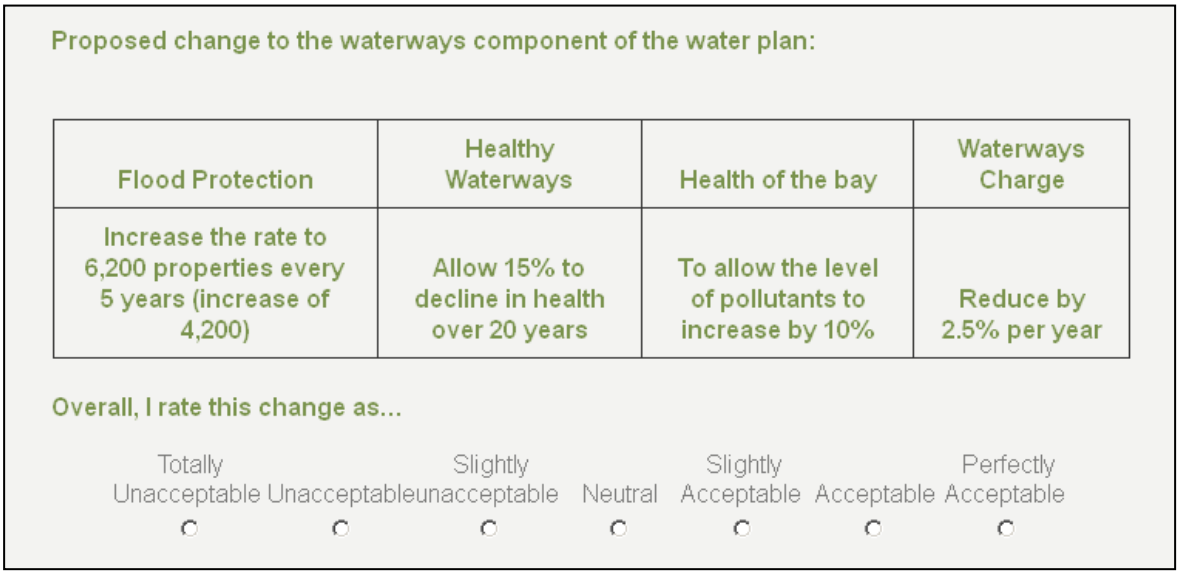
The survey tested the 2013 Water Plan price and service proposals by comparing them to alternative proposals. This was designed to test the acceptability of proposed and alternative price and service options via a conjoint analysis model.

Before respondents rated the acceptability of each price and service proposal, they were required to read a series of explanations of the issues around waterways management and pricing covering:

- The background including the significance and purpose of the research
- The purpose and potential initiatives within the remit of waterways
  - Flood protection
  - Waterway health
  - Health of the Port Phillip and Westernport Bays
  - The Waterway and Drainage charge
- The price and service combinations for each alternative
- The evaluation they would be asked to make.

After being shown this information, respondents rated the 11 different combinations of Flood Protection, Waterway Health, Bay Health and Waterways and Drainage Charge plus 2013 Water Plan price and service proposals on their acceptability to them. An example of a combination is shown below in Figure 9.6.

Figure 9.6: An example combination which was presented to respondents



[19] From a statistical perspective, a sample of 1,000 gives a 95% confidence that the population results fall within +/- 3.1% of the survey result.

A summary of the results of the study are below:

- Responses to the 2013 Water Plan proposed service offering was very favourable with 82% finding it or a plan with greater ambitions and higher charges 'acceptable'
- Underlying support for the Waterways and Drainage Charge was high with only 14% not agreeing that the charge goes towards a worthwhile cause
- 59% deemed the proposed plan 'acceptable' in its proposed format
- A further 23% desired a waterways and drainage plan with greater ambition and were less concerned with higher costs i.e. they wanted more done.
- Only 18% of respondents desired a scaled back version of the proposed waterways program.

Based on the feedback of customers, Melbourne Water proposes to cap price increases at CPI + 2.6% annually and apply the proposed price increase equally to all customers. Figure 9.7 outlines the forecast prices over the 2013 Water Plan period (prices from 2013-14 to 2017-18 exclude CPI). A full list of Melbourne Water's proposed waterways and drainage prices is also attached at Appendix 5.

Figure 9.7: Proposed Waterways and Drainage Charges (excluding CPI)

Residential pricing

It is proposed residential customers continue to pay a flat charge, following reforms delivered through the 2008 regulatory period. Residential customers receive a wide range of social, amenity, economic and environmental benefits from the provision of regional services. These benefits are broadly available to all customers who live, work or travel within the region and can be considered generally uniform for all customers.

2012-13	2013–14	2014–15	2015–16	2016–17	2017–18
$85.08	$87.32	$89.61	$91.96	$94.38	$96.86

Non-residential pricing

In its most recent determination, the ESC requested Melbourne Water to investigate ways of moving from a value-based property charge to one that is more cost reflective for the 2013 Water Plan period. At this stage, a pricing option has not been established that will achieve this while minimising customer impacts, being easily understood by customers and being based on a justifiable driver. Therefore, for the 2013 Water Plan period, it is proposed charges for non-residential customers will remain as per the current arrangements. The prices below reflect the minimum charge in dollars and the rate in $NAV (a measure of property value).

$97.84	$100.41	$103.05	$105.76	$108.53	$111.38
1.0417c	1.0691c	1.0972c	1.1260c	1.1556c	1.1859c

Rural pricing

To reflect reduced service provision (principally around drainage) in rural areas, a lower charge for these customers is proposed to continue during the 2013 Water Plan period (55% of the residential rate). Rural areas do not receive equivalent drainage system services as developed urban areas. Therefore, their charge reflects the cost of waterway management activities, with minimal regional drainage and flood protection.

$46.75	$47.98	$49.24	$50.53	$51.86	$53.22

9.4.3 Proposed Waterways and Drainage Charge structures

Changes are proposed to the Waterways and Drainage Charge for the following customers.

Farm exemptions

There are currently around 3,000 farmland properties in Melbourne Water's waterways and drainage boundary that are exempt from paying the Waterways and Drainage Charge. The bulk of these exemptions were introduced in the early 1980s when the Waterways and Drainage Charge, previously known as the Drainage Rate, did not distinguish between rural and urban properties

Following the extension of Melbourne Water's waterways and drainage boundary in 2005, and further reforms beginning in 2008, the pricing model was changed to better reflect urban and rural differences.

Melbourne Water had ESC approval as part of the 2008 Water Plan to lift farmland exemptions effective 1 July 2009. However shortly before communications were planned to affected customers informing them of the change, the Black Saturday bushfires occurred. In clear recognition of the impact these fires had on many Victorians, the then State Government gave a Ministerial direction to utility companies to waive charges for properties within bushfire affected areas until 1 July 2013.

In response to this direction, Melbourne Water waived the Waterways and Drainage Charge for these properties, and also made the decision to postpone lifting the farmland exemption until the next water planning period.

With waivers relating to the bushfire exemption ending on 1 July 2013, it is proposed the exemption is removed from the start of the 2013 Water Plan period. This will bring these farmland properties into line with all other property owners currently paying the charge. Spreading the cost of these services across all properties in Melbourne Water's service area is considered the fair approach for both land owners and existing rate payers as everyone benefits either directly or indirectly from healthy waterways and floodplains, and a safe and reliable regional drainage system. New non-residential customers will only incur the minimum charge.

As noted in the Chapter overview, Melbourne Water received a limited number of submissions opposing this proposed change. While acknowledging this feedback, Melbourne Water considers that an equitable approach to charging in its Waterway Management District is to bring the currently exempt farms in line with all other properties, including an estimated 100,000 other rural customers of which many are farmland operations.

Urban Growth Boundary extension

In August 2010, the State Government extended the UGB to include approximately 46,300ha of new land in the north, west and south-east of Melbourne. It is proposed that all customers within the new UGB boundary pay the higher residential and non-residential charges, rather than the rural charge, which reflects the expected platform of development, planning and asset construction. This will ensure a consistent application of the UGB boundary within the 2013 Water Plan period. These new areas are marked on the map at Appendix 1. New non-residential customers will only incur the minimum charge.

Melbourne Water also received a limited amount of feedback associated with the proposed change to the pricing structure for the UGB boundary extension. While these properties are currently subject to Melbourne Water's rural Waterways and Drainage Charge, our drainage services are expected to expand in line with the UGB. This is why Melbourne Water is proposing that properties in the expanded area be brought in line with other properties within the UGB, which are subject to either the residential or non-residential charge.

9.4.4 Other waterways and drainage price proposals

Precept area charges and long-term sustainable pricing and pricing reform

Melbourne Water provides higher levels of waterways and drainage services to residents in Patterson Lakes and the Koo Wee Rup–Longwarry Flood Protection District, reflecting the specific needs of those communities.

In its 2008 Price Determination, the ESC sought the development of a long-term strategy to move away from property-value based charges for these services to a more cost reflective and sustainable charge. A shift away from property-value based charges would be consistent with pricing reforms introduced for the Waterways and Drainage Charge through the 2008 Water Plan period.

Accordingly, in the 2013 Draft Water Plan period, Melbourne Water proposed sustainable and cost reflective price paths for both precepts.

Patterson Lakes

The Patterson Lakes precept charge enables Melbourne Water to provide a broad range of services to manage and maintain the waterways and shoreline features of the precept. These vary between the Tidal Waterways and Quiet Lakes according to the specific needs and unique environments of each.

Despite this, ongoing conversations with the residents of Patterson Lakes, their representative bodies and other stakeholders, has shown that the current situation is not meeting the expectations of any party. Particularly in terms of levels of service, the costs of these services, or from Melbourne Water's perspective, the growing gap between revenue and cost (forecast to grow from $0.3M to $3.3M per annum as jetties are replaced, dredging is carried out and canal embankments are renewed over the next 12 years).

Following feedback from the Patterson Lakes precept area in relation to the draft 2013 Water Plan proposals, Melbourne Water and the community have agreed to an independent review of the Patterson Lakes special precept area, including the appropriate pricing approach.

Reviewers have been drawn from a pool provided by Planning Panels Victoria and will conduct the independent review.

The terms of reference for the independent review were initially drafted by the Patterson Lakes Residents Association and agreed by Melbourne Water. The Reviewers will conduct a public consultation process prior to preparing a report. The objective of the report is to recommend actions to create a sustainable management framework based on a fair and equitable funding model that includes recognition of all beneficiaries of both the Patterson Lakes Tidal Waterways and Quiet Lakes.

The independent review is expected to release its report on 1 March 2013. Melbourne Water will abide by the findings of the independent review and incorporate its recommendations into an addendum to the final 2013 Water Plan for consideration by the ESC.

Koo Wee Rup–Longwarry Flood Protection District

The Koo Wee Rup–Longwarry Flood Protection District property owners are charged a special drainage area price that covers maintenance services undertaken on the extensive network of channels used to drain the area and mitigate flood risks.

After consultation with the Advisory Committee and local community, Melbourne Water is proposing two changes to the Koo Wee Rup–Longwarry Flood Protection District precept rates from 1 July 2013:

- Move from precept rates calculated on the basis of property values to precept rates calculated on the basis of the cost of service over two regulatory periods (i.e. by 2022-23)
- Move from two different precept rates for A and B divisions to one precept rate for all properties in the district. This change will reflect the common services and benefits provided by the infrastructure across the precept.

Under these proposals, prices will move by CPI less a 1% efficiency gain on annual service provision from 2013–14. Maximum price increases associated with the reform to one rate are equivalent to about $10 in 2013–14 and $30 in 2022–23. Prices for other properties will either reduce or remain the same.

Developer Service Scheme charges

Melbourne Water proposes to continue the current pricing principles and methodology for setting developer charges in Development Service Schemes. Under this approach, future capital expenditure is forecast for each year of the expected life of the Development Service Scheme. This is converted into an equivalent present value cost using an appropriate discount rate. The charge is set such that the present value of the income stream is equal to the present value of the expenditures and the cost of administering the schemes. The financial assumptions relating to the schemes are reviewed on an annual basis and the engineering specifications reviewed at least every five years and subject to further review on a risk basis.

Melbourne Water consults with interested parties about Development Service Schemes on an ongoing basis. This includes through the Drainage Scheme Review Group (which includes representatives from the development industry, State Government and local government), exhibiting and forwarding draft scheme proposals to interested parties for comment and advising of the adoption of a scheme and subsequent annual price reviews.

The Stormwater Quality offset charges are also proposed to remain. These provide flexibility for developers in how they meet water quality requirements. The calculation of the charge is also set through pricing principles with the calculation updated to better reflect expected future costs.

Diversion charges

Diversion charges are used to collect revenue from licence holders who hold entitlements to extract water from rivers, streams and dams for a variety of purposes including domestic and stock, agricultural irrigation, stormwater harvesting, power generation and industrial cooling.

Prices are based on the principles of cost recovery and reflect direct expenditures as well as a provision for overheads. This has resulted in a proposed annual price increase of CPI+1.0% for the 2013 Water Plan period.

A minor change to the pricing structure is proposed for the 2013 Water Plan period. Prior to the 2008 Water Plan period, diversion licences incorporated both a 'take and use' water component and a 'works' component. With the creation and use of the statewide Victorian Water Register to record licence information, take and use water licences and works licences are now separated into two licences. Under the current pricing regime, a works licence charge is collected for dam operating licences, which has historically only applied to hazardous-sized dams. Consequently, for the newly-created works licences, there has not been a separate charge over the last two years. For the 2013 Water Plan period, it is proposed to include a new works licence operating

fee on a cost-reflective basis to cover the costs of administering this component of licences.

A review of Diversion related application fees has also been undertaken to reflect both changes in government policy around administering of licences and the requirements of operating under the Victorian Water Register. A number of new application fee categories have been created for licence amendments as well as for the issuing of information statements and copies of licence records now available through the register. These are outlined in Appendix 5.

Consultation continued with the customers following the release of the draft 2013 Water Plan, in particular with the Diversions Management Advisory Committee. The Committee generally understood and supported the pricing plan and the need for Melbourne Water to operate on a cost recovery basis. Further discussions took place in relation to the newly created works licences, where the Committee endorsed the fee for works operating licence - hazardous dam and determined that the fee for general works operating licences should be increased from the draft price proposed to ensure cost reflectivity. As a result of the customer consultation, and the increase in the fee for general works operating licence, the proposed annual price increase for diversion take and use licences has altered from the CPI+1.6% to CPI+1% for the final 2013 Water Plan submission.

Charges for miscellaneous services

Pricing for the miscellaneous services which Melbourne Water provides is set on a cost-recovery basis. These services include provision of:

- Property information statements
- Property flood level information
- Hydraulic data
- Build over of Melbourne Water assets and stormwater connections
- Flood feasibility studies.

For the 2013 Water Plan period these prices were reviewed to ensure they remain cost-reflective. Following this review, it is proposed these prices are increased annually by CPI only.

9.5 ALTERNATIVE WATER SOURCE PRICING PRINCIPLES

Recycled water is currently the only alternative water source Melbourne Water supplies to its customers. Melbourne Water's recycled water prices are regulated by the ESC's pricing principles, which reflects that the market is developing and that supply is not homogenous in either requirements for quality or security of supply. The ESC's current recycled water pricing principles are provided in Figure 9.8.

Figure 9.8: ESC Recycled Water Pricing Principles[20]

Recycled water prices should:

- Consider the price of any substitutes, and customers' willingness to pay. This includes the possibility of the substitutability, in some cases (e.g. sewage disposal), of potable and non-potable water
- Cover the full cost of providing the service, except for services related to specified obligations or maintaining the balance of supply and demand
- Include a variable component.

A business that does not propose to fully recover recycled water costs must demonstrate that:

- It assessed the costs and benefits of pursuing the recycled water project
- It clearly identified the basis to recover any revenue shortfall
- If the revenue shortfall is to be recovered from non-recycled water customers
  - The project is required to meet Government obligations
  - The affected customers were consulted about their willingness to pay for the benefits of increased recycling.

Melbourne Water supports the use of pricing principles to regulate its recycled water prices in the 2013 Water Plan period and is not proposing any changes to the ESC's principles.

Melbourne Water has consulted with its customers with regard to recycled water prices in the 2013 Water Plan period. Consistent with the pricing principles, the starting point to determine a recycled water price is to establish a cost recovery price for bulk supply of recycled water. These prices, as set out in Table 9.11, have been provided to recycled water customers as part of the consultation process. The consultation to date suggests the cost recovery prices will be higher than customer willingness to pay, reflecting:

- That prices for recycled water in the 2009 Water Plan period are not cost reflective as a result of past customer willingness to pay and government policy
- Increased recycled water expenditures and lower recycled water demand in the 2013 Water Plan which has increased the cost recovery prices.

It is also noted that following completion of the tertiary treatment upgrade at the ETP, expected in 2012-13, the plant will achieve Class A standard effluent quality. Some clarification was sought from customers as to whether this will contribute to the proposed prices for recycled water from ETP in the 2013 Water Plan. The principal purpose of the tertiary upgrade was to address obligations with respect to the environmental sewage discharge, and accordingly the costs of construction and operation of the upgrade are recovered via sewerage prices, not recycled water. While Melbourne Water plans to invest in some minor capital works to facilitate reliable and broader distribution of recycled water from ETP ($2.6M, see section 7.3), this will have a minimal impact on the cost recovery price. The primary reason for the significant increase in the recycled water price for supply from ETP is that historical prices have been significantly under-recovering the cost of supply. The proposed 2013 Water Plan

[20] 2013 Water Price Review – Guidance on Water Plans, Essential Services Commission, October 2011

price for recycled water from ETP is consistent with a transition towards full cost recovery in accordance with ESC pricing principles.

Melbourne Water's proposed recycled water prices for the 2013 Water Plan period are included in Table 9.11. These prices are based on indications of customer willingness to pay. The proposed recycled water prices will continue to include a variable component in the 2013 Water Plan period.

Table 9.11: Proposed annual recycled water prices for the 2013 Water Plan period (excluding CPI)

Customer	Water Quality Class	2009 Regulatory Period	2013 Regulatory Period	
		2012–13 Contract Price ($/ML)	Proposed Cost Recovery Price ($/ML)	Proposed Price ($/ML)
South East Water	C/A	7.75	128.77	99.64
Eastern Irrigation Scheme	C/A	76.19	181.70	76.19
Southern Rural Water	A	151.79	578.05	174.56
City West Water	A	395.29	622.30	250.00

As the full cost of supplying recycled water is not being recovered from recycled water users, a revenue shortfall will continue in the 2013 Water Plan period, which is expected to average $8.1M per annum.

Melbourne Water currently recovers the recycled water shortfall through wholesale sewerage prices on a 'polluter pays' basis, in order to send signals about the benefits of improved sewage quality (particularly in terms of salt levels for recycled water).

Melbourne Water is proposing to continue recovering the recycled water revenue shortfall from sewerage customers for the 2013 Water Plan period. This will result in consistent price signals from the 2009 Water Plan period. It also reflects Melbourne Water's current ETP and WTP EPA discharge licences and supports its SoO guiding principle to implement integrated water cycle management.

Melbourne Water, its customers and the Office of Living Victoria are continuing to investigate an evaluation framework, including a beneficiary pays approach which could be applied in the future to recover the recycled water shortfall. Such an approach may better reflect the direct and broader benefits of recycled water projects for sewerage, water and waterways customers (and potentially result in higher prices for those customers to reflect the benefits received). Melbourne Water considers it prudent to move to a beneficiary pays approach once a robust framework is developed and has full industry support. Melbourne Water is committed to working towards this objective for implementation in the 2018 Water Plan period.

Chapter 10

Unregulated services

Melbourne Water undertakes a small number of services that are not regulated by the ESC but which add value to the business. Although the ESC does not regulate these services, it needs to be satisfied they are correctly classified to avoid regulated costs being under or overstated. Melbourne Water manages these services so that costs and revenues are appropriately 'ring-fenced' and do not impact on the cost or quality of prescribed services.

Table 10.1 sets out the major components of unregulated services.

Unregulated revenue in the 2008 and 2009 Water Plan periods was around $72M, this was primarily associated with Melbourne Water's Werribee agricultural operations, hydro electricity generation and rental income received on Melbourne Water properties.

The significant reduction in unregulated revenue for the 2013 Water Plan is the result of two changes:

- The Werribee Agricultural operations have been outsourced, consistent with the implementation of the WTP Land Use Strategy
- It is proposed that the hydro electricity generation and rental income (other unregulated in Table 10.1) be re-classified as regulated.

Melbourne Water considers it appropriate to reclassify these income sources because it is anticipated that under its AGL energy contract, the revenues from the electricity generated by the Cardinia Hydroelectric Power Station will offset regulated water and sewerage energy costs. Further rental income is generated from regulated water, sewerage and drainage assets and is more appropriately classified as regulated.

Unregulated proceeds from disposals are expected to be $59M over the 2013 Water Plan period. Table 10.1 shows that proceeds from disposals are forecast to reflect those associated with the Werribee Fields lands sales and Dandenong Treatment Plant land sales.

The Riverwalk development at Werribee Fields is a joint venture between Melbourne Water and Places Victoria. Melbourne Water's equity is the land and Places Victoria's equity is the development costs and expertise. The financial return to Melbourne Water in excess of the land value is recorded as unregulated income from a regulatory perspective as it is outside the normal course of business. The sale of former Dandenong Treatment Plant land in excess of the remediation expenditure prescribed by the ESC is also treated as unregulated.

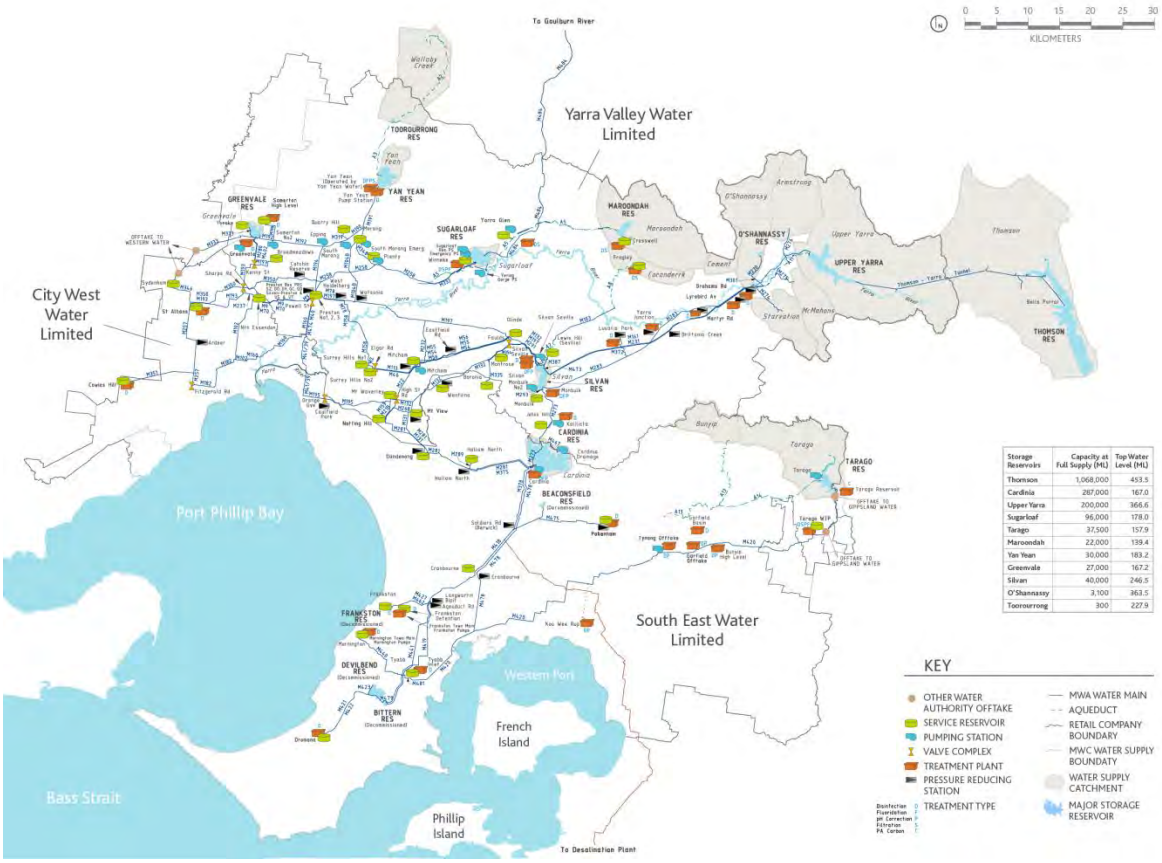
Table 10.1: Annual total unregulated services (real $12–13)

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M
Revenue										
Werribee Agriculture (WAG)	23.14	21.19	7.93	5.03	-	-	-	-	-	-
Cardinia Hydro-electric Power Generation	0.09	0.16	0.25	0.12	0.07	-	-	-	-	-
Other Unregulated	2.53	2.85	3.09	2.79	2.74	-	-	-	-	-
Total	**25.76**	**24.20**	**11.27**	**7.94**	**2.81**	**-**	**-**	**-**	**-**	**-**
Proceeds from disposals										
Werribee Field Land Sales	-	-	-	2.66	5.37	5.37	5.50	5.62	5.83	6.36
Dandenong Treatment Plant	-	-	-	-	-	-	8.66	7.97	8.97	4.95
Total	**-**	**-**	**-**	**2.66**	**5.37**	**5.37**	**14.16**	**13.59**	**14.80**	**11.31**
Operating expenditure										
Werribee Agriculture (WAG)	32.96	28.74	10.86	7.08	0.12	-	-	-	-	-
Cardinia Hydro-electric Power Generation	0.39	0.40	0.31	0.32	0.30	-	-	-	-	-
Werribee Field Land Sales	-	0.00	0.01	0.01	0.06	0.06	0.06	0.06	0.05	0.05
Other Unregulated	1.14	3.17	3.66	4.73	4.05	1.05	1.08	1.09	1.19	1.00
Total	**34.49**	**32.31**	**14.84**	**12.14**	**4.53**	**1.11**	**1.14**	**1.15**	**1.24**	**1.05**
Capital expenditure										
Werribee Agriculture (WAG)	0.32	0.12	0.10	-	-	-	-	-	-	-

Appendices

APPENDIX 1 – SYSTEM MAPS

Figure 1: Water system



Storage Reservoirs	Capacity at Full Supply (ML)	Top Water Level (mAHD)
Thomson	1,068,000	453.5
Cardinia	287,000	167.0
Upper Yarra	200,000	366.6
Sugarloaf	96,000	178.0
Tarago	37,500	157.9
Maroondah	22,000	139.4
Yan Yean	30,000	183.2
Greenvale	27,000	167.2
Silvan	40,000	246.5
O'Shannassy	3,100	363.5
Toorourrong	300	227.9

Figure 2: Sewerage system

Figure 3: Waterways and Drainage systems

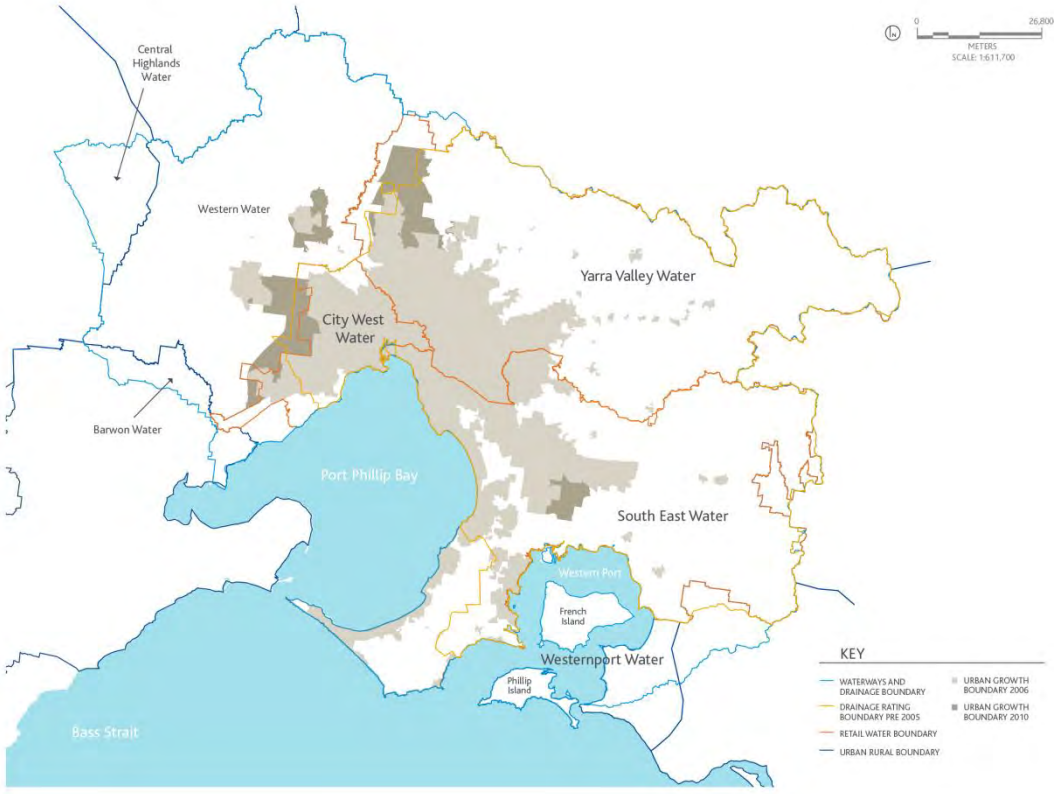


Figure 4: Recycled water system

APPENDIX 2 – 2008 AND 2009 WATER PLAN KEY PERFORMANCE INDICATORS

Key performance indicator	2008–09		2009–10		2010–11		2011–12	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Water								
Production and Storage								
Maintain system losses as a percentage of water supplied to retail water businesses	<1%	0.96%	<1%	1.08%	<1%	1.41%	<1%	1.27%
Water Transfer								
Compliance with retail water businesses' pressure requirements as set out in BWSAs	99.6%	100.0%	99.6%	100.0%	99.6%	100.0%	99.6%	99.9%
Water Quality								
Compliance with BWSA water quality requirements:								
Microbiological standards (E.coli)	100%	98.80%	100%	100%	100%	98.70%	100%	100%
Disinfection by-products	100%	100%	100%	100%	100%	100%	100%	100%
Aesthetic standards for turbidity	≥91.5%	94.50%	≥91.5%	89.30%	≥91.5%	100%	≥91.5%	100%
Aesthetic standards for aluminium	100%	100%	100%	100%	100%	100%	100%	100%
Sewerage								
WTP								
Compliance with EPA Victoria discharge licence requirements	100%	100%	100%	100%	100%	100%	100%	100%
ETP								
Compliance with EPA Victoria discharge licence requirements	100%	100%	100%	100%	100%	100%	100%	100%
Sewerage Transfer								
EPA SEPP compliance for sewerage system spills:								
System failure - zero spills due to sewerage system failure	0	0	0	0	0	0	0	1
Hydraulic deficiency - progressively achieve zero spills due to storm events of a severity of up to 1-in-5 years	0	4	0	4	0	22	0	3
Complaints relating to transfer system odour	10	11	10	20	10	16	10	14
Biosolids								
Maximise sustainable reuse of biosolids:								
ETP – Biosolids reuse of 90,000 cubic metres for construction fill by 2013	0	0	0	1,568	0	12,915	0	0

Key performance indicator	2008–09		2009–10		2010–11		2011–12	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Waterways								
Achieve Waterways Operating Charter performance targets	100%	97.5%	100%	94.9%	100%	100%	100%	97.5%
Drainage and flood protection								
All new development complies with flood protection standards	100%	100%	100%	100%	100%	100%	100%	100%
Currently known intolerable flood risks reduced by 10% by 2013	0	0	0	0	0	0	0	0
Stormwater quality								
Contribute to reducing the waterway nitrogen load to Port Phillip Bay through targeted stormwater action	86 tonnes	69.2 tonnes	100 tonnes	100 tonnes	102 tonnes	102 tonnes	104 tonnes	109 tonnes
Waterways Condition								
Achieve Water Plan implementation targets assigned to Melbourne Water from the Regional River Health Strategy and Addendum	100%	100%	100%	100%	100%	100%	100%	100%
Land development								
Development and redevelopment services schemes prepared, implemented and reviewed according to the development planning program	100%	100%	100%	67%	100%	100%	100%	100%
Statutory and agreed industry response times to be achieved for all development referrals	100%	100%	100%	100%	100%	100%	100%	100%
Stream flow diversions								
Diversions to be managed - to meet the service requirements in Melbourne Water's Customer Charter [Diversion services]	100%	90%	100%	100%	100%	100%	100%	100%
Alternative Sources								
Contribute 19.6% to the Government's target to recycle 20% of Melbourne's wastewater by 2010	19.6%	21.2%	19.6%	19.5%				
Capacity to supply recycled water of specified reliability and quality from ETP and WTP to enable retail water businesses to meet their targets for potable water substitution (volume - ML)	NA	NA	>700	>700	736	1338	830	1404

Key performance indicator	2008–09		2009–10		2010–11		2011–12	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Corporate								
Environmental Stewardship								
Greenhouse								
Renewable energy used or exported as % of total energy used	54%	54%	58%	58%	59%	59%	60%	60%
% reduction on 2000–01 greenhouse gas emissions	40%	53.8%	42%	51.6%	42%	46.5%	42%	50.2%
Relationships								
Complaints referred to EWOV responded to within EWOV established time	NA	NA	100%	100%	100%	100%	100%	97%

APPENDIX 3 – 2013 WATER PLAN KEY PERFORMANCE INDICATORS

Indicator	2011–12 Actual	2012–13 Plan	2013–14 Plan	2014–15 Plan	2015–16 Plan	2016–17 Plan	2017–18 Plan
Service Delivery							
Water							
Production and Storage							
Maintain system losses as a percentage of water supplied to retail water businesses	1.27%	≤1.0%	≤1.0%	≤1.0%	≤1.0%	≤1.0%	≤1.0%
Water Transfer							
Compliance with retail water businesses' pressure requirements as set out in BWSAs	99.9%	99.6%	99.9%	99.9%	99.9%	99.9%	99.9%
Water Quality							
Compliance with BWSA water quality requirements:							
• Microbiological standards (E. coli)	100%	100%	100%	100%	100%	100%	100%
• Disinfection by-products	100%	100%	100%	100%	100%	100%	100%
• Aesthetics (turbidity)	100%	91.5%	91.5%	91.5%	91.5%	91.5%	91.5%
• Aesthetics (aluminium)	100%	100%	100%	100%	100%	100%	100%
Sewerage							
WTP							
Compliance with EPA Victoria discharge licence requirements	100%	100%	100%	100%	100%	100%	100%
• Offensive odours beyond the boundary	0	0					
ETP							
Compliance with EPA Victoria discharge licence requirements	100%	100%	100%	100%	100%	100%	100%
• Offensive odours beyond the boundary	0	0					
Sewerage Transfer							
EPA SEPP compliance for sewerage system spills							
• *System failure* – zero spills due sewerage system failure	1	0	0	0	0	0	0
• zero spills due to storm events of a severity of up to 1-in-5 years	3	0	0	0	0	0	0
Complaints relating to transfer system odour	14	≤10					
Offensive odours caused by sewerage transfer activities (that result in a regulatory action)	n/a	n/a	0	0	0	0	0

Indicator	2011–12 Actual	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Biosolids							
Maximise sustainable reuse of biosolids:							
ETP – Biosolids reuse of 90,000 cubic metres for construction fill by 2013	0	45,000m^3					
WTP – Biosolids reuse	0	0					
Dry Tonnes of biosolids beneficially reused (annually)	n/a	n/a	n/a	n/a	n/a	n/a	28,000m^3
Waterways							
Achieve Waterways Operating Charter performance targets	97.5%	100%	100%	100%	100%	100%	100%
Drainage and Flood Protection							
All new development complies with flood protection standards	100%	100%					
Responses to referred town planning permit applications will comply with flood protection standards	n/a	n/a	100%	100%	100%	100%	100%
Currently known intolerable (extreme) flood risks reduced by 10% by 2013	n/a	100%					
10% of currently known intolerable (extreme) flood risks will be reduced by 2018	n/a	n/a	n/a	n/a	n/a	n/a	Achieved
Stormwater Quality							
Contribute to reducing the waterway nitrogen load to Port Phillip Bay through targeted stormwater action	109 tonnes	106 tonnes					
Achieve Water Plan implementation targets set out in the Waterways Water Quality Strategy and Regional River Health Strategy for water quality programs and works	100%	100%					
Achieve Water Plan implementation targets set out in the Stormwater Strategy	n/a	n/a	100%	100%	100%	100%	100%
Waterways Condition							
Achieve Water Plan implementation targets and regional priorities assigned to Melbourne Water from the Regional River Health Strategy and Addendum	100%	100%					
Achieve Water Plan implementation targets set out in the Healthy Waterways Strategy	n/a	n/a	100%	100%	100%	100%	100%

Indicator	2011–12 Actual	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Land Development							
Statutory and agreed industry response times will be achieved for all development referrals	100%	100%	100%	100%	100%	100%	100%
Streamflow Diversions							
To meet the service requirements in Melbourne Water's Customer Charter (Diversion Services)	100%	100%					
Diversions will be managed in accordance with rules specified in stream flow management plans, local management rules or drought response plans, and to meet the service requirements in Melbourne Water's Customer Charter for Diversion Services	n/a	n/a	100%	100%	100%	100%	100%
Alternative Water Sources							
Recycled water schemes fully comply with regulatory obligations and their contractual requirements, as outlined in the relevant BRWSAs including:							
WTP							
• Volume Demands	n/a	n/a	100%	100%	100%	100%	100%
• Reliability			100%	100%	100%	100%	100%
• Quality			100%	100%	100%	100%	100%
ETP							
• Volume Demands	n/a	n/a	100%	100%	100%	100%	100%
• Reliability			100%	100%	100%	100%	100%
• Quality			100%	100%	100%	100%	100%
Capacity to supply recycled water of specified reliability and quality from ETP and WTP to enable retail water businesses to meet their targets for potable water substitution	1,404 ML	964 ML					
Integrated Water Management							
Achieve the implementation targets set out in the Melbourne Water Integrated Water Management Strategy	n/a	n/a	100%	100%	100%	100%	100%

Indicator	2011–12 Actual	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Corporate							
Environmental Stewardship							
Greenhouse							
Renewable energy used or exported as % of total energy used	60%	61%					
% reduction on 2000–01 greenhouse gas emissions	50.2%	45%					
% of greenhouse gas emissions offset	n/a	n/a	47%	50%	60%	75%	85%
Relationships							
Complaints referred to EWOV responded to within EWOV established time	97.3%	100%	100%	100%	100%	100%	100%
Overall reputation score	63.7%	70%	n/a	72%	n/a	74%	n/a
Maintain at least 70% total community satisfaction with waterways	77%	n/a	70%	n/a	70%	n/a	70%

APPENDIX 4 – MELBOURNE WATER'S TOP 10 CAPITAL EXPENDITURE PROJECTS

Project Name Description (of relevant obligation and the project itself)	Product	Driver	WP3 Real Cumulative	2013/14	2014/15	2015/16	2016/17	2017/18
WTP Treatment Capacity Augmentation Stage 2 Construction of additional Activated Sludge Processing capacity to cater for growth.	Sewerage	Growth	187,454	10,732	23,700	74,567	78,455	-
Allocation - Flood Mitigation This allocation is used to reduce the level of flood risk to as many flood-affected residential, industrial and commercial properties as possible. The allocation target is a 10% reduction of the intolerable flood risks in the 2013 Water Plan period defined by the Flood Risk Assessment Framework.	Waterways	Compliance	105,652	21,131	21,130	21,130	21,130	21,130
St Albans - Werribee Pipeline Stage 2 Construction of a major transfer main to cater for growth in the western suburbs.	Water	Growth	95,978	72,517	23,257	204	-	-
Allocation - ETP Mechanical and Electrical renewals 2013-2018 Delivery of Melbourne Water's mechanical and electrical renewal program at ETP, to ensure that the ETP facilities will continue to meet its required levels of service in an efficient and optimised manner.	Sewerage	Renewals	78,779	17,043	16,469	15,846	15,124	14,297
M040/041(Preston) Water Mains Renewals The M040 and M041 water mains provide water transfer capacity to a large area of inner Melbourne south of Preston. Both mains are mild steel originally laid in the 1920's/30's.	Water	Renewals	46,508	3,891	13,684	20,061	8,548	324
M102 (North Essendon-Footscray) Water Main Renewal The M102 outlet supplies the areas of Footscray, Altona and Werribee, and extends from the North Essendon Reservoir to Williamstown Road in Yarraville. The 14km long mild steel main was built in 1928.	Water	Renewals	54,207	21,013	27,316	5,482	199	196
Allocation - Retarding Basin Spillway Upgrades Maintenance of retarding basins to reduce the risk identified through the Retarding Basin Risk Management and Upgrade Strategy to a tolerable level utilising the ALARP principle in accordance with its regulatory and policy requirements.	Waterways	Compliance	56,423	14,084	10,188	10,720	10,719	10,712
WTP Sludge Drying Augmentation To increase the sludge drying capacity at WTP by 24,000 dry tonnes per annum to ensure Melbourne Water meets its service level obligations to effectively treat sewage.	Sewerage	Compliance	56,141	49,798	5,330	513	500	-
Allocation - Sewerage Transfer Corrosion and Odour Management The Corrosion and Odour Management allocation to allow the effective management of Corrosion and Odour for the transfer network to achieve the following: 1. Nominated asset lives reached; 2. Maximising return on investment; 3. Ensure no offensive odours are discharged from any Melbourne Water site or asset.	Sewerage	Compliance	45,176	13,659	14,496	1,681	13,662	1,679
North Yarra Sewer Main Rehabilitation The key driver for this upgrade is the risk rating of the asset, and particularly a breakdown of the condition rating of the brick section of this sewer, from NYM090 to NYM07.3, An upgrade is required to reduce the risk of asset failure due to deteriorating asset condition.	Sewerage	Renewals	42,025	2,101	4,202	17,861	17,861	-

APPENDIX 5 – MELBOURNE WATER PRICES

WATER AND SEWERAGE PRICES

Tariff and Price Component	Price (1 July 2013) (real $12–13)	PPM Year2	PPM Year3	PPM Year4	PPM Year5
1.1 Storage operator and bulk water service charges - headworks (per month)					
City West Water	4,105,205.3	-0.5%	-0.5%	-0.5%	-0.5%
South East Water	8,037,847.5	-0.5%	-0.5%	-0.5%	-0.5%
Yarra Valley Water	7,484,694.1	-0.5%	-0.5%	-0.5%	-0.5%
Western Water	260,510.0	-0.5%	-0.5%	-0.5%	-0.5%
Gippsland Water	62.2	-0.5%	-0.5%	-0.5%	-0.5%
Storage operator and bulk water service charges - transfer (per month)					
City West Water	399,154.5	-0.5%	-0.5%	-0.5%	-0.5%
South East Water	1,827,003.6	-0.5%	-0.5%	-0.5%	-0.5%
Yarra Valley Water	1,982,603.7	-0.5%	-0.5%	-0.5%	-0.5%
Western Water	27,355.3	-0.5%	-0.5%	-0.5%	-0.5%
Gippsland Water	1,237.3	-0.5%	-0.5%	-0.5%	-0.5%
Storage operator and bulk water service charges - headworks (per ML)					
Barwon Water	$294.5	-0.5%	-0.5%	-0.5%	-0.5%
South Gippsland Water	$294.5	-0.5%	-0.5%	-0.5%	-0.5%
Westernport Water	$294.5	-0.5%	-0.5%	-0.5%	-0.5%
Storage operator and bulk water service charges - transfer (per ML)					
Barwon Water	62.7	-0.5%	-0.5%	-0.5%	-0.5%
1.2 Storage operator and bulk water usage charges - headworks (per ML)					
City West Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
South East Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
Yarra Valley Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
Western Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
Barwon Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
South Gippsland Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
Westernport Water	$1,491.1	-0.5%	-0.5%	-0.5%	-0.5%
Gippsland Water	58.1	-0.5%	-0.5%	-0.5%	-0.5%
Storage operator and bulk water usage charges - transfer (per ML)					
City West Water	260.0	-0.5%	-0.5%	-0.5%	-0.5%
South East Water	177.4	-0.5%	-0.5%	-0.5%	-0.5%
Yarra Valley Water	160.0	-0.5%	-0.5%	-0.5%	-0.5%
Western Water	268.7	-0.5%	-0.5%	-0.5%	-0.5%
Barwon Water	$207.0	-0.5%	-0.5%	-0.5%	-0.5%
1.3 Bulk sewerage service charges (per month)					
City West Water	9,012,263.2	-0.5%	-0.5%	-0.5%	-0.5%
South East Water	11,769,847.8	-0.5%	-0.5%	-0.5%	-0.5%
Yarra Valley Water	12,756,781.9	-0.5%	-0.5%	-0.5%	-0.5%

Tariff and Price Component	Price (1 July 2013) (real $12–13)	PPM Year2	PPM Year3	PPM Year4	PPM Year5
1.4 Bulk sewerage usage charges – Volume (per ML)					
Eastern system	648.5	-0.5%	-0.5%	-0.5%	-0.5%
Western system	371.6	-0.5%	-0.5%	-0.5%	-0.5%
1.5 Bulk sewerage usage charges - Load, Major trade waste (per tonne)					
Biochemical oxygen demand – eastern system	547.5	-	-	-	-
Biochemical oxygen demand – western system	16.0	-	-	-	-
Suspended solids – eastern system	302.6	-	-	-	-
Suspended solids – western system	3.2	-	-	-	-
Total kjeldahl nitrogen – eastern system	1,131.9	-	-	-	-
Total kjeldahl nitrogen – western system	267.4	-	-	-	-
Inorganic total dissolved solids – eastern system	27.4	-	-	-	-
Inorganic total dissolved solids – western system	27.4	-	-	-	-

WATERWAYS AND DRAINAGE PRICES

Tariff and Price Component	Price (1 July 2013) (real $12–13)	PPM (Year 1)	Price (Year 2)	Price (Year 3)	Price (Year 4)
1.1 Waterways and drainage charge – All properties located within the area designated as the Urban Growth Boundary, except those indicated in 1.2					
Residential					
- Minimum fee ($ per annum)	87.32	2.6%	2.6%	2.6%	2.6%
Non-residential					
- Minimum fee ($ per annum)	100.41	2.6%	2.6%	2.6%	2.6%
- Rate in $ NAV (cents per annum)	1.0691	2.6%	2.6%	2.6%	2.6%
1.2 Waterways and drainage charge – All non-residential properties included in the waterway management district as a result of extending Melbourne Water's service area in November 2005 (including all properties within the Shire of Mornington Peninsula), non-residential properties as a result of the extension of the Urban Growth Boundary since 2010 and lifting of farm exemptions except those indicated in 1.3					
Non-residential					
- Minimum fee ($ per annum)	100.41	2.6%	2.6%	2.6%	2.6%
1.3 Waterways charge – All properties located outside the area designated as the Urban Growth Boundary ($ per annum), except those indicated in 1.4					
- Minimum fee ($ per annum)	47.98	2.6%	2.6%	2.6%	2.6%
1.4 Special drainage area charge – All properties in the following parts of the area of the former Dandenong Valley and Western Port Authority as at 5 November 1991, which up to 1997, were subject to a special drainage and river improvement rate					
Koo Wee Rup - Longwarry Flood Protection District	Proposed pricing reform commencing in 2013 and concluding in 2023 will see Divisions A and B replaced with a single cost reflective price. The current rates in the $NAV will be replaced with unique price paths for individual properties to transition to the single cost reflective price. During this period the cost of service will be subject to annual CPI adjustments less one per cent for service efficiency targets.				
Extra Fees at Patterson Lakes - Tidal Waterways properties - Quiet Lakes properties	Fees at Patterson Lakes are subject to independent review.				
1.5 Miscellaneous services					
Property information statements					
- City West Water	5.07	-	-	-	-
- South East Water	5.07	-	-	-	-
- Yarra Valley Water	5.07	-	-	-	-
Provision of flood level information	42.03	-	-	-	-

Tariff and Price Component	Price (1 July 2013) (real $12–13)	PPM (Year 1)	Price (Year 2)	Price (Year 3)	Price (Year 4)
Provision of hydrological data					
Storm frequency analysis for selected storm events	140.53	-	-	-	-
Standard fee: One type of daily data from maximum of two stations	87.40	-	-	-	-
Standard fee: One type of hourly data from a single station	87.40	-	-	-	-
Provision of one type of 6 minute data from a single station for a period of up to 5 years	87.40	-	-	-	-
Other requests (per hour)	140.53	-	-	-	-
Application fee for construction over Melbourne Water easements or underground pipe ($)	182.57	-	-	-	-
Storm water connections/other authorities works ($ per connection)					
Application fee	134.99	-	-	-	-
Inspection fee	371.81	-	-	-	-
Flood feasibility study ($ per half day)					
Flood feasibility study	719.31	-	-	-	-
Non-core miscellaneous services	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
1.6 Diversion charges unregulated waterways					
Licence service fee – All licences ($ per annum)	252.54	1.0%	1.0%	1.0%	1.0%
Plus fee per kilowatt power generation ($)	20.20	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – All months	29.53	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – On–stream winter–fill	14.89	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – Off–stream winter–fill	14.89	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – Licensed farm dam	14.89	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – Non–consumptive	1.92	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – Stormwater	29.53	1.0%	1.0%	1.0%	1.0%
Works Licence – Hazardous Dams ($)	85.85	1.0%	1.0%	1.0%	1.0%
Works Operating Licence - General ($ per annum)	50.73	1.0%	1.0%	1.0%	1.0%
1.7 Diversion charges regulated waterways					
Licence service fee – All licences ($ per annum)	252.54	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – All months	61.77	1.0%	1.0%	1.0%	1.0%
Charge $ per ML – Off-stream winter-fill	14.89	1.0%	1.0%	1.0%	1.0%
1.8 Diversion Application Fees					
Transfer – Sale of Land ($)	282.93	-	-	-	-
Amalgamation, subdivision (existing licences) ($)	370.73	-	-	-	-
Minor Amendment (e.g. add / remove parcel, party or existing entity to existing licence) ($)	107.32	-	-	-	-
Transfer – Downstream Trade ($)	624.39	-	-	-	-
Transfer – Upstream Trade ($)	921.95	-	-	-	-
Transfer – Repeat Trade Application ($)	136.59	-	-	-	-

Tariff and Price Component	Price (1 July 2013) (real $12–13)	PPM (Year 1)	Price (Year 2)	Price (Year 3)	Price (Year 4)
New Licence – Stormwater ($)	926.83	-	-	-	-
New Licence – Non consumptive / Power Generation ($)	624.39	-	-	-	-
Additional Charge Where Irrigation and Drainage Plan required ($)	243.90	-	-	-	-
Works Licence – Amendment (e.g. Pump replacement) ($)	331.71	-	-	-	-
New Works Construction Licence – Dam / Stormwater ($)	707.32	-	-	-	-
New Works Construction Licence – Pump Only ($)	556.10	-	-	-	-
Re-issue – Failure to renew – D&S ($)	160.98	-	-	-	-
Re-issue – Failure to renew (all-licences) ($)	243.90	-	-	-	-
Reissue – Following Revocation ($)	1287.80	-	-	-	-
Copy of Record ($)	48.78	-	-	-	-
D&S Dam Registration ($)	87.80	-	-	-	-
Application to Renew ($)	282.93	-	-	-	-
Land Information Statement ($)	97.56	-	-	-	-