TasWater

# Draft Price and Service Plan 2015-18

August 2014

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# 1 EXECUTIVE SUMMARY

The 2015-18 Price and Service Plan is the second for Tasmania's water and sewerage industry and the first prepared by TasWater.

This draft plan seeks to builds on the progress made in the first Price and Service Plan striking a balance between removing the complexities associated with current pricing arrangements and our infrastructure challenges. It will position TasWater on a path to realise our vision of being:

> *A trusted and respected provider of essential services that is making a positive difference to Tasmania.*

It is our belief that TasWater can play a pivotal role in the future of Tasmania over the next decade and beyond by making a real contribution to the state's economic development in a responsible and sustainable way.

There is no doubt that many of the infrastructure assets we have inherited are ageing and will require a significant investment over the next decade to ensure they meet contemporary health and environmental compliance requirements.

We recognise that this must be balanced against growing concern in the community about the affordability of water and sewerage services, particularly among vulnerable customer groups.

With these competing demands in mind we have set ourselves the following key priorities:

- Improving our safety performance and developing a zero harm culture
- Building a comprehensive 10-year asset management plan that provides the foundation for our ongoing infrastructure investment program
- Transitioning customer charges to target tariff by the end of the 2020 financial year, with the majority of customers at target by the end of the 2018 financial year
- Targeting improvements in water quality and wastewater compliance
- Improving the quality of trade waste influent through management consents and contracts, including implementation of a consistent pricing and compliance regime
- Further improving customer service outcomes and experiences
- Investing in increasing the capability of employees and underpinning fit for purpose business systems
- Delivering targeted distributions to owner councils.

With respect to pricing, TasWater's primary objectives are to achieve a level playing field for all customers by keeping price increases to the minimum necessary for a sustainable business.

TasWater is focused on continuing the transition of customers from the range of different pricing regimes that were in place prior to the reforms to the water and sewerage industry. We want to accelerate the pace of the transition to ensure equity and fairness is achieved as soon as possible, while avoiding price shocks to customers.

This draft plan shows that while we will achieve this goal, in doing so we are also balancing revenue outcomes with the capital investment required to improve the long-term compliance and performance of our assets.

Regulation sets out that all customers are to pay the same price for the same service by no later than 1 July 2020. This plan will get all residential customers to this level playing field by the end of the next regulatory period on 30 June 2018, leaving a small group of commercial, industrial and institutional customers to transition to target by 2020.

The proposed water and sewerage charges for each year of the 2015-18 period, which will see more than 95 per cent of our customers reaching an equitable pricing outcome by the end of the period, are set out in the following table, with further detail provided in Chapter 7.

**Table 1: Proposed target prices ($, nominal)**

| | TasWater Proposed Target Prices | | | Annual Increase |
|---|---|---|---|---|
| | 2015/16 | 2016/17 | 2017/18 | |
| Fixed water service charge per connection (20mm DN) | $293.24 | $310.84 | $329.48 | 6% |
| Variable water charge $/kL (potable supply) | $0.9711 | $0.9954 | $1.0202 | 2.5% |
| Fixed sewerage service charge per connection (One ET^) | $562.68 | $596.44 | $632.24 | 6% |

*Note^: Equivalent Tenement (ET) is the basis for the calculation of target tariffs for customers for sewerage services. It is a measure of the demand that a standard residential allotment will place on infrastructure in terms of water consumption and sewage discharge.*

TasWater's proposed move to state-wide target prices for the next regulatory period will result in shifts from 2014/15 regional target prices. In 2015/16 target fixed water service charges will drop across all regions, while target fixed sewerage service charges will go down for customers in the North West who are at target at the beginning of the period and increase for those in the North and South. These initial shifts, and the absolute target fixed charges, are lower than they would have been had the regional approach been continued.

With respect to the way in which customers will transition to target tariffs, TasWater's proposal is as follows:

- Customers above target fixed pricing at the start of the period will come down by 1/3 of the gap to the 2018 target in each year through the regulatory period.
- Residential customers below fixed service charge targets at the start of the period will see a maximum annual increase to fixed service charges (water and sewerage combined) of no more than $100 in each year, or 10 per cent, whichever is the greater, until both targets are reached.
- Non-residential customers below target will see the combined $100 side constraint increased in proportion to the meter size or number of ETs.
- Customers below target variable rates will see equal yearly increases across the three years of the period so that they arrive at the target rate by 2018.
- Trade waste customers will transition to target by going up or down by 1/3 of the gap to the 2018 target in each year through the regulatory period depending upon whether they are above or below target tariff.

TasWater recognises there are community concerns about cost of living pressures generally and the affordability of water and sewerage services, and remains committed to working with customers through its Hardship Program.

TasWater is required to bring ageing and poorly performing assets up to acceptable standards, and the necessary investment is substantial. The pricing proposal is a critical part of TasWater being able to do this.

Over the period of the next Price and Service Plan we will be investing up to $110 million per year on improving public health outcomes and environmental compliance, and ensuring our existing assets deliver reliable service for future generations. A breakdown of this expenditure is provided in the following table, with further detail provided in section 5.3.

**Table 2: Proposed capital expenditure by key driver**

| Driver | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) | Total ($'000) |
|---|---|---|---|---|
| Compliance | $62,751 | $71,980 | $54,298 | **$189,029** |
| Improvement | $23,780 | $18,488 | $20,856 | **$63,124** |
| Renewal | $18,844 | $16,564 | $19,741 | **$55,149** |
| Growth | $4,625 | $2,967 | $15,106 | **$22,698** |
| **Total** | **$110,000** | **$110,000** | **$110,000** | **$330,000** |

This investment will see 10 of the 26 towns that are currently subject to a Boil Water Alert or Do Not Consume Notice receiving a water supply that complies with TasWater's Drinking Water Quality Management Plan and with the Australian Drinking Water Guideline in this regulatory period.

It will also see critical investment into poorly performing and non-compliant wastewater infrastructure to provide a safer working environment for our people and a lasting benefit to our environment for future generations.

It is recognised that economic conditions in Tasmania have been tough over the past few years, and while there are now some encouraging signs in economic indicators, a relatively flat economic environment is predicted for the coming few years.

In light of this, TasWater is proposing a new methodology for developer charges that involves removing headworks charges for all development that is consistent with its infrastructure growth plans, introducing "out of sequence charges" for developments that require TasWater to bring forward works ahead of schedule and the introduction of "isolated development charges" if development is outside of any growth plan. TasWater considers this approach to be simple, fair, encourages development in line with strategic land use planning and is appropriate for, and will contribute positively to, the Tasmanian community.

TasWater is committed to working closely with trade waste customers to achieve a more equitable and transparent outcome for our entire customer base by building a better understanding of the nature of their trade waste and the costs of treatment.

Tasmania's wastewater treatment systems are built to manage domestic strength waste, so dealing with large industrial loads or waste of significantly varying strengths presents major challenges to our infrastructure. This can result in failures of treatment processes and at times significant odour issues.

Therefore, increasing our understanding of trade waste and the impact on our infrastructure and sharing that understanding with our customers is critical to enable us to deliver better outcomes for the community for the long term.

As discussed above, there are a number of small towns in Tasmania that are currently experiencing either Boil Water Notices or Do Not Consume notices on their water supplies. In some cases an appropriate way forward may be to consider service replacement options, typically with water tanks, where treatment costs and other factors suggest that a full treatment option is not viable.

This plan sets out some concepts based on the framework outlined in the Price and Service Plan Guideline, for further consideration with the relevant regulators on how service replacement scenarios may be addressed in the future. TasWater has had the benefit of learning from the Pioneer and Mountain River projects commenced by the former corporations.

More detailed information on each of these issues is detailed throughout this draft plan consistent with the requirements of the Price and Service Plan Guideline.

# 2 INTRODUCTION

## 2.1 About TasWater

TasWater commenced operations on 1 July 2013 as Tasmania's state-wide provider of water and sewerage services through the merger of the three regional corporations – Ben Lomond Water, Southern Water and Cradle Mountain Water and their common service provider Onstream.

TasWater provides two essential services in Tasmania:

- the sourcing, treatment and delivery of reliable, quality drinking water to our customers; and
- the collection, transportation, treatment and safe return of the wastewater to the environment.

TasWater employs 835 people and manages in excess of $2 billion[1] in assets to provide drinking water and remove wastewater for return to the environment for the majority of Tasmania's 500,000 residents.

In meeting the needs of our customers TasWater covers an area approximately 68,000km$^2$ and manages a network of 6,380km of water mains to provide water to over 200,000 water connections. In providing drinking water we manage 60 water treatment plants and dosing stations.

To transport wastewater from over 178,000 sewerage connections, we manage a network of 4,288km of gravity mains, 380km of rising mains and 728 sewer pump stations. We manage 33 level 1 and 79 level 2 sewerage treatment plants to process this wastewater.

## 2.2 TasWater's Strategic Direction

**A future built on trust and respect**

Our vision is to be 'a trusted and respected provider of essential services that is making a positive difference to Tasmania.'

In establishing our vision for the corporation we consulted widely with our customers and other key stakeholders to ensure we had a clear understanding of the expectations of the business.

Our vision reflects the strong desire of TasWater to focus on what really matters for our customers, regulators, owners and the general community who are dependent on us for essential services.

We see considerable opportunity to make a positive difference for Tasmania by aligning our decision making with the economic interests of the state, delivering fit-for-purpose solutions and great customer service.

**Realising the vision**

In developing our strategic plan we considered the factors that deliver value for our customers and other key stakeholders (our value drivers) and have aligned our strategic objectives against these to ensure that everything we do benefits our customers, our people, regulators, owners and the general community.

The delivery of our vision requires that we take an informed and pragmatic view of the current challenges facing the community and the industry today to establish the priorities for the coming years.

The need to deliver infrastructure that complies with contemporary health and environmental compliance requirements, and address ageing assets in need of investment, and balance these needs against community affordability concerns were key considerations in defining the vision

[1] Accounting fair value

for all decisions we make as an essential service provider. These considerations also shape our strategic direction, as reflected within the content of this document.

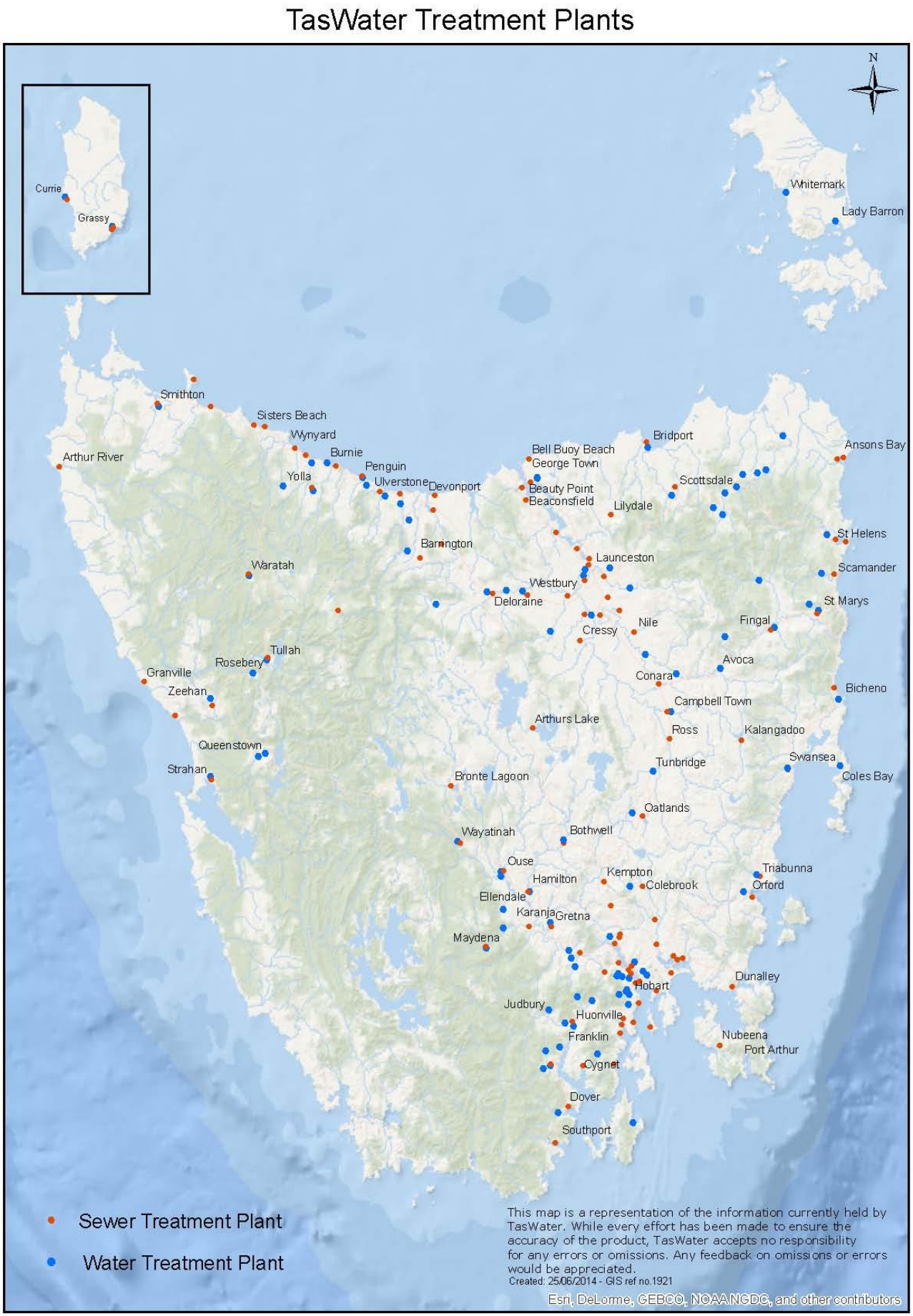
**Figure 1: TasWater Strategic Framework**

| | | | | | |
|---|---|---|---|---|---|
| Vision | A trusted and respected provider of essential services that is making a positive difference to Tasmania | | | | |
| Core Business | • The sourcing, treatment and delivery of reliable, quality water to our customers<br>• The collection, transportation, treatment and safe return of wastewater to the environment | | | | |
| Value Drivers | Customer & Community Value | People & Culture | Quality of Product & Service | Business Systems & Processes | Financial & Commercial Performance |
| Strategic Themes | *"Customer focussed and part of the community"* | *"One TasWater"* | *"Long term asset managers"* | *"Fit-for-purpose and enabling"* | *"Financially Sustainable"* |
| Strategic Objectives | Be a trusted & respected provider of essential services | Develop capable, empowered & accountable people committed to zero harm | Provide products & services that deliver positive outcomes for Tasmania | Build fit-for-purpose consistent systems that enable 'best for business' outcomes | To deliver sustainable financial outcomes that enhance the state's economic prosperity |
| Key Measures | Customer & community perceptions of TasWater | Safety performance & positive culture | Environment, public health and service delivery performance | Operational effectiveness | Performance against key financial objectives |

## 2.3 Geographic area

In meeting the needs of our customers we cover an area approximately 68,000km$^2$ and manage a network of 6,380km of water mains to provide water to over 200,000 water connections. To transport wastewater from over 178,000 sewerage connections, we manage a network of 4,288km of gravity mains, 380km of rising mains and 728 sewer pump stations.

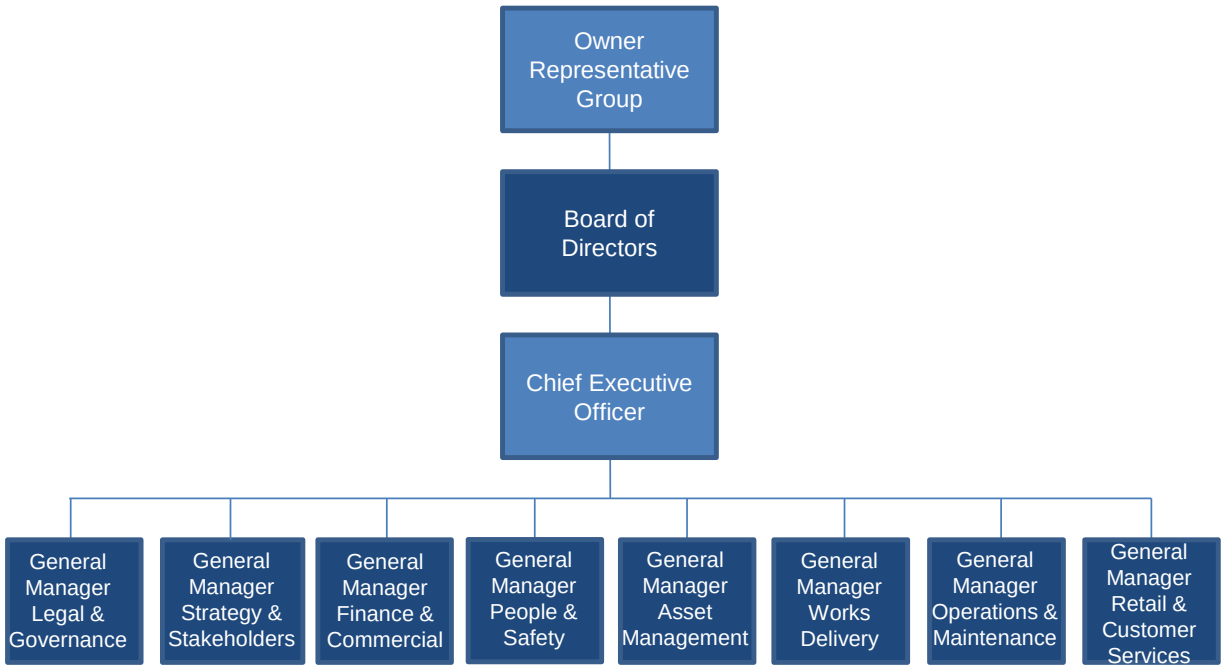
**Figure 2: TasWater Water and Sewerage Treatment Plants**



## 2.4 Corporate governance

TasWater commenced operating on 1 July 2013 following the merger of the three former regional water and sewerage corporations and the common services corporation and is owned by Tasmania's 29 local government councils. The councils are represented by an Owners Representative Group (ORG). The TasWater Board, which comprises the Chair and six directors, reports to the ORG as the body representing the owner councils.

**Figure 3: Organisational Governance Hierarchy**




TasWater is governed by a significant number of legal instruments, including:

- *Corporations Act 2001*
- *Water and Sewerage Corporation Act 2012*
- *Water and Sewerage Industry Act 2008* (WISA) and associated regulations
- *Environmental Management and Pollution Control Act 1994* (EMPCA)
- *Public Health Act 1997*
- *Land Use Planning Approvals Act 1993*
- Shareholders Letter of Expectations
- its Constitution

The WISA sets out the economic regulatory framework that applies to the provision of water and sewerage services in Tasmania. TasWater must comply and operate consistently within the requirements of this Act.

In providing water and sewerage services to customers TasWater must also comply with other instruments including the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011,* the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009*, and a number of Guidelines and Codes (including those regarding Price and Service Plans and Customer Service Standards) issued by the Economic Regulator.

## 2.5 Key business activities

### 2.5.1 Water supply systems

TasWater has 76 water supply systems servicing over 200,000 water connections. These systems range from large systems with over 80,000 connections to small systems with fewer than 40 connections. These small systems are usually associated with small towns and rural communities and often suffer from poor water quality.

In providing drinking water TasWater manages 60 water treatment plants and dosing stations together with a network of 6,380km of water mains.

### 2.5.2 Sewerage systems

TasWater operates 112 sewage treatment plants of which 79 are classified as Level 2 plants and are regulated by the Environmental Protection Authority and 33 are Level 1 plants regulated by councils.

Networks of sewer and pump stations transfer the sewage from customers to the sewage treatment plants. These systems service over 187,000 customers to treat sewage and discharge to waterways or to agricultural reuse schemes. The treatment processes vary and many plants are ageing and the majority do not comply with modern environmental standards. Projects to improve performance are outlined in TasWater's Wastewater Management Plan, which is discussed in further detail in sections 4.2.1 and 5.3.

### 2.5.3 Unregulated services (irrigation/reuse/biosolids)

TasWater also supplies over 4,000ML per annum of water recycled from treated effluent to 38 irrigation schemes. This diverts effluent from waterways and provides valuable nutrients and high reliability water for farmers. In addition TasWater sends the majority of all generated biosolids to land spreading, which improves soil fertility and structure.

These activities demonstrate TasWater's commitment to sustainable resource recovery but are not subject to economic regulation as for normal water and sewerage services. TasWater's approach to unregulated services is underpinned by the principle of full cost recovery from the beneficiaries of the service, thereby ensuring there is no cross-subsidisation from regulated customers.

It should be noted that TasWater considers reuse on a case by case basis when developing possible solutions for addressing non-compliant systems or treatment plants. This consideration is based on the premise of identifying the least cost solution for customers.

## 2.6 Context of submission

The 2012-15 period has been the first under which an economic regulatory framework, similar to that utilised in the electricity sector, has applied to the Tasmanian water and sewerage industry.

Prices have been in transition since 2009; however, the vast majority of TasWater's customers will still not have reached target tariffs by the end of the first regulatory period in June 2015. Many customers receiving a water service will be above target at the end of the period and many customers receiving sewerage service will be below target.

As reported in the State of the Industry Report[2], significant public health and environmental issues, which were a significant driver of the reforms to the industry and have also been a significant contributor to price increases over recent years, also remain largely as a result of ageing and non-compliant infrastructure.

At the end of 2013/14, 23 permanent boil water alerts remained in place across the State and three towns were subject to Do Not Consume notices issued by the Director of Public Health due to elevated metals identified through testing programs.

[2] Office of the Tasmanian Economic Regulator, Tasmanian Water and Sewerage State of the Industry Report 2012/13, March 2014.

Environmental compliance is still unsatisfactory with a high number of the State's 110 wastewater treatment plants operating outside acceptable performance levels.

On key metrics such as bursts, breaks and chokes, our infrastructure performance is well below national benchmarks.

With the merging of the former regional corporations on 1 July 2013, TasWater is now able to take a state-wide view to the delivery of water and sewerage services across Tasmania.

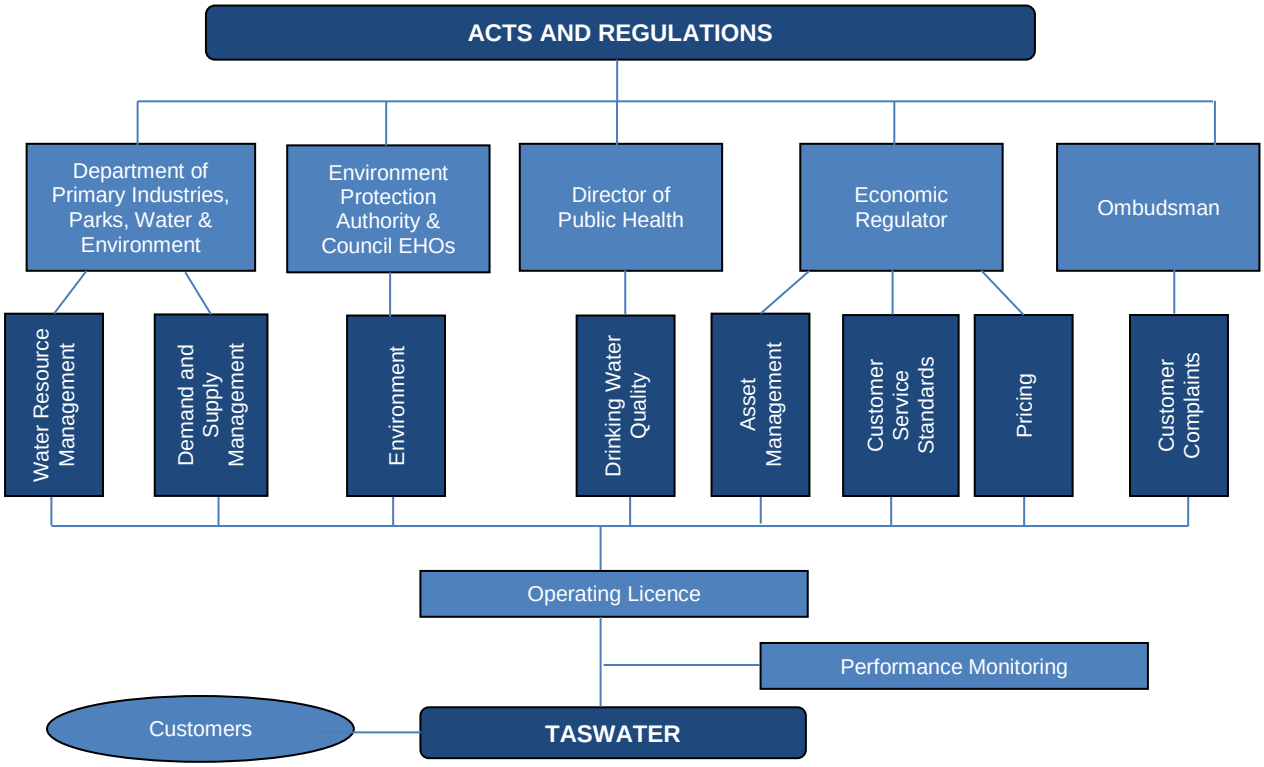
Having a single state-wide business means that, over time, TasWater can:

- build greater operational efficiency and effectiveness
- develop and implement long term, state-wide asset plans
- strive for consistency in customer service outcomes and experiences
- achieve greater integration of administrative systems
- develop a broader base of employee skills and experience
- take advantage of a stronger and more stable financial base to manage debt and deal with a significant capital expenditure program
- importantly, secure better services for customers and achieve health and environmental standards sooner.

TasWater's ability to deliver better services for customers and improved infrastructure that meets contemporary health and environmental compliance requirements is dependent upon the revenue it collects each year, and therefore, the prices that customers pay for the water and sewerage services they receive.

### 2.6.1 Regulatory framework overview

An illustrative overview of the regulatory framework applying to TasWater is set out in the following diagram.




The Water and Sewerage Industry Act provides a regulatory framework covering the provision of water and sewerage services and is similar to utility regulatory frameworks in place in other jurisdictions.

The Regulators are:

- Tasmanian Economic Regulator
- Director of Public Health
- Director, Environmental Protection Authority
- Council Environmental Health Officers
- Department of Primary Industries, Parks Water and Environment
- Ombudsman

**Tasmanian Economic Regulator**

The Economic Regulator's primary functions under the Industry Act are to:

- administer the licensing of the water and sewerage corporations
- monitor and report to the Minister on compliance with licence conditions and obligations
- establish and administer the Customer Service Code
- regulate prices, terms and conditions for regulated services
- monitor and report on the performance of the water and sewerage industry
- undertake inquiries in relation to the regulation of the water and sewerage industry.

**Director of Public Health**

The functions of the Director of Public Health, as administered by the Department of Health and Human Services in relation to the provision of drinking water services, are to:

- protect public health with respect to the supply of drinking water and to develop and implement strategies to promote and improve public health
- establish drinking water quality performance standards
- monitor performance against standards and the Public Health Act 1997 (and its associated Tasmanian Drinking Water Quality Guidelines 2005), Fluoridation Act 1968, Fluoridation Regulations 1999 and Australian Drinking Water Guidelines 2004
- report on and enforce compliance.

**Director, Environment Protection Authority**

The functions of the Tasmanian Environment Protection Authority (EPA) in relation to the water and sewerage sector include the assessment and regulation of significant wastewater treatment plants. These are defined as Level 2 wastewater treatment plants, being plants with a capacity of at least 100kL of an average dry-weather flow per day of sewage or wastewater. The EPA's responsibilities in relation to these plants include:

- undertaking environmental impact assessments in relation to proposals for new plants or significant changes to existing plants
- developing legally binding environmental conditions for approved plants, which are included as part of the planning permit or as a stand-alone environment protection notice
- ensuring compliance with environmental conditions, largely through collection and evaluation of data on specified discharge limits and the impacts on the receiving environment.

**Council Environmental Health Officers**

Councils are responsible for regulating smaller Level 1 WWTPs as well as on-site treatment systems including septic tanks and the sewerage reticulation network. This is managed through Councils' Environmental Health Officers.

**Department of Primary Industries, Parks, Water and the Environment**

The Urban Water Policy Unit in the Department of Primary Industries, Parks, Water and the Environment was established to develop and coordinate policies relating to the regulation of the water and sewerage industry and to support the Minister in fulfilling functions required under the Industry Act. The Minister's responsibilities under that Act include:

- making declarations regarding what is not a regulated service
- granting interim exemptions from the requirement to be licensed
- setting penalties and annual licence fees
- issuing emergency directions in order to deal with serious risks to public health or safety, or to deal with the likelihood of environmental harm arising from the provision of a regulated activity
- declaring a regulated entity to be the "reserve supplier" for a particular area of operation
- directing the Regulator to conduct inquiries, review codes and report on matters for which the Minister requires a report.

The Water Resources Division within the Department plays an important water management, planning and regulatory role for the State's water resources, including the administration and enforcement of the Water Management Act.

The functions of the Division, with regard to the water and sewerage sector, include the assessment, regulation and enforcement of water allocation licensing and dam permits to ensure the sustainable and equitable use of Tasmania's water resources.

**Ombudsman**

Under the new regulatory framework, a customer who is not satisfied with the outcome of his or her complaint under the regulated entity's customer complaints process may make a complaint about that outcome to the Ombudsman under the *Ombudsman Act 1978.*

Under section 77 of the Industry Act, it is a condition of a regulated entity's licence, under which a regulated entity provides regulated services to customers, that the regulated entity comply with any recommendations made by the Ombudsman relating to a complaint involving the regulated entity and a customer.

### 2.6.2 Key assumptions

The following table sets out the key assumptions that TasWater has used to develop the proposed revenue and prices for the 2015-18 period.

**Table 3: Key assumptions**

| Parameter | Assumption |
|---|---|
| Proposed existing assets $WACC_{real}$ | 2.75% |
| Proposed new assets $WACC_{real}$ | 5.37% |
| Expected average water usage for 20mm connection (kL) | 200 kL |
| Number of equivalent 20mm water connections | 255,646 |
| Number of sewerage connections with 1 Equivalent Tenement | 237,907 |
| Water and sewerage connection growth (%) | 0.5% |
| Capital expenditure per annum | $110 million |
| Opex indexation | 2.5% |
| Labour increase | 3.0% |
| Maximum debt to equity | 40% |
| Interest rate borrowings | 6.0% |
| Government Guarantee Fee | 1.0% |

### 2.6.3 Shareholder expectations

Under the Water and Sewerage Corporation Act there is a requirement for TasWater's Shareholders to provide to the Corporation a Letter of Expectation.

The Shareholders' Letter of Expectation identifies the strategic priorities they have of the Corporation and the high level expectations of the performance of the Corporation. The TasWater Corporate Plan is framed in the context of the Shareholders' Letter of Expectation.

The current Shareholders' Letter of Expectation commenced on 1 July 2013 and will continue to operate until such time as it is revoked and replaced. A copy is available on TasWater's website at www.taswater.com.au.

### 2.6.4 Key themes/intentions

In developing the proposed approach to the pricing and delivery of services for the three year period from 1 July 2015, TasWater has considered the need to balance the following outcomes:

- Managing the impacts of increases for customers currently paying below target pricing
- The expectations of those customers currently paying over target pricing
- Continuing the path of public health and environmental compliance improvement
- Meeting owner expectations as set out in the Shareholders' Letter of Expectations, particularly with respect to facilitating economic development
- Ensuring TasWater maintains an appropriate financial position so that it can meet its obligations and deliver the agreed standards of customer service.

In line with our vision of 'a trusted and respected provider of essential services that is making a positive difference for Tasmania', TasWater's focus for the 2015-18 period is on achieving a level playing field and therefore equity and fairness for all customers, and delivering better services and outcomes for all Tasmanians for the long term.

TasWater is aware of continuing community concerns about cost of living pressures including the affordability of water and sewerage services.

TasWater also understands that many of its stakeholder groups see current pricing transition arrangements as taking too long and being inherently unfair.

We acknowledge that the split between fixed and variable pricing remains contentious and it is our intention to undertake further review when more data and evidence is available.

# 3 CUSTOMER CONSULTATION

TasWater is committed to developing a price and service plan that takes into consideration community and customer expectations. To facilitate this TasWater has sought feedback from customers, the community and other stakeholders.

This section sets out the consultation methods TasWater has undertaken in developing this draft Price and Service Plan. It also specifies the issues consulted on and whether those issues are reflected in this plan.

TasWater used three main forms of consultation to inform the development of this draft plan: targeted market research with customers and stakeholders, direct engagement with key stakeholders (including regulators, owners, and business, industry and community groups), and a request for written feedback in response to a paper summarising TasWater's draft 2015-18 Price and Service Plan.

Concurrent with the release of the summary paper, TasWater launched an online community engagement portal via which customers and stakeholders were able to provide their feedback on the matters raised in the paper. TasWater will continue to use this portal as one method of engaging with the community on key projects and issues.

TasWater considers that the consultation undertaken has been informative with respect to the development of the 2015-18 Price and Service Plan. Further, TasWater is of the view that it has met the expectations of the Economic Regulator and the requirements of the Price and Service Plan Guideline.

## 3.1 General consultation on draft submission

On 30 May 2014 TasWater released a draft summary of the 2015-18 Price and Service Plan for consultation. The summary outlined TasWater's view on the key issues for the regulatory period and the proposed approach to pricing and the delivery of services during those three years. The Paper set out the impact of the proposed pricing transition on different customer groups, summarised the proposed capital expenditure program and the expected outcomes, and presented key policies for the second regulatory period.

Consultation was open for a period of four weeks and TasWater specifically sought feedback on the following key matters:

- the proposed approach to prices and transitioning customers to uniform, state-wide target prices by 2018
- the level of proposed capital expenditure for the period, particularly in the context of needing to address significant non-compliance issues
- the proposed approach to developing differentiated service standards for the 2015-18 Price and Service Plan
- the proposed approach to calculating and applying headworks charges for the second regulatory period
- the proposed approach to identifying and classifying its serviced land area, in particular the way in which water and sewerage services are defined for the purpose of identifying serviced land
- the intention to continue levying service charges on properties, and the way it is contemplating approaching this for the second regulatory period

- the proposed high-level framework for addressing public health or environmental issues with drinking water systems across the state, in particular, the criteria to be assessed before determining that service replacement options should be considered
- the proposed approach to categorising trade waste customers, in particular the splitting of Category 2 into sub-categories according to their risk to the sewerage system
- the proposed approach to assisting customers, particularly those experiencing financial hardship.

TasWater received 42 submissions in response to the summary of the draft plan, with the majority being from individuals. The submissions covered a range of issues, some of which related to the matters listed above and some of which related to matters of government policy or specific customer account issues. A summary of the key issues raised was made available in early August on TasWater's website at www.taswater.com.au.

The submissions received in response to the summary of the draft plan are informative and an important part of the development of the final draft Price and Service Plan for 2015-18. TasWater is of the view that further investigation is needed in a number of areas and that submissions received for this plan will be valuable for the development of future price and service plans.

More specifically, TasWater is of the view that the weighting of fixed and variable charges and the methodology for calculating sewerage charges warrant further investigation and consideration particularly once the majority of customers are on a level playing field with respect to pricing. These issues are discussed in further detail in Chapter 7.

### 3.1.1 Feedback related directly to the Price and Service Plan

The feedback received in response to the summary of the draft plan most commonly related to a discrete set of pricing issues that are of interest and/or concern to customers and stakeholders.

These issues include:

**TasWater's ability to levy service charges on vacant land/unconnected properties and the current and proposed level of those charges**

Of the submissions received, 10 discussed this issue and the responses shared a common view that the charges should either be wholly removed or discounted, with customers able to opt out from receiving a reticulated supply as is the case with other utilities such as gas, copper, landline, electricity.

**Pricing inequity and the period of time over which TasWater is proposing to address the unfair pricing arrangements that currently exist**

Seven submissions discussed the inequity associated with current pricing arrangements and that those customers paying well above the target price should have their charges reduced to target immediately.

More than one submission expressed support for the proposal to transition 95 per cent of customers to the same price by 2018. Another specifically suggested that the transition should not be accelerated as proposed by TasWater; rather, it should align with the legislated deadline of 2020.

**The weighting of fixed and variable water charges**

Concern was expressed in eight submissions that there is too much emphasis on fixed service charges and that the fixed/variable split should be more heavily weighted to variable charges. A common reason supporting this position in submissions was about incentivising and encouraging water conservation.

Specific feedback was not provided regarding what the split/weighting should be, with the exception of a small number of submissions which suggested that fixed charges should be

removed completely. As discussed in section 3.3 below, a range of views were expressed through the targeted consultation undertaken.

**The level of target prices/increases in the context of affordability and cost of living generally**

Eleven submissions expressed concern about the proposed level of increases and suggested that the rate of increase should be capped at CPI (or 2 per cent in one instance). Multiple submissions commented on the rate of increase relative to pension levels and increases, and there was also reference to public sector and minimum wage rises.

Further detail on these matters, including TasWater's responses, is set out in Chapter 7 of this plan.

A number of other specific issues were also raised, including:

- for trade waste
    - the current approach does not take account of the actual waste discharged by a business
    - TasWater should work towards developing clear acceptance criteria and pre-treatment requirements for each of its sewerage networks
    - the categorisation and pricing methodology should provide a price incentive for businesses to reduce water consumption and reduce the volume and alter the type of waste released into sewerage systems
- there should be flexibility in pricing arrangements for users who experience below acceptable supply and service from TasWater
- the level of detail available on the proposed capital expenditure program and, separately, its focus being on existing infrastructure rather than what services are not provided by TasWater
- the need for TasWater to explore cheaper alternatives to centralised treatment plants to provide services
- the quality of water supplied at Judbury and the approach to supplying rural customers
- the extension of sewerage services to Gravelly Beach and Swan Point
- the proposed approach to developer charges (only a small number of submissions addressed this matter and, while most were supportive, one was of the view that it is not the best way for TasWater to contribute to stimulating business growth)
- the Equivalent Tenement methodology for calculating sewerage charges being unfair for people in nursing homes, multiple units on one title with a single connection and independent single people living in units.

In responding to the summary of the draft plan a number of customers also raised specific issues relating to their own account/s. These matters have been addressed directly with the customer and have therefore not been discussed further in this plan.

### 3.1.2 Feedback outside the scope of the Price and Service Plan

A number of submissions also raised issues that are outside TasWater's jurisdiction and matters of government policy. For example, TasCOSS and a number of individuals raised concerns about the level of pensions and water and sewerage concessions, both of which are funded by government at the Federal and State level respectively, relative to the proposed target prices. Concerns regarding the billing arrangements for, and lack of protection provided to, tenants were also raised in response to the draft summary.

TasWater is working with TasCOSS to convene a vulnerable customer group as an appropriate forum through which such matters could be discussed and progressed.

## 3.2 Targeted customer and stakeholder consultation

### 3.2.1 Market research

In early 2014 to inform the Price and Service Plan process TasWater undertook targeted market research (with the assistance of a specialist consultant) with customers and stakeholders.

This involved three focus groups (one in each region of the state) and a series of 300 phone surveys for residential customers and 15 one-on-one surveys with key stakeholders including major business customers, community stakeholders and council authorities. The research covered the following topics:

- service standards
- price reforms (including tariff increases, side constraints, postage stamp pricing, headworks charges, distributions to owners, Equivalent Tenement calculations, vacant land charges, weighting of fixed and variable water charges, level of fire service charging, and trade waste)
- proposals to improve product quality (ie priorities for capital spending).

### 3.2.2 Key stakeholder consultation

TasWater has had numerous discussions with industry regulators to understand their expectations and priorities. As discussed further in Chapter 4, this has been used to inform the development of various management plans as well as this Price and Service Plan.

Regular meetings are held with owner councils as a group, on a regional basis and individually. This ensures there is an open and ongoing discussion with shareholders regarding their expectations and the operations and activities of TasWater.

In addition, a number of meetings have been held with key stakeholders, including government ministers (and/or their representatives), and community, business and industry representative organisations. These include TasCOSS, TCCI, Property Council, Housing Industry Association, and Tasmanian Hospitality Association, among others. Feedback from these discussions has also informed the development of this draft Price and Service Plan.

TasWater aims to have ongoing dialogue with its key stakeholders to ensure there are 'no surprises' with respect to what the business is doing and the views of and key issues for our stakeholders.

## 3.3 Key issues from targeted consultation and customer surveys

This section sets out the key findings of the targeted consultation undertaken with residential customers and key stakeholders.

**Capital works**

There was reasonable support for the overall amount TasWater is spending on infrastructure upgrades, despite 18 per cent of customers surveyed state-wide being able to nominate one specific TasWater capital project.

When excluding those who answered 'Don't Know', 60 per cent of customers surveyed in the South, 59 per cent in the North and 39 per cent in the North West said TasWater's current capital works spending was 'About Right'. This result was reflected in comments from focus groups and stakeholder/major customer interviews.

**Spending priorities**

Public health, service reliability and minimising costs were determined by the majority of respondents as important factors for consideration by TasWater when planning capital works. Respondents, particularly in the North West, were more indifferent to 'environmental considerations'.

**Weighting of fixed and variable water charges**

Residential customers, major customers and stakeholders in each region have a strong awareness that the fixed charges make up a higher proportion of their bills than variable charges.

The strongest finding in the research, reflected by all three segments, was a preference for variable charges to make up a much higher proportion of the overall bills. Southern customers wanted a 50/50 split of fixed and variable, Northern customers nominated 60/40 split of variable and fixed as their preferred allocation, and North West 51/49 variable and fixed.

Major customers also strongly supported a higher proportion of variable charges.

**Postage stamp pricing**

There was support across all regions for a single state-wide target price for each service.

The strongest response was in the South at 70 per cent, but there was also support in the North (56 per cent) and the North West (57 per cent).

Around a quarter of respondents favoured a local price based around the supply system for each area, and this concept was also supported by a number of major customers.

**Moving to target tariff**

Support for different methods for transitioning to target tariffs was not consistent. The most strongly supported method was a transition over three to five years with a maximum annual increase of $50 per service per year for those below target, and an immediate drop to the target price for those currently above target.

Notably, there was almost no support for ‘no increase’ for those below target tariff, indicating an acceptance that equalising charges for all customers was an appropriate course of action.

**Annual tariff increases**

Among residential customers there was little support for annual increases to service charge target tariffs remaining at 6 per cent per annum. Of residential customers 36 per cent preferred a 1-2 per cent increase and 21 per cent preferred a 3-4 per cent annual increase.

Among major customers and key stakeholders there was some support for annual increases remaining at 6 per cent to fund infrastructure improvements.

# 4 SERVICE OBLIGATIONS

## 4.1 Introduction and overview

TasWater operates in a highly regulated environment. As a monopoly service provider the prices charged are overseen by the Tasmanian Economic Regulator. Further the inherent public health, environmental and safety risks involved in providing water and sewerage services means the technical provision of services is also highly regulated.

The key regulatory bodies that TasWater must respond to are:

- Tasmanian Economic Regulator – prices, customer service and asset management
- Director of Public Health – drinking water quality and fluoridation
- Director, Environment Protection Authority – level 2 wastewater treatment plant compliance and major sewage spills
- Department of Primary Industries, Parks, Water and Environment – water licence allocations and dam safety
- Water and Sewerage Ombudsman – customer complaints

## 4.2 Industry regulatory obligations

### 4.2.1 Public health

TasWater is responsible for the operation and management of 76 water supply systems across the state in accordance with the following legislative instruments:

- *Public Health Act 1997*
- Tasmanian Drinking Water Quality Guidelines 2005
- Australian Drinking Water Guidelines 2013
- *Fluoridation Act 1968*
- *Fluoridation Regulations 1999*

TasWater is regulated by the Department of Health and Human Services (DHHS) and the Director of Public Health who has wide ranging powers to ensure water quality is maintained and improved.

Under section 11 of the Tasmanian Drinking Water Guidelines (TDWG), TasWater is required to develop and implement a Drinking Water Quality Management Plan (DWQMP) which must contain information as specified by the DHHS and be endorsed by the Chief Executive Officer of TasWater. The plan must be reviewed and updated on an annual basis unless otherwise directed by the Director of Public Health. All changes to the plan are to be noted in a document amendment history.

In addition to the requirement for a DWQMP, the Public Health Act states that TasWater must manage water in a manner that does not pose a threat to public health, and is required to provide potable water that complies with the health guideline values contained within the ADWG 2013. A new version of the TDWG which will require the DWQMP to be independently audited by an accredited auditor will be issued in 2014.

TasWater is currently developing a new DWQMP, with a draft to be delivered by December 2014 to meet the current and emerging regulatory requirements.

The TDWG strongly align with the best practice management principles outlined in the ADWG. The ADWG are an evolving set of guidelines, undergoing rolling review on a four yearly basis.

TasWater will continue to engage with DHHS in the application of the ADWG in the Tasmanian context as the national and state guidelines are updated and reviewed.

In February 2013 the Director of Public Health provided TasWater a priority list of towns and systems that required urgent attention. These systems feature heavily in TasWater's improvement plans, in the new DWQMP and the proposed capital works program detailed in section 5.3 of this plan.

The Director also provided six overarching priority actions in order to guide TasWater's activities and to improve drinking water quality. These actions include:

- Investigation into solutions for the upgrade or replacement of services in all towns operating on Permanent Boil Water Alerts
- Compliance with the Fluoridation Code of Practice and improved operational performance
- Completion of the reservoir roofing program
- Improved Disinfection residual program
- Identification and implementation of solutions to address disinfection by-product formation in non-compliant water supplies
- Implementation of auditing program for Drinking Water Quality Management Plans against the Tasmanian Drinking Water guidelines 2014.

In March 2014, there were 23 systems in Tasmania subject to a Boil Water Alert and three systems subject to a Do Not Consume Public Health Notice. These 26 systems supply less than 2 per cent of TasWater's customers. Nevertheless, TasWater has a key focus on reducing the number of towns with poor water quality through a range of projects and investigations.

Projects, investigations and programs to address these overarching priorities and the specific towns and systems highlighted by the Director will all be addressed in the forthcoming DWQMP, which aligns with the proposed capital works program for 2015-18.

### 4.2.2 Environmental

In relation to environmental obligations, TasWater is regulated by the Environmental Protection Authority (EPA) in accordance with the following legislative instruments:

- *Water and Sewerage Corporations Act 2012*
- *Water and Sewerage Industry Act 2008*
- *Environmental Management and Pollution Control Act 1994*
- *Environmental Protection and Biodiversity Act 1993*
- *Land Use Planning and Approvals Act 1993*

The EPA comprises a Board and Director, both of which exercise powers at arms length from the State Government and have independent statutory powers under the Act. The Director of EPA can issue TasWater with directions, most notably in the form of Environmental Protection Notices. These notices serve to update ageing discharge licences for TasWater's sewage treatment plants.

The EPA regulates Level 2 sewage treatment plants, which are those with a throughput greater than 100kL/day. Smaller plants classified as Level 1 plants are regulated by the local council Environmental Health Officers who provide a key role in working with TasWater to manage environmental incidents and improve recreational water quality.

As of June 2014 only 44 per cent of TasWater's Level 2 sewage treatment plants complied with discharge limits, indicating a need for major improvements and significant investment into sewage treatment infrastructure.

With the formation of the regional corporations in 2009, the EPA required each water authority to submit a Wastewater Management Plan (WWMP) outlining the investments and actions that would drive compliance. With the formation of TasWater these three plans have been merged and updated. A new WWMP is currently being drafted to submit to the EPA in December 2014. This plan includes a comprehensive risk assessment of TasWater's sewage treatment plants and a range of capital upgrades and operational initiatives that will drive improvement.

EPA has had significant input to the previous WWMPs and also provided a priority list to assist TasWater in formation of the new plan.

In addition to investment in ageing and out of date infrastructure, TasWater is looking to improve management of environmental incidents and sewage spills with investment in remote alarming and telemetry systems and an updated Emergency and Incident Management framework.

### 4.2.3 Dam safety

With respect to dams, the Minister for Water is responsible for administration of the *Water Management Act 1999* which, among other things, requires owners of existing dams to meet specified safety requirements. The Department of Primary Industries, Parks, Water and Environment (DPIPWE) is the Minister's dam safety delegate, and TasWater is regulated by it in accordance with the following legislative instruments:

- *Water Management Act 1999*
- *Water Management (Safety of Dams) Regulations 2011*

TasWater is responsible for approximately 200 water and wastewater storages, lagoons and weirs which fall within the definition of a dam under the Water Management Act.

Section 165G of the Water Management Act states that TasWater as an owner of a portfolio of dams "must, so far as is reasonably practicable, maintain and operate the dams so as not to cause, or be likely to cause, material harm or danger to any person or property."

Major dam failure causing asset damage and public safety issues is a significant strategic risk for TasWater.

Currently there are three regional Dam Safety Management Plans (DSMP). These plans have been developed to provide an overarching business wide and risk based framework for the management and mitigation of dam safety risks to ensure they are safe and do not pose an unacceptable risk to the community. The DSMPs are based on the approach detailed by the Australian National Committee on Large Dams (ANCOLD) Guidelines, consistent with the requirements of the Water Management (Safety of Dams) Regulations, and TasWater is required to provide a report on progress of the implementation of the DSMP's to DPIPWE each year. TasWater will meet with the regulator to provide details on the approved DSMP Annual Progress report.

The three regional Dam Safety Management Plans and the Dam Safety Improvement Program (DSIP) will be consolidated into a single TasWater Dam Safety Management Plan by early 2015.

DPIPWE agreed to the DSMPs for the former regional corporations and will be consulted in the development of a TasWater DSMP. An up-to-date state-wide DSIP was approved by the board in February 2014 and the DSMP Annual Progress Report was approved by the Board in June 2014.

### 4.2.4 Customer service standards

Most regulated utility businesses are subject to minimum customer service standards and this is the case with TasWater.

The need to improve customer service levels in Tasmania was a key driver of reforms to the water and sewerage industry, and continues to be a driver for TasWater.

Consistent with the requirements of the Industry Act, the Economic Regulator has developed a Customer Service Code to apply to the Tasmanian water and sewerage sector. The Code specifies standards and conditions of service and supply which TasWater must comply in providing water supply services intended for drinking water, reticulated drinking water that is non-potable water, and sewerage services.

The standards include issues such as the number of water leakages, sewer blockages, time taken to attend to leaks and blockages, numbers of complaints and the time taken to answer calls to the customer service centre.

**Current standards**

The first Customer Service Code was published by the Economic Regulator in July 2010 and an updated version published in April 2013.

During the current regulatory period, TasWater (and formerly the three regional corporations) is required to transition towards compliance with minimum standards, which are based on those adopted for similar businesses elsewhere in Australia.

There are different indicators that relate specifically to water services, sewerage services and customer services. The minimum service standards set out in the Code are additional to the applicable requirements of health and environmental regulations.

The Industry Act requires the Economic Regulator to prepare a State of the Industry Report each year examining the performance of the Tasmanian water and sewerage industry. The latest State of the Industry Report 2012/13 was published by the Economic Regulator on 27 March 2014.

The Report highlights that while service performance is improving in a number of areas, generally levels of service continue to be below standard and require further improvement.

TasWater's price and capital works program proposals for 2015-18 are important elements if TasWater is to achieve the level of service required under the Code.

**Requirements for second regulatory period and beyond**

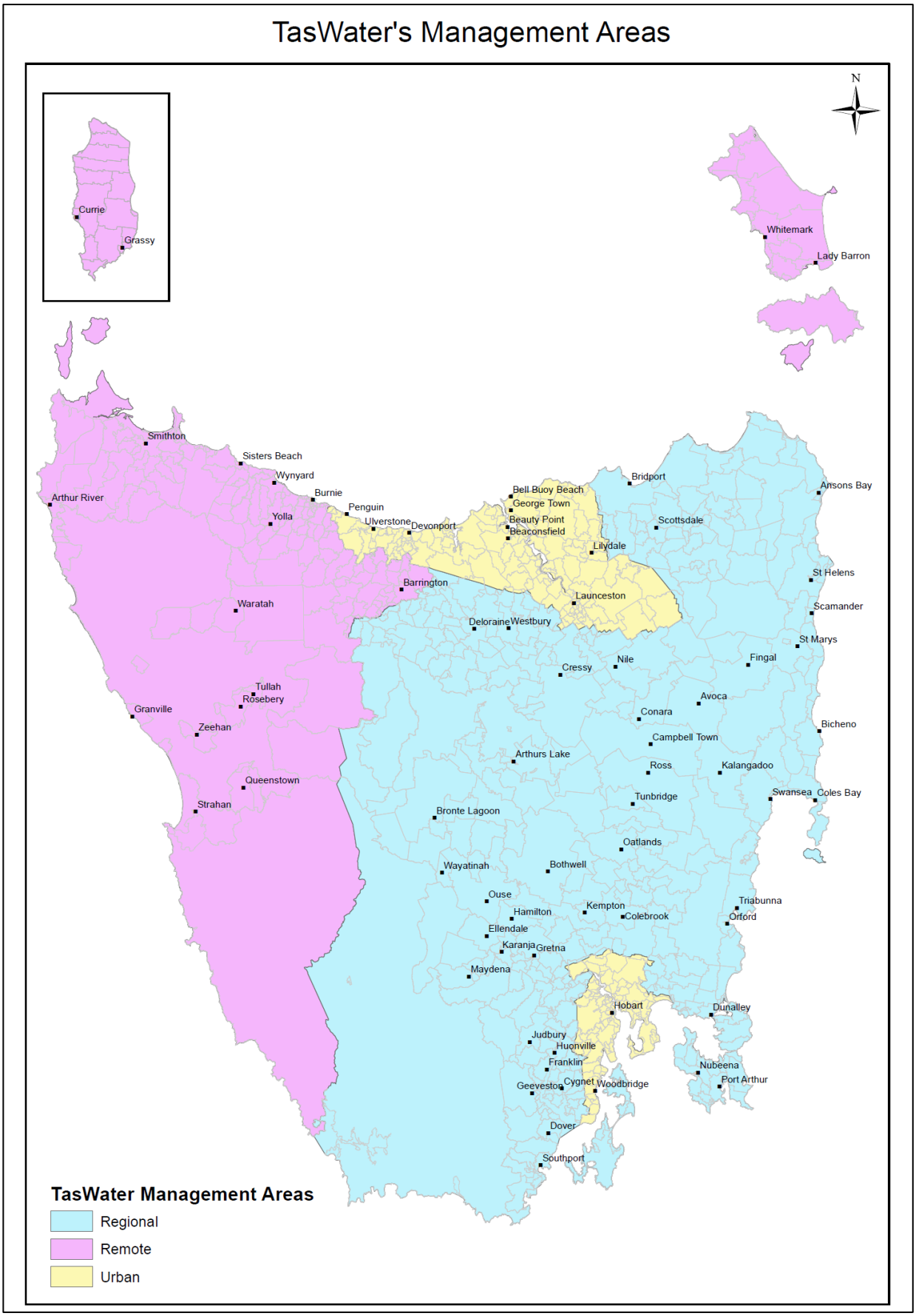
The Economic Regulator has determined that TasWater should propose new differential minimum service standard targets in its draft 2015-18 Price and Service Plan.

Relevant to the consideration of service standard differentiation is TasWater's operating model, customer engagement, the focus of TasWater's 2015-18 capital program, and data quality issues.

To meet the challenges of operating a state-wide business to a highly dispersed population, TasWater has been conscious to build a model that best reflects the differing needs of communities and areas across Tasmania.

This model divides the state into urban, regional or remote areas and acknowledges that, within a postage stamp pricing environment (refer section 7.3.3 for further detail), TasWater will deliver services to each area in a way that acknowledges the needs and characteristics of that community. A map showing the split of urban, regional and remote communities across the state is provided at Figure 4.

**Figure 4: TasWater urban, regional and remote service areas**



Under the model, TasWater's resourcing is designed to meet the needs of the area for which they are providing services. For example, those employees who service regional areas will have broader skill sets to reflect that the range of tasks they undertake and issues they face are typically more varied compared with those that tend to arise in urban areas.

The model recognises the uniqueness of the West Coast particularly with respect to topography, climate and distance. TasWater is able to have a dedicated remote area work crew, supported by resources at Burnie, which is focused on the West Coast and can therefore satisfactorily service this important part of the state.

With respect to urban areas, TasWater aims to provide service that is consistent with those provided under a contemporary urban water model. Again, employees supporting these areas will have different skill sets to recognise that their focus is concentrated on the urban environment and the nature of the infrastructure that services the areas.

This operating model is critical to TasWater's ability to provide services that meet the needs of its customers, whatever their location.

To improve customers' awareness and understanding of the operating model and its alignment to service standards and potential differentiation, general information about service standards and the proposed move to differentiated standards was included in the summary of this draft plan that was released on 30 May 2014.

With the exception of one customer who requested a more detailed version of the map that was included in the paper, TasWater did not receive any feedback from customers (or customer representative organisations) on the issue of customer service standards.

Given that service standards have a direct impact on customers; TasWater is of the view that the level of awareness and understanding of current arrangements needs to be raised prior to any further refinement. TasWater's operating model, and how it relates to the level of service provided to and expected by customers, would form an important part of that educational campaign.

TasWater's capital expenditure program, specifically with respect to renewals related expenditure, also has an impact on the level of service the Corporation provides, its ability to improve that level of service and ultimately meet minimum levels of service.

As discussed in detail in section 5.3, TasWater is proposing capital expenditure for the 2015-18 period that is focused on compliance, enabling the Corporation to address, or make progress towards addressing, the significant amount of ageing and non-compliant infrastructure across the state that is resulting in unacceptable public health and environmental outcomes.

The choice to focus on compliance for this regulatory period is part of the broader consideration of balancing the needs and expectations of various stakeholders, which is considered in section 2.6.

Whilst the focus will be on compliance during 2015-18, a portion of the capital program will be spent on a number of state-wide renewals programs. This includes expenditure on a sewer CCTV program, metering program, sewer and water mains renewals programs, and sewerage pump stations renewals program.

An important part of these state-wide renewals programs is the capture of data about TasWater's assets, the knowledge of which is currently very limited. In order to properly analyse the current (and potential) performance of specific assets and systems, TasWater must gain a more accurate understanding of its assets and systems.

In an effort to improve the collection, storage, and analysis of asset and some service performance data it is proposed to procure and implement an asset management information business system (AMIS). The planning for the AMIS project is fully underway with a business case to be presented to the Board in December 2014. The early focus of AMIS will be to develop and implement business processes and system capability for efficiently and accurately collecting the required information in the field and making it accessible for analysis and decision making purposes. It will

also enable TasWater to propose performance targets (whether standard across all customers or differentiated) that are meaningful and relevant for Tasmanian water and sewerage customers.

When the focus of TasWater's capital program shifts to renewals the Corporation will have an increased capacity to more directly link capital expenditure to improvements in service levels. At this time, however, it is too early to determine when that might be. As discussed above, TasWater is in the process of building upon, and improving the quality of, its data and sewerage infrastructure although issues are expected to remain a challenge into the foreseeable future.

In considering the impact and interaction of all of these factors, TasWater is not in a position to propose differentiated service standards and a transition path at this point in time.

Notwithstanding this, TasWater has undertaken a desktop assessment of where there may be merit (theoretically) in further exploring differentiation of the current indicators and where the same level of service should be provided irrespective of a customer's location. The outcomes of this assessment are set out in Table 4.

**Table 4: State-wide/differentiated assessment of current performance indicators**

| Indicator | Maintain as State-wide | Potential to Differentiate |
|---|---|---|
| **Water:** | | |
| Unplanned water supply interruptions (per 100km of water main) | ✓ | |
| Average time taken to attend bursts and leaks - Priority 1 (minutes) | | ✓ |
| Average time taken to attend bursts and leaks - Priority 2 (minutes) | | ✓ |
| Average time taken to attend bursts and leaks - Priority 3 (minutes) | | ✓ |
| Average frequency of unplanned water supply interruptions (number) | ✓ | |
| Average frequency of planned water supply interruptions (number) | ✓ | |
| Average planned customer minutes off water supply (minutes) | ✓ | |
| Average unplanned customer minutes off water supply (minutes) | ✓ | |
| Average duration of unplanned water supply interruption (minutes) | ✓ | |
| Average duration of planned water supply interruption (minutes) | ✓ | |
| Unplanned water supply interruptions restored within five hours (per cent) | ✓ | |
| Planned water supply interruptions restored within five hours (per cent) | ✓ | |
| Number of customers receiving more than five unplanned water supply interruptions in a financial year (number) | ✓ | |
| Unaccounted for water (per cent) | ✓ | |
| **Sewerage:** | | |
| Sewer breaks and chokes (per 100km of sewer main) | ✓ | |
| Average time to attend sewer spills, breaks and chokes (minutes) | | ✓ |
| Average sewerage service interruption (minutes) | ✓ | |
| Sewerage spills contained within five hours (per cent) | ✓ | |
| Customers receiving more than three sewerage service interruptions per year | ✓ | |
| **Customers:** | | |
| Total water and sewerage complaints (per 1,000 properties) | ✓ | |
| Water and sewerage complaints to Ombudsman (per 1,000 customers) | ✓ | |
| Percentage of calls answered by an operator within 30 seconds | ✓ | |

On the basis that TasWater is not proposing differentiated service standards at this time, and the Customer Service Code requires TasWater to meet the minimum service standards prior to the end

of the second Price Determination, a proposed transition path for achieving the minimum levels of service is set out in Table 5.

**Table 5: Proposed transition path for meeting minimum service standards under the Customer Service Code**

| Indicator | Minimum Service Standard^ | 2015/16 Target | 2016/17 Target | 2017/18 Target |
|---|---|---|---|---|
| **Water:** | | | | |
| Unplanned water supply interruptions (per 100km of water main) | 32 | 55 | 45 | 32 |
| Average time taken to attend bursts and leaks - Priority 1 (minutes) | 30 | 40 | 35 | 30 |
| Average time taken to attend bursts and leaks - Priority 2 (minutes) | 120 | 120 | 120 | 120 |
| Average time taken to attend bursts and leaks - Priority 3 (minutes) | 1440 | 1440 | 1440 | 1440 |
| Average frequency of unplanned water supply interruptions (number) | 0.10 | 0.20 | 0.15 | 0.10 |
| Average frequency of planned water supply interruptions (number) | 0.10 | 0.15 | 0.15 | 0.10 |
| Average planned customer minutes off water supply (minutes) | 20 | 25 | 25 | 20 |
| Average unplanned customer minutes off water supply (minutes) | 15 | 20 | 15 | 15 |
| Average duration of unplanned water supply interruption (minutes) | 100 | 140 | 120 | 100 |
| Average duration of planned water supply interruption (minutes) | 180 | 220 | 200 | 180 |
| Unplanned water supply interruptions restored within five hours (per cent) | 98 | 85 | 90 | 98 |
| Planned water supply interruptions restored within five hours (per cent) | 95 | 80 | 90 | 95 |
| Number of customers receiving more than five unplanned water supply interruptions in a financial year (number) | 0 | | | 0 |
| Unaccounted for water (per cent) | 10 | | | 10 |
| **Sewerage:** | | | | |
| Sewer breaks and chokes (per 100km of sewer main) | 28 | 55 | 40 | 28 |
| Average time to attend sewer spills, breaks and chokes (minutes) | 41 | 60 | 50 | 41 |
| Average sewerage service interruption (minutes) | 150 | 200 | 180 | 150 |
| Sewerage spills contained within five hours (per cent) | 99 | 99 | 99 | 99 |
| Customers receiving more than three sewerage service interruptions per year | 0 | | | 0 |
| **Customers:** | | | | |
| Total water and sewerage complaints (per 1,000 properties) | 9 | 7 | 7 | 7 |
| Water and sewerage complaints to Ombudsman (per 1,000 customers) | 0.50 | 0.50 | 0.50 | 0.50 |
| Percentage of calls answered by an operator within 30 seconds | 90 | 85 | 90 | 90 |

*Note ^: as per Schedule 1 of the Tasmanian Water and Sewerage Industry Customer Service Code, April 2013*

## 4.3 Consultation with regulators

The expectations and requirements of the various regulators – during both daily business and emergency situations – are central to the development of TasWater's plans.

TasWater's relationship with its regulators is therefore critically important. The Corporation recognises that relations should not be 'close' as it is their role to regulate our business. Notwithstanding this, TasWater seeks to engage with its regulators on a 'no surprises' approach in terms of our operations.

Communication with the regulators, both informal and formal, occurs on a regular basis on a range of matters. With respect to the three major technical regulators, TasWater has regular reporting requirements (some more frequent than others) in order to monitor progress.

As discussed in section 4.2, the technical regulators, in particular DHHS and the EPA have provided TasWater with priority project lists for water quality and wastewater. These have been taken into account in developing the DWQMP, WWMP and DSMP, which in turn inform TasWater's proposed capital expenditure program for the regulatory period. Further, TasWater has undertaken specific consultation with each of the technical regulators individually as part of the development of those management plans.

With respect to economic regulation, TasWater also has regular reporting obligations to the Economic Regulator arising primarily from the operating licence and water and sewerage industry guidelines which cover the following issues:

- Regulatory Accounting Ring Fencing
- Performance and Information Reporting
- Price and Service Plan

As part of the development of this draft Price and Service Plan, TasWater has sought to comply with the expectations of the Economic Regulator as set out in the Price and Service Plan Guideline and our approach to a number of issues has been discussed informally. In relation to capital expenditure, TasWater held a workshop in early July with the major technical regulators[3] (including DHHS, EPA, DPIPWE and the Economic Regulator) to specifically discuss the Corporation's proposed capital works program for the 2015-18 period.

## 4.4 Customer hardship policy

TasWater recognises that residential customers may experience times of financial hardship due to changes in circumstances beyond their control.

The Corporation is also aware of community concerns about cost of living pressures generally including the affordability of water and sewerage services.

TasWater is committed to helping customers who have the intent, but not the capacity to make payments in accordance with the terms outlined on water and wastewater accounts.

Consistent with the requirements of the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* and the Customer Service Code, TasWater currently has a Hardship Policy in place offering a range of assistance methods and programs to customers including:

- payment options
- advice on concessions
- water conservation advice to lower water accounts
- a referral service so that customers may access further help.

State Government funded concessions for water and sewerage services are provided by TasWater to eligible customers in accordance with the *Water and Sewerage Industry (Community Services Obligations) Act 2009*.

TasWater will continue to meet its obligations under this Act, the Customer Service Standards Regulations, and the Customer Service Code throughout the next regulatory period commencing 1 July 2015. TasWater considers these measures to be important in delivering water and sewerage services to customers.

The current policy will be revised during this 2014/15 year and stakeholder feedback will be a critical part of enabling TasWater to best target the assistance it provides.

[3] Tasmania Fire Service was unable to attend the workshop.

## 4.5 Special needs

During the 2012-15 period TasWater, and the former regional corporations, offered a discount to:

- customers using kidney dialysis machines in their homes
- customers where it is determined by TasWater that they have special requirements, because of a medical condition of the customer or persons to whom services are provided by the customer
- any special needs customers as determined by the Economic Regulator.

These customers are required to reapply for the discount each year, with the quantum of the discount to be equal to 200kL per annum at the prevailing volumetric tariff (pro rata to apply).

TasWater intends to continue this arrangement for the 2015-18 regulatory period.

# 5 REVENUE REQUIREMENTS

## 5.1 Introduction and Overview

TasWater's revenue requirements have been determined in the context of balancing the need to ensure services, required capital improvements and renewals can be delivered to our community whilst minimising price increases to customers. TasWater's vision and objectives set the basis on which this balancing exercise is undertaken, in particular seeking to be financially sustainable while enhancing the state's economic performance.

The Industry Act and the Price and Service Plan Guideline requires a Price and Service Plan to address the revenues needed to deliver the regulated services to the agreed standards, based on efficient service delivery costs. One of two key steps in the Economic Regulator's price determination investigation is determining revenue limits based on appropriate services, service standards, regulatory compliance improvement, efficient costs and appropriate returns. The Tasmanian economic regulatory framework, which has adopted National Water Initiative (NWI) pricing principles, uses the 'building block approach' to determine the revenues TasWater needs to operate in this manner.

The NWI pricing principles define two revenue limits:

- Upper revenue limit (full cost recovery); and
- Lower revenue limit (sustainability threshold).

Under the NWI pricing principles, a water and sewerage business should recover revenue that is at least equal to the lower revenue limit but not greater than the upper revenue limit.

The Industry Act also prescribes an additional revenue limit, the statutory revenue limit, which provides for TasWater to earn a commercial return (known as the Weighted Average Cost of Capital or WACC) on new assets (those purchased or constructed after 1 July 2009) and a 3 per cent legislated return on equity on existing assets transferred before 1 July 2011.

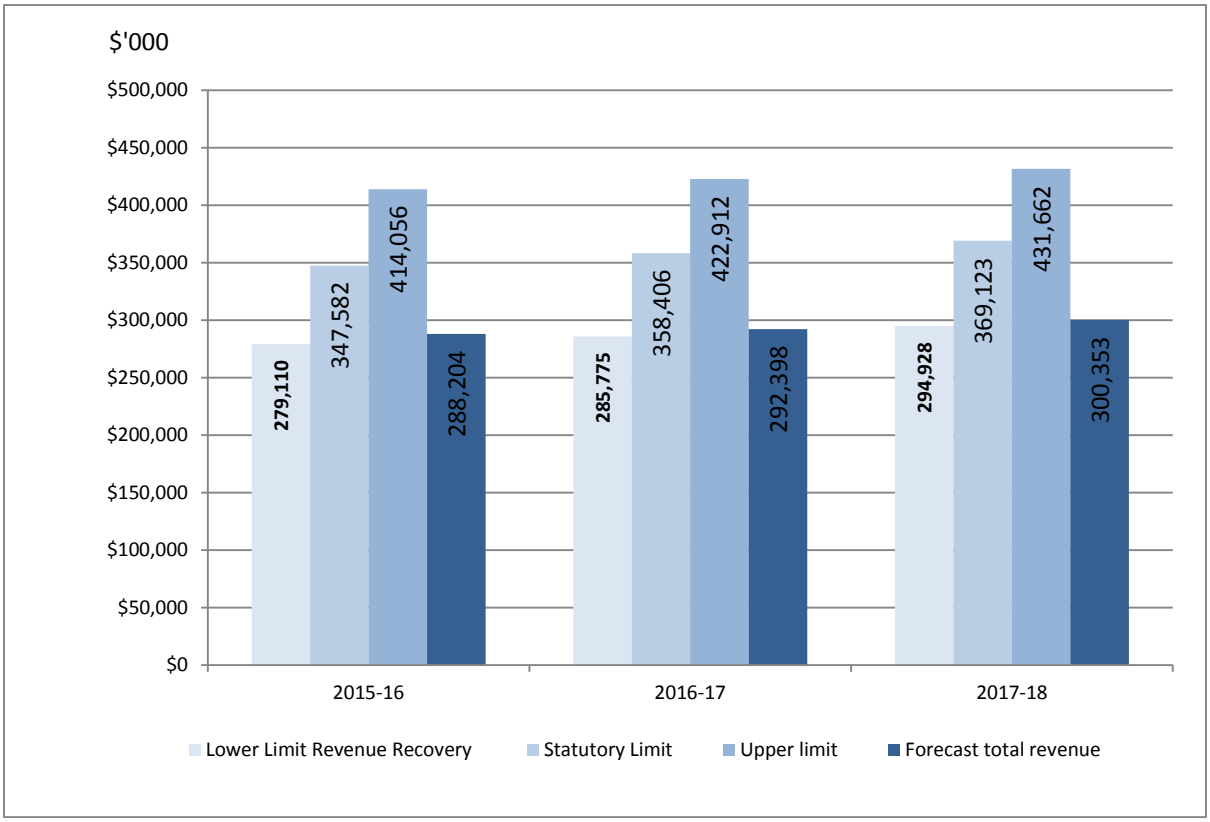
For the 2015-18 regulatory period, TasWater is aiming to earn revenues at the lower limit. This is the minimum amount TasWater requires to cover all costs of operation and therefore provides for: operating and maintenance expenditure, debt servicing costs and an allowance for the cost of asset refurbishment, replacement and future augmentation. It does not provide for TasWater to earn a return on capital other than interest costs incurred.

TasWater acknowledges the Economic Regulator's expectation that, over time, the Corporation will earn revenues at the statutory limit, but we have chosen to target the lower limit in order that we can keep price rises to a minimum, particularly in the context of the impact on prices of transition to equitable pricing.

TasWater's proposals set out in this draft plan will see the majority of customers (ie 95 per cent) transitioning to uniform state-wide target prices by 2018, two years ahead of the 2020 legislated deadline.

The following chart shows the expected revenue at the lower, statutory and upper limits for each year of the regulatory period and our forecast revenue based on this submission.

**Figure 5: Forecast revenue at lower, statutory and upper limit for 2015-18**




A detailed breakdown of the building blocks of the forecast lower, statutory and upper revenue limits are outlined in sections 5.8, 5.9 and 5.10.

Some of the key regulatory parameters for determining the limits are set out in Table 6.

**Table 6: Key regulatory parameters for determining revenue limits**

| Parameter | Rate/Value |
|---|---|
| WACC (existing assets) | 2.75% |
| WACC (new assets) | 5.37% |
| Starting RAB (1/7/2015) | $3,041,467 |
| Asset annuity provision ($'000) | $95,191 |

The second key step involved with a price determination investigation is approval of an appropriate tariff structure that continues the transition towards meeting the requirements of the pricing principles within the Industry Act and the Pricing Regulations but does not generate revenue in excess of annual revenue limits.

For the 2015-18 regulatory period, TasWater has calculated target prices to provide a smooth path towards achieving the statutory revenue limit over 10 years. Target revenue (at the lower limit in this draft plan), split by water and sewerage, has been discounted and allocated on the projected number of equivalent 20mm connections (for water) and the number of Equivalent Tenements (for sewerage). These customer numbers take account of growth and inflation forecasts.

It is important to note at this time, and for this next regulatory period, that the prices customers actually pay (when they are not at target) are not directly determined by TasWater's revenue. This is because the majority of customers will continue to transition from the varied pricing regimes TasWater inherited to target prices during the period.

TasWater's proposed target prices are set out in Chapter 7 of this draft plan. This chapter goes through each of the revenue building blocks and details TasWater's proposed approach to some key elements, including calculation of the WACC.

## 5.2 Operating expenditure

### 5.2.1 Summary

As discussed in 5.1, an allowance is made in the build-up of revenue for the efficient cost of operating and maintaining TasWater's water and sewerage systems together with the associated administrative costs.

Operational expenditure refers to expenditure that does not create or lengthen the life of an existing asset, but which is necessary for the running of the business. This includes spending on items such as maintenance of assets, administrative costs, and wages and salaries.

**Table 7: Forecast efficient operating costs over the 2015-18 regulatory period**

| | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Efficient operating costs | 164,428 | 168,914 | 173,525 |
| *Less* unregulated expenses | 4,127 | 4,238 | 4,352 |
| **Efficient regulated operating expenditure** | **160,301** | **164,676** | **169,173** |

### 5.2.2 Allocation of operating expenditure items by business segments (regulated water services and regulated sewerage services) and, within business segments, between activity areas

CPI of 2.5 per cent has been assumed for the regulatory period, which is aligned to the mid-point of the RBA's target inflation band. As noted in Table 8 below, this escalation factor has been applied to all expenditure items with the exception of salaries (3 per cent) and power and chemicals (4 per cent) that have been escalated above CPI to reflect higher operating costs associated with TasWater's capital program, which is currently focused on compliance and levels of service.

Consistent with the expectations of the Economic Regulator, as set out in the Price and Service Plan Guideline, TasWater expects that non-labour operating expenditure will be maintained in real terms over the period, with nominal values to be indexed by CPI each year. This is reflected by the annual indexation factors set out in Table 8.

**Table 8: Base year (2015/16) forecasts of Opex by activity area within each business segment**

| | 2015/16 Forecast Water ($'000) | 2015/16 Forecast Sewer ($'000) | 2015/16 Forecast Total ($'000) | Annual Indexation Factor |
|---|---|---|---|---|
| Chemicals, Power & Royalties | 11,268 | 10,052 | 21,320 | 4.0% |
| Materials & Services | 11,209 | 17,490 | 28,699 | 2.5% |
| Water Sampling | 585 | 2,879 | 3,464 | 2.5% |
| Salaries & Related Personnel Expenditure | 36,618 | 37,020 | 73,638 | 3.0% |
| Governance | 1,631 | 1,463 | 3,094 | 2.5% |
| Information Systems | 1,956 | 1,755 | 3,711 | 2.5% |
| Customer Collection Expenses | 1,333 | 1,187 | 2,519 | 2.5% |
| Consultancy | 1,250 | 1,122 | 2,372 | 2.5% |
| Administration Other | 4,082 | 3,662 | 7,744 | 2.5% |
| Community Relations | 315 | 280 | 595 | 2.5% |
| Facility Management | 3,616 | 3,244 | 6,859 | 2.5% |
| Insurance | 1,122 | 1,006 | 2,128 | 2.5% |
| Motor Vehicle | 2,192 | 1,966 | 4,158 | 2.5% |
| **Total** | **77,176** | **83,125** | **160,301** | |

The operating expenditure above is associated with regulated activities. Unregulated expenditure of $4.1 million has been excluded from the efficient operating cost build up. Direct unregulated expenditure such as power, chemicals and maintenance are budgeted against individual unregulated assets, where possible. In addition to these direct costs, a share of salaries and administration costs have been allocated to unregulated expenditure based on the proportion of total revenue.

### 5.2.3 Productivity initiatives

TasWater is targeting greater efficiencies in the cost of materials, many of which are largely driven by reviewing existing procurement procedures. These include:

- the supply of pipes for renewal works
- centralisation of chemicals purchasing
- state-wide electricity contracts
- road reinstatement works
- bulk material purchase and storage (i.e. gravel)
- reviewing stock levels held in stores and associated procurement processes.

Other key initiatives include:

- Parcel up minor capital projects to reduce costs
- Standardisation of processes and systems
- Instigate procurement panels for capital projects
- Develop Field Service Mobility Solution (FSMS)
- Create consistent state-wide capital delivery system
- Develop a state-wide IT strategy
- Purchase and implement an Asset Management Information System (AMIS)

### 5.2.4 Forecasts of operating expenditure (taking into account the proposed labour productivity factor and economies of scale arising out of the amalgamation of the previously regulated entities)

TasWater expects to achieve $5 million of ongoing annual savings resulting from the merger of water and sewerage activities into a single state-wide entity. It is expected that all of these savings will be achieved during 2014/15 and therefore they are reflected in Table 8 above. The major savings include:

- Salaries and related personnel expenditure
- Governance, including Board costs and regulatory fees
- Materials and services through more efficient procurement practices
- Administration, including IT costs.

## 5.3 Capital expenditure

A significant proportion of TasWater's infrastructure is ageing and/or in poor condition and its performance is non–compliant, resulting in public health and environmental outcomes that do not meet contemporary standards.

This was confirmed by the Economic Regulator in the most recent State of the Industry Report, which highlighted that the majority of Level 2 sewage treatment plants do not fully comply with license conditions, there are a number of dams that do not comply with relevant dam safety regulations and there are a number of drinking water systems that do not comply with water quality guidelines. There are mitigation measures in place to address health and safety implications from these non-compliances but this situation is not sustainable.

These are serious issues and the proposed pricing outcomes set out in Chapter 7 are critical to TasWater's ability to address these non-compliances in a timely manner and continue operating and maintaining its infrastructure.

For the 2012-15 regulatory period, the Economic Regulator approved capital expenditure in the order of $100 million for each year (noting that it was regionally based). The corporations have principally targeted projects that address critical drinking water non-compliances, though a number of significant wastewater projects have been undertaken or commenced.

The positive impact of the spend on water quality issues is expected to be realised in the near future, with a substantial reduction in the number of drinking water systems that are subject to boil water notices and public health alerts advising customers that the water is not to be consumed (currently 23 and three respectively).

### 5.3.1 Summary

TasWater is proposing capital expenditure of $110 million for each year of the next regulatory period between 2015 and 2018.

As was the case during the 2012-15 regulatory period, given the inherited compliance challenges, TasWater's capital works program for the next 3-4 years will be geared towards addressing compliance objectives. Sewerage infrastructure issues are expected to remain a challenge into the foreseeable future, and TasWater is continuing to build upon and improve the quality of its data. Therefore, it is too early to determine when the focus of the capital program will shift to renewals. It should be noted that some compliance expenditure will also address renewal challenges.

Table 9 sets out the total proposed capital expenditure split by water, sewerage and unregulated for each year of the 2015-18 regulatory period.

**Table 9: High level break down of proposed capital expenditure for each year of the 2015-18 regulatory period**

| | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Water | 40,997 | 42,164 | 39,086 |
| Sewerage | 54,471 | 55,401 | 57,565 |
| Non-Network | 14,531 | 12,435 | 13,349 |
| **Total** | **110,000** | **110,000** | **110,000** |

*Note: TasWater also expects to spend $1.1 million in 2015/16 and $1.3 million in 2016/17 on unregulated capital projects.*

The proposed level of expenditure will allow TasWater to address a significant proportion of our compliance requirements as well as necessary renewal and growth driven works.

With respect to the allocation of the proposed capital expenditure program by business segment, TasWater's capital works program will be more heavily weighted towards wastewater during 2015-18. A breakdown of the proposed capital expenditure by water, wastewater and non-network is provided in section 5.3.

With respect to water quality, it is expected that the proposed level of expenditure will allow TasWater to continue reducing the number of towns on Boil Water Alerts and Do Not Consume notices.

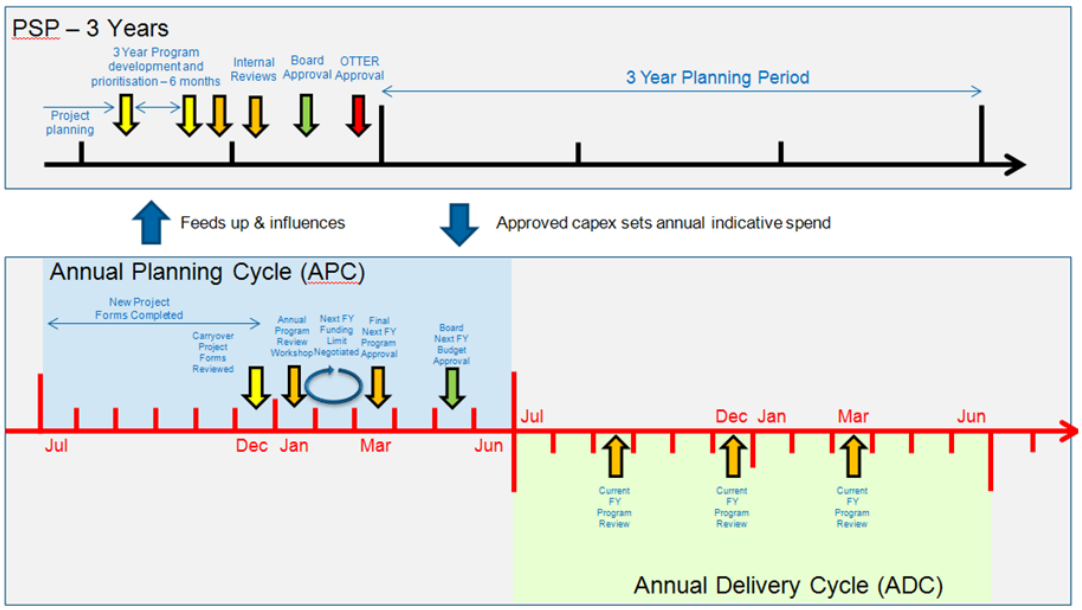
Through the next regulatory period, in order to improve the performance of larger sewerage treatment plants, which have a greater proportional impact on sewage compliance, TasWater will be progressing key wastewater strategies for major urban centres including Launceston and Hobart.

### 5.3.2 Capital planning process and prioritisation

TasWater has developed a capital works planning and prioritisation process that integrates with the Project Management Framework (PMF) that is used for the delivery of capital works projects and programs by the corporation. The process was developed based on work completed by the three previous regional corporations and guidelines/benchmarking completed by Water Services Association of Australia (WSAA).

The process is undertaken annually consistent with Figure 6.

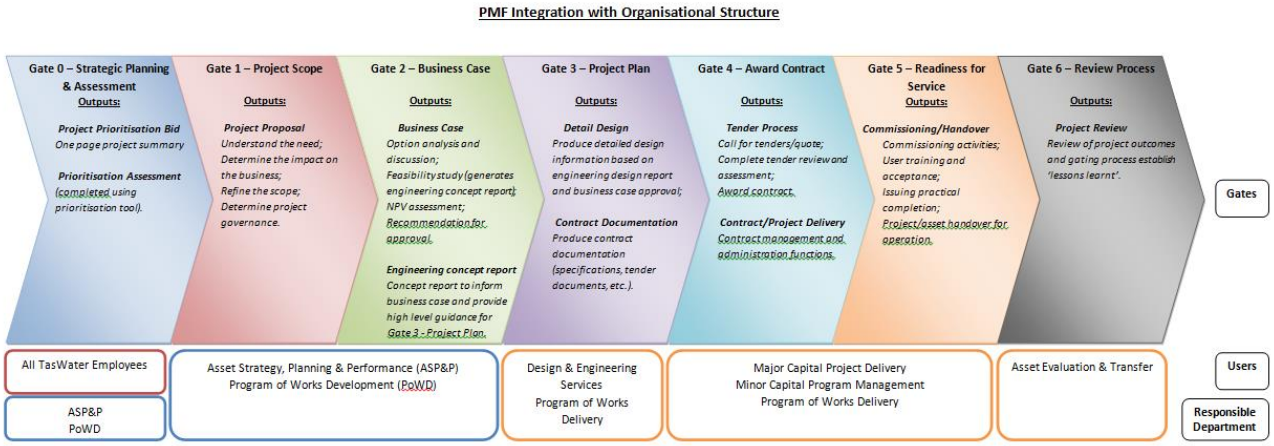
**Figure 6: Overview of capital works planning process**



Project and program prioritisation is completed annually through the use of a prioritisation tool that assesses the risk of project deferral and how projects align with corporate value drivers contained within the corporate plan. The aim of the tool is to compare projects across asset classes, regions and drivers equally and to present a modelled outcome for internal review. The prioritisation process allows TasWater to develop a capital works program where a potential capital project is identified and assessed based on the ability to address risk to the business and the achievement of corporate value drivers.

Figure 7 shows how the prioritisation process and PMF integrates with the TasWater organisational structure.

**Figure 7: Integration of prioritisation process and project management framework with TasWater's organisational structure**




At the completion of the prioritisation process there are two outputs, the first is a detailed capital works program for the coming financial year and the second is a proposed capital works program for future years. The intention is to further develop and understand the proposed capital works program such that TasWater has a rolling ten year capital works program that contains high level detail for years 1-3 (duration of pricing periods).

The capital works program is then presented to the Asset Strategy, Planning and Performance Department for development of business cases for individual projects and programs. Approval of business cases will then be sought from the CEO or Board depending on the size and complexity of the individual project or program.

**Table 10: Risk Definitions**

| Risk Category | Low | Medium | High |
|---|---|---|---|
| Brand | Low risk of brand damage. | Moderate risk of brand damage. | Risk of significant damage to the TasWater brand. |
| Technology | The project relies upon the use of industry standard, well proven and tested technology. | The project relies upon the use of technology that while proven, has not been used widely in the water and sewerage industry for the intended purpose. | The project relies upon technology that does not have a comprehensive proven record of successful applications. |
| Learning Curve[#] | We have successfully undertaken this type of project more than six times in the past. | We have successfully undertaken this type of project at least once in the past. | We have not successfully undertaken this type of project before. |
| Political | Low level of political interest anticipated. | Moderate level of political interest anticipated. | High level of political interest anticipated. |

*# Includes TasWater, Southern Water, Ben Lomond Water and Cradle Water projects*

As discussed in Chapter 4, TasWater has been working closely with DHHS, the EPA and DPIPWE to determine priorities in the water and wastewater areas for the 2015-18 regulatory period.

Drinking water compliance projects have been determined through liaison with the DHHS and the development of the DWQMP. The aim of drinking water compliance projects is to improve health outcomes through the provision of treated water to communities or implementing service replacement for those communities where the cost (both economic and social) to provide a potable supply is deemed excessive.

Wastewater compliance projects have been determined through liaison with the EPA and the development of the WWMP. The aim of wastewater compliance projects is to achieve regulatory compliance at all wastewater treatment plants, which will improve environmental performance and outcomes.

Dam safety compliance projects have been determined through liaison with DPIPWE and the development of the DSMP. The aim of dam safety compliance projects is to ensure that the risk associated with failure of a dam is below the level of tolerability specified in the ANCOLD guidelines.

The balance of projects to be completed over the pricing period were determined through the completion of project bid documentation and put through the project prioritisation process outlined above. This process ranked projects based on the risk of deferral and how the project would address the value drivers in the corporate plan.

One of the key learnings from the first pricing period was the time required to finalise the asset strategy and with the benefit of hindsight it is also clear that we were overly optimistic with our project timelines. This has resulted in underspend on the planned annual expenditure. TasWater is now significantly better informed about the time required to obtain approvals and deliver projects which are “shovel ready”.

### 5.3.3 Asset Management

In May 2013, a new state-wide operating model based upon the principles of strategic asset management was introduced. This new operating model has been tailored to suit the circumstances and priorities of the new corporation; however, its foundation is the ISO 55000 series of international standards for the management of infrastructure assets.

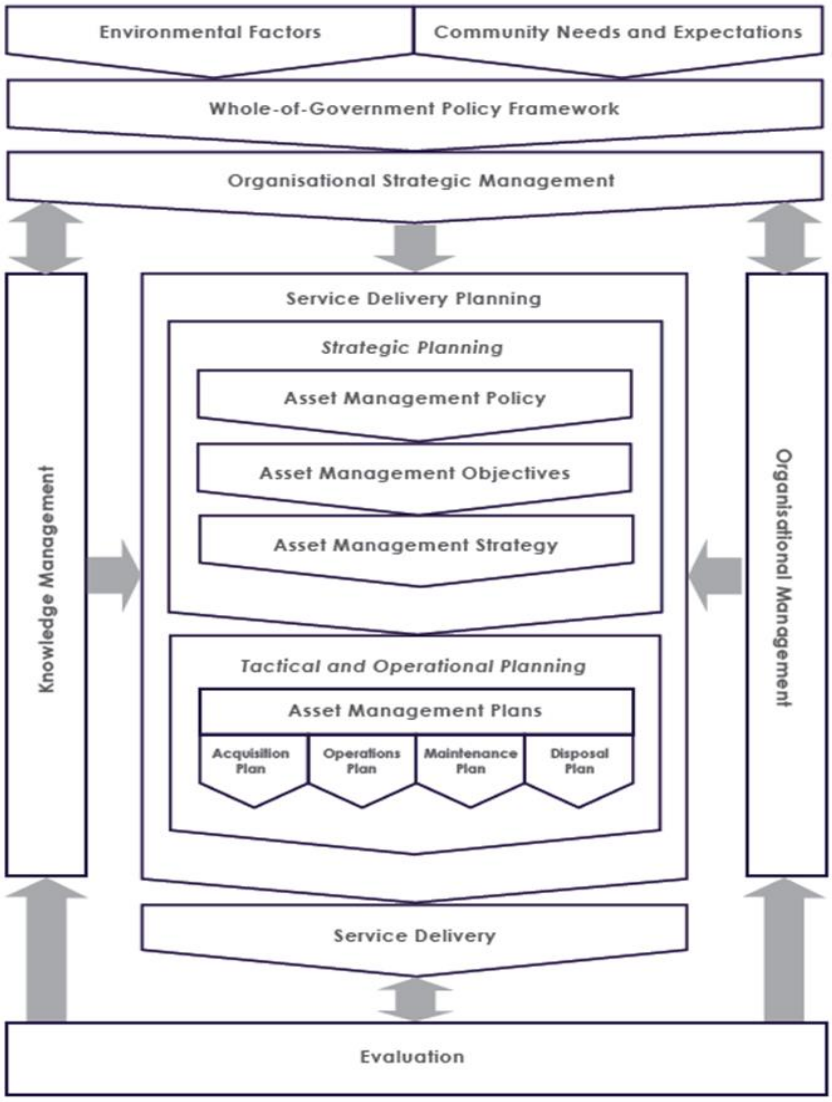
This adopted operating model is premised upon a high degree of cross divisional co-operation and an integrated approach to asset management consistent with the principles of the ISO 55000 series.

This approach will develop with the maturity of TasWater. It is dynamic and needs to be aligned with our strategic direction. The development of the Strategic Planning component of the ISAM Model (ie Asset Management Policy, Asset Management Objectives and Asset Management Strategy) will run concurrently with the finalisation of the Corporate Plan. An interim Asset Management Policy is presently in place.

An important component of this approach will be the consultation with Operations and Maintenance, Works Delivery and Finance and Commercial Services Divisions.

The focus is long-term overall management of infrastructure and engineering assets, while considering the immediate operational matters. Figure 8 illustrates a typical generic ISAM Model.

**Figure 8: Example of an Integrated Strategic Asset Management model**




As noted previously during the current regulatory pricing period and for the second pricing period, capital expenditure for TasWater will be heavily driven by improving compliance.

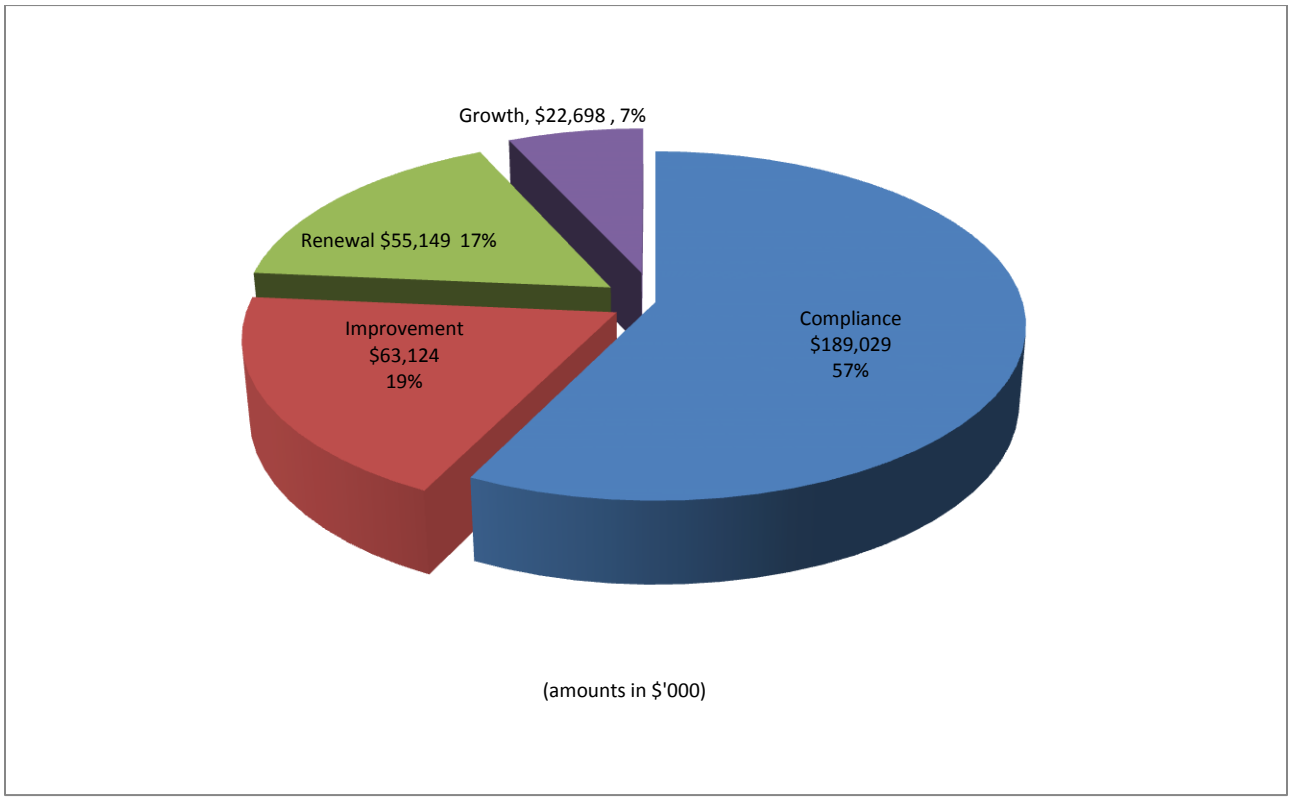
TasWater has set an interim asset management policy. By the end of the forthcoming second regulatory pricing period TasWater will have completed service delivery planning for the corporation and will have developed asset management plans for each system.

A significant challenge that continues to be faced is the lack of quality asset data to help inform asset management strategy and decisions. TasWater is developing a logical asset data structure and hierarchy that will inform the next asset valuation and that will underpin the service delivery planning phase that TasWater will be undertaking in the upcoming pricing period. This is discussed further in Section 5.7.

### 5.3.4 Key drivers of capital expenditure (growth / renewal / improvements / compliance)

As discussed in section 5.3.1, TasWater is proposing a capital expenditure program of $110 million in each year of the 2015-18 regulatory period; $330 million over the three year period, with the initial focus on compliance, particularly on sewerage infrastructure while also continuing the work to remove all permanent boil alerts.

**Figure 9: Total projected capital expenditure by key driver over the 2015-18 period ($ and %)**




A more detailed breakdown for each year of the period is set out in Table 11.

**Table 11: Proposed capital expenditure by driver for each year of the regulatory period**

| Driver | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Compliance | 62,751 | 71,980 | 54,298 |
| Improvement | 23,780 | 18,488 | 20,856 |
| Renewal | 18,844 | 16,564 | 19,741 |
| Growth | 4,625 | 2,967 | 15,106 |
| **Total** | **110,000** | **110,000** | **110,000** |

The capital expenditure program is made up of projects across the three business segments of TasWater being Water, Wastewater and Non-Network. The breakdown of expenditure by driver and major projects for water and wastewater are discussed in sections 5.3.5 and 5.3.6.

Non-Network projects are made up of expenditure that relates to the efficient operation of the business and includes items such as fleet, software/hardware and support functions such as laboratories and SCADA infrastructure, and typically accounts for 11-13 per cent of the capital works program.

### 5.3.5 Water capital expenditure by key driver

Despite earlier commentary regarding the focus of capital expenditure being more heavily weighted towards sewerage, TasWater is proposing to spend a significant amount of money on water projects during 2015-18. Table 12 shows the total proposed spend on water by driver.

**Table 12: Proposed capital expenditure by driver for each year of the regulatory period - Water**

| Driver | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Compliance | 24,803 | 30,413 | 14,616 |
| Improvement | 7,394 | 6,338 | 6,964 |
| Renewal | 5,441 | 3,227 | 5,651 |
| Growth | 3,359 | 2,186 | 11,855 |
| **Total** | **40,997** | **42,164** | **39,086** |

With respect to specific projects, Table 13 presents the 10 highest individual capital value projects for water during the next pricing period.

The completion of these projects will result in a further ten towns receiving a water supply that complies with the water quality aims of TasWater's DWQMP and with the ADWG. It will also address some of the larger towns still on the DHHS priority list for water supplies.

Three of the projects on the list below relate to reducing or removing operating risks to the business through improving the operation of some of our higher risk dams. These are the largest of a number of dam projects that TasWater will be looking to complete over the next pricing period and align with the TasWater Dam Strategy that was developed in early 2014.

The remaining two projects in the top ten represent growth projects and highlight TasWater's commitment to making investment decisions that support the state's economic prosperity. The completion of these two projects will ensure system capacity into the future for growth areas.

**Table 13: Top 10 highest individual capital value projects for water during 2015-18**

| Project | Driver | Estimated Value | Description |
|---|---|---|---|
| Tolosa Dam Decommissioning | Compliance | $24M | Decommissioning of the dam and construction of two reservoirs and connecting pipework to replace the Tolosa Dam. |
| King Island Water Supply Upgrade | Compliance | $16M | Construction of a new water treatment plant and a connecting pipeline between Grassy and Currie. |
| Ridgeway Dam – Upgrade Post Tensioned Anchors | Compliance | $15M | Replace the existing post tensioned anchors to ensure the stability of the abutment blocks in the long-term. |
| Scottsdale – Bridport Pipeline | Growth | $12M | Construction of a new pipeline between Scottsdale and Bridport. Pipeline will allow for decommissioning of existing poorly performing Bridport WTP and make use of surplus capacity at Scottsdale WTP. |
| Flinders Island Water Supply | Compliance | $11M | Construction of water treatment infrastructure for the towns of Whitemark and Lady Barron to remove permanent boil water alerts. |
| Ringarooma Valley Treated Water Supply | Compliance | $10M | Project to provide treated water supply in accordance with ADWG for the towns of Ringarooma, Legerwood, Branxholm and Derby. The project may also incorporate construction of a pipeline to the town of Winnaleah.<br>Note: Approximately $7.5M funded in first PSP |
| Rosebery Water Treatment Plant | Compliance | $6M | Construction of a new WTP for the town of Rosebery to improve compliance with ADWG. |
| Margate Water Main – Stage 2 | Growth | $6M | Installation of pipeline to serve fast growing areas in Kingborough. |
| Avoca Treated Water Supply | Compliance | $5M | Capital improvement works (WTP or pipeline from Fingal) to remove the Do Not Consume notice in place at Avoca. |
| Lake Mikany – Filter Buttress | Compliance | $5M | Upgrade to the existing Lake Mikany Dam to lower operating risk associated with the dam. |

### 5.3.6 Sewerage capital expenditure by key driver

As discussed earlier in this section, the focus of TasWater's proposed 2015-18 capital expenditure program will be more heavily focused towards compliance for sewerage infrastructure. The total proposed sewerage spend by driver is set out in Table 14.

**Table 14: Proposed capital expenditure by driver for each year of the regulatory period - Sewerage**

| Driver | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Compliance | 37,948 | 41,567 | 39,682 |
| Improvement | 7,196 | 4,822 | 6,410 |
| Renewal | 8,061 | 8,230 | 8,222 |
| Growth | 1,266 | 781 | 3,251 |
| **Total** | **54,471** | **55,401** | **57,565** |

With respect to specific sewerage projects during 2015-18, Table 15 sets out the 10 highest individual capital value projects for sewerage that will be substantially funded/completed during the next pricing period.

The completion of the projects listed below will result in substantial performance and compliance improvements for 11 sewerage systems that have been identified as a high priority by the EPA and within the TasWater WWMP. These represent the largest of a number of sewerage compliance projects that will commence or be completed during the pricing period.

**Table 15: Top 10 highest individual capital value projects for sewerage during 2015-18**

| Project | Driver | Estimated Value | Description |
|---|---|---|---|
| Kingborough Sewerage Strategy - Treatment | Compliance | $30M | Rationalisation of existing STP's at Margate, Electrona and Blackmans Bay. The existing plants are all high on the EPA priority list. |
| Wynyard STP – Major Plant Upgrade | Compliance | $17M | Major upgrade at Wynyard STP to achieve compliance with AMT limits and rationalisation with Somerset STP.<br>Note: $5M to be funded during third pricing period. |
| Kingborough Sewerage Strategy - Network | Compliance | $14M | Construction of pipelines to allow rationalisation of existing STP's at Margate, Electrona and Blackmans Bay. |
| SPS Electrical Switchboard Renewal | Renewal | $12M | A number of switchboards have been identified as exceeding their useful life and are failing. Project will replace a number of switchboards at SPS across the southern region.<br>Note: Approximately $3.5M funded in first PSP |
| Rosebery STP – Construction of new plant | Compliance | $10M | Construction of a new treatment plant for Rosebery to replace the existing arrangement with discharge into a tailings dam.<br>Note: Approximately $4M funded in first PSP |
| Ti Tree Bend Centrifuge – Biosolids Reduction | Compliance | $9M | Construction of a centrifuge and sludge drying facilities to improve sludge handling at the STP. |
| Brighton STP Rationalisation | Compliance | $9M | High priority plant on EPA list, flows exceed treatment capacity. |
| Legana STP Upgrade | Compliance | $9M | The existing plant is hydraulically overloaded due to continued growth in the system. High volumetric loading causes discharge into the Tamar River.<br>Note: $6M to be funded during fourth pricing period. |
| Evandale – Western Junction Major STP Upgrades | Compliance | $8M | The existing plants are both poorly performed and could be rationalised into a single new STP at the Evandale STP site. |
| Longford STP Process Improvements | Compliance | $7M | Upgrade to treatment process to handle high trade waste content from Swift abbatoirs and relocate/upgrade existing outfall location. |

The list above does not consider three of the major sewerage compliance projects that TasWater plans to undertake over the next two to three pricing periods; these projects are the Greater Launceston Sewerage Strategy, the Central Hobart Sewerage Strategy and the Pardoe Integration and Upgrade Strategy. The reason for this is the bulk of the funding for these projects is not forecast to occur until the third or fourth pricing period. The costs associated with these projects for the coming pricing period relate to planning and investigation works as well as preliminary design and regulatory approvals.

### 5.3.7 Non-Network capital expenditure by key driver

As discussed earlier in this section, between 11 and 13 per cent of the capital works program will relate to non-network assets. The total proposed non-network spend by driver is set out in Table 16.

**Table 16: Proposed capital expenditure by driver for each year of the regulatory period – non-network**

| Driver | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Improvement | 9,191 | 7,328 | 7,482 |
| Renewal | 5,341 | 5,107 | 5,868 |
| **Total** | **14,531** | **12,435** | **13,349** |

Table 17 sets out the five highest individual capital value projects or programs for non-network assets that will be substantially funded/completed during the next pricing period.

**Table 17: Top five highest individual capital value projects for non-network assets during 2015-18**

| Project | Driver | Estimated Value | Description |
|---|---|---|---|
| Asset Management Information System (AMIS) | Improvement | $12M | Installation of commercial off the shelf, fit for purpose AMIS that integrates to all major corporate functions and interfaces.<br>Note: $2.4M to be funded during third pricing period. |
| Fleet (Vehicles and Plant) Replacement Program | Renewal | $9M | $3M annual ongoing renewal program for vehicles and fleet to maintain field services capability. |
| Statewide Asset Safety Rectification Program | Improvement | $6M | $2M annual ongoing program to address safety risks identified throughout the business. |
| Minor Plant and Equipment Program | Renewal | $5.4M | $1.8M annual ongoing renewal program for minor plant and equipment to maintain field services capability. |
| Statewide Miscellaneous Minor Works Program | Renewal | $4.5M | $1.5M annual ongoing renewal program for unplanned minor asset renewals. |

### 5.3.8 Total capital expenditure by asset class

The overall proposed capex spend by asset class is outlined in Table 18 below, at $110 million capex spend per year.

**Table 18: Proposed capital expenditure by asset class**

| Asset class | 2015/16 ($'000) | | | 2016/17 ($'000) | | | 2017/18 ($'000) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Water | Sewer | Non-Network | Water | Sewer | Non-Network | Water | Sewer | Non-Network |
| Headworks | 12,406 | 6,372 | - | 26,196 | 11,881 | - | 25,330 | 11,700 | - |
| Pipelines and Channels | 5,374 | 12,611 | - | 1,757 | 8,844 | - | 3,065 | 13,549 | - |
| Treatment | 19,615 | 35,374 | - | 10,854 | 34,632 | - | 6,830 | 32,259 | - |
| Corporate | 3,601 | 114 | 14,531 | 3,358 | 45 | 12,435 | 3,862 | 57 | 13,349 |
| **Total** | **40,997** | **54,471** | **14,531** | **42,164** | **55,401** | **12,435** | **39,086** | **57,565** | **13,349** |

*Note: at the lower levels there are some minor rounding errors in the capex tables, however the annual projected spend is $110 million*

## 5.4 Depreciation

### 5.4.1 Assumptions

The Price and Service Plan Guideline requires TasWater to calculate depreciation using the straight-line method based on the average useful life of regulated assets.

Table 19 sets out the asset lives that TasWater has assumed for each class of assets.

**Table 19: Average Asset Lives by Asset Class**

| Categories | Water Depreciation (years) | | Sewerage Depreciation (years) | |
|---|---|---|---|---|
| | New assets | Existing assets | New assets | Existing assets |
| Headworks | 40 | 35 | 40 | 32 |
| Pipelines and channels | 70 | 50 | 70 | 45 |
| Treatment | 35 | 25 | 35 | 32 |
| Corporate | 15 | 15 | 15 | 15 |

TasWater has used the above asset lives and the straight-line depreciation method to calculate the annual regulatory depreciation for each asset class. These values are used in the calculation of the projected RAB over the regulatory period, which is detailed in Table 20. The regulatory depreciation shown in the table is significantly higher than the accounting depreciation disclosed in the financial statements as the asset values used for accounting purposes have been impaired in accordance with relevant accounting standards to reflect their fair value based on future cash flows. Accounting depreciation is also calculated on a straight line basis using the same average lives provided in Table 19.

## 5.5 Regulated asset base

### 5.5.1 Summary

TasWater's regulated asset base (RAB) represents those assets used to provide regulated water and sewerage services. The RAB is used to calculate the upper and statutory revenue limits.

The opening value of TasWater's RAB as at 1 July 2015 is just over $3 billion.

Consistent with the requirements of the Price and Service Plan Guideline, this has been built up from TasWater's formation on 1 July 2013, adjusted up for expenditure during the period 1 July 2013 to 30 June 2015 (net of customer contributions) and down for depreciation and asset disposals during that same period.

It is important to note that given TasWater is targeting the lower revenue limit for 2015-18, the RAB is not a key determinant of revenue and pricing outcomes. As is the case with the WACC, this will change over time as the Corporation transitions towards the statutory revenue limit.

Further detail on the build-up of TasWater's RAB, including the split by water and sewerage, and how it is forecast to change over the period, is provided through this section 5.5.

### 5.5.2 Exclusion of assets associated with unregulated activities

According to the methodology for exclusion of unregulated assets outlined in the PSP Guideline, revenue generated from reuse assets have been excluded from the asset base. However, assets used for the provision of irrigation services have not been removed from the asset base as these services are provided by using excess winter capacity in the potable water system. That is, assets used to deliver potable water would be no different in size even if TasWater were not providing water for irrigation purposes.

### 5.5.3 Exclusion of third party capital contributions (developer charges, service introduction charges and government grants)

As noted above third party capital contributions including developer charges, donated assets, service introduction charges and asset additions fully funded from government grants have been excluded from the RAB values disclosed in Table 20.

### 5.5.4 Opening value of RAB

As stated in section 5.5.1, the opening value of TasWater's RAB as at 1 July 2015 is just over $3 billion.

The opening value in each financial year (as at 1 July) is equal to the closing balance from the previous financial year. The closing balance for each financial year (as at 30 June) is calculated by taking the opening RAB value and adjusting it up for capital expenditure and down for depreciation, asset disposals and third party capital contributions.

Where possible asset additions are allocated to either water or sewerage based on their primary purpose. Corporate assets including IT equipment, vehicles and software are allocated based on the proportion of water and sewerage assets in the total RAB.

The following table shows the opening value of the RAB for each year of the 2015-18 regulatory period.

**Table 20: Opening value of RAB**

| | | Water | Sewerage | Total |
|---|---|---|---|---|
| 1 July 2015 | Opening RAB | $1,610,164 | $1,431,303 | $3,041,467 |
| | Additions | $52,137 | $65,608 | $117,745 |
| | Sales | - | - | - |
| | Depreciation – existing | ($38,310) | ($36,720) | ($75,030) |
| | Depreciation – new | ($8,114) | ($6,597) | ($14,711) |
| | Contributions | ($3,873) | ($3,872) | ($7,745) |
| | **Closing** | **$1,612,004** | **$1,449,722** | **$3,061,726** |

| | | Water | Sewerage | Total |
|---|---|---|---|---|
| 1 July 2016 | Opening RAB | $1,612,004 | $1,449,722 | $3,061,726 |
| | Additions | $52,351 | $65,588 | $117,939 |
| | Sales | - | - | - |
| | Depreciation – existing | ($38,310) | ($36,720) | ($75,030) |
| | Depreciation – new | ($9,764) | ($8,433) | ($18,197) |
| | Contributions | ($3,970) | ($3,969) | ($7,939) |
| | **Closing** | **$1,612,311** | **$1,466,188** | **$3,078,499** |
| 1 July 2017 | Opening RAB | $1,612,311 | $1,466,188 | $3,078,499 |
| | Additions | $49,831 | $68,307 | $118,138 |
| | Sales | - | - | - |
| | Depreciation – existing | ($38,310) | ($36,720) | ($75,030) |
| | Depreciation – new | ($11,365) | ($10,276) | ($21,641) |
| | Contributions | ($4,070) | ($4,068) | ($8,138) |
| | **Closing** | **$1,608,397** | **$1,483,431** | **$3,091,828** |

### 5.5.5 Projected average assets values (roll-forward of RAB)

The RAB in each financial year is based on the average of the opening RAB and closing RAB. The forecast average balances, calculated separately for water and sewerage, in each year of the period are set out in Table 21.

**Table 21: Projected average asset values for each year of the 2015-18 period**

| | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Average RAB – Water new | 292,104 | 331,488 | 367,994 |
| Average RAB – Water existing | 1,318,980 | 1,280,670 | 1,242,359 |
| Average RAB – Sewerage new | 223,820 | 277,983 | 331,557 |
| Average RAB – Sewerage existing | 1,216,692 | 1,179,972 | 1,143,253 |

## 5.6 Return on capital (WACC)

Section 68(1A) of the Industry Act specifies that there will be one WACC for existing assets transferred to the former regional corporations prior to 1 July 2011 and another WACC for new assets purchased or constructed since 1 July 2009.

In its Price and Service Plan Guideline, and consistent with the approach that was adopted for the 2012-15 period, the Economic Regulator has adopted a building block approach for determining the WACC. More specifically, a real pre-tax WACC will be adopted for the 2015-18 regulatory period.

The Price and Service Plan Guideline states that TasWater is to propose a value for each component that makes up the WACC (with the exception of the corporate tax rate, which is a given), and the Economic Regulator will consider the proposals and respond accordingly.

More detail regarding TasWater's approach to determining the components and the proposed values for each WACC, which has been developed with the assistance of independent advice, is set out in the following sections.

It is important to note that TasWater's proposal for the next regulatory period to achieve revenue that is at the lower limit of sustainability means that the WACC is not a key determinant of revenue

or pricing outcomes. This is because lower limit revenue does not provide for the business to earn a return on its assets. Over time, with the requirement for TasWater to transition towards statutory limit revenue, the WACC will become more important with respect to its influence on revenue and prices.

### 5.6.1 WACC to apply to new assets (purchased or constructed since 1 July 2009)

The Price and Service Plan Guideline specifies that the WACC for new assets will be based on the following formula:

$$New\ Assets\ WACC_{nominal} = R_d \times R_e \times \left(\frac{1}{(1 - t(1-\gamma))}\right) \times (1 - G)$$

$$New\ Assets\ WACC_{real} = \left(\frac{(1 + WACC_{nominal})}{(1 + i)}\right) - 1$$

Where:

$R_e$ = Cost of equity (post-tax)

= $R_d + \beta_e \times (R_m - R_f)$

$R_d$ = pre-tax cost of debt

$R_m$ = market return

$R_f$ = risk free rate

t = corporate tax rate

$\beta_e$ = equity beta

G = gearing ratio

i = forecast inflation (annual average over regulatory period)

γ = gamma

TasWater has undertaken a review of the WACC components and considers that the methodologies and rationale behind the majority of the components that were adopted for the 2012-15 regulatory period remain sound. Accordingly, TasWater is of the view that adopting a substantially similar approach for the 2015-18 period is appropriate.

TasWater has determined that the following components should continue to apply in line with the 2012-15 approach already adopted:

- $R_m$: 6 per cent is still in line with market expectations and is the rate suggested by IPART and the AER in recent publications
- $\beta_e$ & *γ*: there is a significant body of readily accessible analysis to support the current values
- G: it is standard practice for regulators to use a gearing ratio of 60 per cent
- *t:* the corporate tax rate is a given
- *i:* the methodology for estimating inflation is transparent and appropriate, particularly given the derived inflation rate is in line with long term outcomes since inflation targeting was adopted by the RBA

On this basis, the only methodologies that TasWater is proposing an alternative approach for are in relation to determining the risk free rate ($R_f$) and the debt risk premium, which will give the pre-tax cost of debt ($R_d$) when combined. TasWater's proposed approach to these components is addressed in further detail below.

The proposed values for all WACC components are listed in Table 23.

**Risk Free Rate and Debt Risk Premium**

Previously, the Economic Regulator used an 'on-the-day' methodology that was in line with generally accepted practice at the time. This methodology has some flaws in that it does not reflect the actual borrowing behaviour by regulated entities (either public or private), it has restrictions on

activity placed by financial markets and the overriding requirement for organisations to prudently manage financial market risk outside of any regulatory framework.

Effectively, the current methodology implies that TasWater should have all its debt repriced around the time that the regulator assesses the risk free rate and the debt risk premium. This is neither a reasonable nor practical approach and there are many submissions to regulators across the country making this argument.

These issues have been recognised over the past few years by IPART and the AER, who have both introduced new methodologies that are designed to better reflect actual practice while meeting the overall requirements of regulation.

In December 2013 IPART outlined a new methodology for regulated entities in NSW, including those in the water sector. Key elements of the approach include setting the cost of debt at the start of the regulatory period with no annual adjustments, and using both current market data and long-term averages.

IPART concluded that it will use current swap market data, with an averaging period of 40 days, combined with a long-term average over 10 years based on swap data and breakeven inflation rates until historical swap data is available (given RBA data only goes back to 2005).

The AER also published a guideline in December 2013 detailing a new approach to determining the rate of return. This involves estimating the allowed return on debt using a trailing average portfolio approach (the length of which will be 10 years) with equal weights to be applied to all elements of the trailing average and the value to be updated every regulatory year.

TasWater has a formal Treasury Policy with specific controls around funding and interest rate risk. With respect to interest rate risk, the Corporation takes a portfolio approach to risk management with duration controls to ensure that the actual re-pricing profile is broadly in line with the underlying regulatory regime and has regular re-pricing to maintain flexibility.

The following table shows potential regulatory debt allowance levels applying the historical approach adopted by the Economic Regulator, IPART's proposed methodology and the new approach adopted by the AER.

**Table 22: Possible debt allowance levels applying different methodologies**

| Methodology | Risk Free Rate | Debt Risk Premium | Pre-tax Cost of Debt |
|---|---|---|---|
| **Economic Regulator** | **3.70%** | **2.10%** | **5.80%** |
| IPART | | | |
| 10 year average | 4.98% | 2.80% | |
| 40 day average | 3.73% | 2.22% | |
| **Combined** | **4.36%** | **2.51%** | **6.87%** |
| **AER** | **4.98%** | **2.80%** | **7.78%** |

*Notes:*

1. *All values calculated according to the prevailing market rates as at 30 June 2014.*
2. *All data sourced from the RBA.*
3. *The debt risk premium is based on a BBB credit rating.*

Given the Corporation's current debt maturity profile, which sees a range of maturities and related interest rate resets, TasWater is of the view that a 'new' approach would better reflect market behaviour and recognise the prudent risk management approach that has been adopted by TasWater historically.

### 5.6.2 WACC to apply to existing assets (ie assets transferred before 1 July 2011)

For existing assets, the WACC incorporates a commercial rate of return on debt and a legislated pre-tax rate of return of three per cent on equity.

$$Existing\ Assets\ WACC_{nominal} = (R_d \times G) + \big(Z \times (1 - G)\big)$$

Where:

Z = Statutory pre tax cost return on equity replacing $R_e \times \left(\frac{1}{(1-t(1-\gamma))}\right)$ in the new assets formula

$R_d$ = pre-tax cost of debt

G = gearing ratio

TasWater's view on the components for the existing assets WACC are consistent with those discussed above for the new assets WACC.

### 5.6.3 Proposed WACC components for 2015-18

TasWater proposes the following approach to determining the components for the WACC:

- Use the current 2012-15 reset parameters for market return, equity beta, gearing, corporate tax rate and gamma (being 6%, 0.65, 60%, 30% and 50% respectively).
- Calculate the risk free rate as close as possible to the start of the regulatory reset period using the simple averages of the 10 year Commonwealth Government bond rate over the previous 40 business days and over the last 10 years, using RBA data.
- Calculate the debt risk premium as close as possible to the start of the regulatory reset period using the simple averages of the BBB credit (debt) margin over the previous 40 business days and over the last 10 years, using RBA data.

**Table 23: Proposed values for WACC components**

| Components | Current 2012-15 Value | Proposed 2015-18 Value^ |
|---|---|---|
| $R_e$ = cost of equity (post tax) (new assets) | 8.17% | 8.26% |
| $R_d$ = pre-tax cost of debt | 7.02% | 6.87% |
| $R_m$ = market return | 6.0% | 6.0% |
| $R_f$ = risk free rate | 4.27% | 4.36% |
| *t* = corporate tax rate | 30.0% | 30.0% |
| $\beta_e$ = equity (beta) | 0.65 | 0.65 |
| G = gearing ratio | 60.0% | 60.0% |
| *i* = forecast inflation | 2.5% | 2.5% |
| $\gamma$ = gamma | 50.0% | 50.0% |
| Z = statutory pre tax return on equity (existing assets) | 3.0% | 3.0% |
| **Proposed new assets WACCreal** | **5.32%** | **5.37%** |
| **Proposed existing assets WACCreal** | **2.74%** | **2.75%** |

*Note: Values for $R_d$ and $R_f$ (and consequently $R_e$) have been calculated as at 30 June 2014.*

TasWater is of the view that the proposed component values are supported by analysis, are broadly in line with current market practice, meet the requirements of the Price and Service Plan Guideline, and are transparent and straightforward to calculate with easy access to independent, reliable and consistent data.

## 5.7 Asset annuity (for lower revenue limit calculation)

The Asset Renewal Annuity (ARA) is an annualised calculation of the future asset renewal and replacement program required to maintain the operating capacity of infrastructure assets over the life of the regulated entity.

The ARA is one building block of the lower limit revenue calculation (discussed further in section 5.8). As specified in the Price and Service Plan Guideline, TasWater will develop a forward asset renewals and replacement program to be able to calculate an ARA.

In order to calculate the ARA with accuracy and confidence, TasWater requires a detailed knowledge of its assets. Typically this information includes categorisation (asset type), date of purchase or construction, original cost, current replacement cost, assumed life, dates and amounts of refurbishment expenditures required during the life of each asset, and whether an asset will be replaced at the end of its useful life (and if so, when).

Under the Price and Service Plan Guideline, TasWater is also expected to develop a long-term cash flow of forward compliance capital expenditure, which can be added to the renewals and replacements cash flow and the annuity calculation.

For the 2015-18 regulatory period, TasWater has calculated a 30-year asset renewals annuity at approximately $95 million for each year of the regulatory period. This annuity includes a discount rate aligned with the WACC on new assets (5.37 per cent), which is consistent with the approach taken by the Economic Regulator in the 2012 determination and the Price and Service Plan Guideline.

**Table 24: Asset annuity provision ($'000)**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| Total annuity provision | 95,191 | 95,191 | 95,191 |

It should be noted the calculation of the ARA is heavily influenced by the quality of asset data. TasWater is aware of the limitations and relative accuracy of the information contained within the asset register and the impact that this may have on the calculation of the ARA. There is ongoing works to improve the asset register through asset data improvement projects and the implementation of a fit for purpose Asset Management Information System. The ARA calculation is therefore based on our current understanding of our assets Valuation.

## 5.8 Lower revenue limit (sustainability)

Consistent with the National Water Initiative prescribed pricing principles TasWater should recover revenue that is at least equal to the lower limit, which represents the minimum required to achieve sustainability, but not greater than the upper revenue limit, which represents full cost recovery.

The lower limit is the minimum amount TasWater requires to cover all costs of operation and therefore provides for operating and maintenance expenditure, debt servicing costs and an allowance for the cost of asset refurbishment, replacement and future augmentation. It does not provide for TasWater to earn a return on capital other than interest costs incurred and dividends paid.

It is important to note that the calculation of the lower revenue limit includes actual debt servicing costs rather than a benchmark level of debt and debt funding costs due to the lower revenue limit reflecting the sustainability threshold.

The forecast interest expense has been calculated based upon the existing loan portfolio and the increase in borrowings required in each year of the plan. The debt servicing costs take into account the cost of the current loan portfolio and the expected costs of new borrowings undertaken in the plan period inclusive of our lenders margins and guarantee fees.

TasWater's lower limit revenue requirements for each year of the 2015-18 regulatory period, broken down by component, are set out in Table 25.

**Table 25: Lower limit revenue requirements**

| | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Efficient Operating Costs | 160,301 | 164,676 | 169,173 |
| Annuity provision | 95,191 | 95,191 | 95,191 |
| Interest on debt | 23,618 | 25,908 | 30,564 |
| **Lower Limit Revenue** | **279,110** | **285,775** | **294,928** |

Historically in Tasmania the revenue raised by the former regional corporations did not meet full cost recovery. TasWater is for the 2014/15 financial year currently recovering revenue at the lower limit.

This 2015-18 Price and Service Plan has been developed on the basis that TasWater will also recover revenue at the lower limit for each year of the regulatory period, rather than pursuing statutory revenue at this time. This approach enables TasWater to manage the impact of price rises for its customers while still spending money on its assets to address issues of non-compliance and improve services.

## 5.9 Upper revenue limit (full cost recovery)

As per the NWI pricing principles, the upper limit represents the revenue water businesses need to earn to fully recover their costs, including funding depreciation, and earn a commercial return on their assets. It is the maximum revenue water businesses can achieve.

The upper limit revenue calculation provides for operating and maintenance expenditure, depreciation and a commercial, risk adjusted, and return on capital. It is important to note that the commercial return here applies to all assets, regardless of whether they are 'existing' or 'new' for the purpose of calculating statutory revenue.

TasWater's upper limit revenue requirements for each year of the 2015-18 regulatory period, broken down by component, are set out in Table 26.

**Table 26: Upper limit revenue requirement**

| | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Return on Assets^ | 164,014 | 165,009 | 165,818 |
| Regulatory Depreciation | 89,741 | 93,227 | 96,671 |
| Efficient Operating Costs | 160,301 | 164,676 | 169,173 |
| **Upper Limit Revenue** | **414,056** | **422,912** | **431,662** |

*Note: Return on assets for the purpose of upper limit revenue is based on a commercial rate of return on all assets (ie new assets WACC applied to all assets).*

TasWater is well short of earning revenues that achieve full cost recovery and is not expecting to do so in the next 10 years.

## 5.10 Statutory revenue limit

Section 68(1A) of the Industry Act requires the calculation of a statutory revenue limit, which is based on a separate WACC for existing assets transferred to TasWater up until 1 July 2011 (2.75 per cent as per section 5.6.3) and new assets purchased or constructed post 1 July 2009 (5.37 per cent as per section 5.6.3). It is the maximum revenue TasWater can earn.

As is the case with the upper limit calculation, statutory revenue provides for operating and maintenance expenditure and depreciation. It also provides for a return on capital; however, this is differentiated based on 'existing' and 'new' assets.

The level of revenue required to run TasWater if it were operating at the statutory limit, broken down by component, is set out in Table 27.

**Table 27: Statutory limit revenue requirement**

| | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Return on existing assets^ | 69,811 | 67,746 | 65,680 |
| Return on new assets^ | 27,729 | 32,757 | 37,599 |
| Efficient Operating Costs | 160,301 | 164,676 | 169,173 |
| Depreciation | 89,741 | 93,227 | 96,671 |
| **Statutory Limit Revenue** | **347,582** | **358,406** | **369,123** |

*Note: Return on assets for the purpose of statutory revenue is based on the WACC for existing assets and the WACC for new assets.*

## 5.11 Forecast revenue

At this time the revenue limit calculations described in sections 5.8, 5.9 and 5.10 above are theoretical for TasWater and do not represent the actual level of revenue the Corporation expects to earn during the period.

A summary of the actual revenue TasWater expects to earn in each year of the 2015-18 period, broken down by source, is set out in Table 28.

The table shows that TasWater's total regulated revenue is forecast to increase by an average of 3 per cent during the period. This is less than the proposed 6 per cent increase in target prices set out in Chapter 7 as a result of the proposal to transition all customers (including those who are well above target at the start of the period) to target by 30 June 2018.

**Table 28: 2015-18 forecast revenue**

| Revenue Source | 2015/16 ($'000) | 2016/17 ($'000) | 2017/18 ($'000) |
|---|---|---|---|
| Fixed Charges | 224,580 | 229,244 | 233,133 |
| Variable charges | 52,774 | 56,601 | 60,570 |
| Government grants | 6,499 | 1,874 | 1,874 |
| Other revenue[1] | 4,371 | 4,679 | 4,796 |
| **Forecast total revenue[2]** | **288,204** | **292,398** | **300,353** |

*Notes:*

1. *Other revenue includes revenues received from miscellaneous fees and charges, new connections, development services assessment activities and other sundry items.*
2. *Revenue received from unregulated activities (including reuse and irrigation), and from Category 3 and 4 trade waste customers is not included in this calculation of forecast total revenue.*

The total revenue set out in Table 28 shows that during the 2015-18 period TasWater expects to earn revenue that is above the minimum sustainability threshold (ie lower revenue limit) but well below the statutory limit revenue. TasWater does not currently expect to achieve statutory limit revenue until post 2024.

# 6 DEMAND FORECASTING

## 6.1 Summary

Demand forecasting is an important element in planning TasWater's capital program as well as determining revenue and pricing outcomes for each regulatory period.

TasWater utilises a number of sources for growth projections including the Australian Bureau of Statistics, the Tasmanian Department of Treasury and Finance, specific council area studies, council land use strategies (to identify available residential and industrial land areas), and through specific discussions with councils and stakeholders.

In developing this draft plan, TasWater created a demand model utilising available 2013 consumption data to establish a baseline, and applied an assumed connection growth factor to provide a forecast of expected water usage.

TasWater is projecting net annual growth of 0.5 per cent per annum over the 2015-18 period.

During the 2012-15 period a number of important initiatives, including the introduction of universal water metering, unwinding of free water allowances and starting to raise community awareness about water conservation could well have distorted demand growth. Over time we expect to improve demand forecasting with a particular emphasis on networks where spare capacity is limited.

It is also important to note that once all customers have transitioned to state-wide volumetric water pricing (end of this period), TasWater will be in a stronger position to analyse demand patterns and trends with more accuracy.

TasWater's approach to demand forecasting, with specific information regarding forecast water, sewerage and trade waste volumes, is set out in further detail throughout this chapter.

## 6.2 Key characteristics of customer base

Tasmania has a population estimated at 543,955[4] persons in the December quarter 2013, which represented nominal growth on the previous year of 0.3 per cent. This population is ageing, more rapidly than in any other Australian state or territory, with older people making up the majority of the population. This trend is expected to continue until around 2025[4]. The overall median age is 40 years.

TasWater provides water and sewerage services to many different communities, ranging from medium density hubs to rural townships, some of which include tourism areas with significant transient populations. The customer base is widely dispersed across the state, which has a relatively low population density at 7.5[5] people per square kilometre ($km^2$) compared to other states.

The majority of customers are located in the greater Hobart area[6], which has a greater density distribution at 130 people per $km^2$, and other regional cities such as Launceston (which has a density of 7.2 people per $km^2$). By contrast, the West and North West have a density of 5.1 people per $km^2$, with 1.6 people per $km^2$ in the South East. It should be noted that the population density of Hobart is much lower than other capital cities around the country.

[4] SOURCE: *AUSTRALIAN DEMOGRAPHIC STATISTICS,* ABS CAT NO 3101.0, TABLE 4

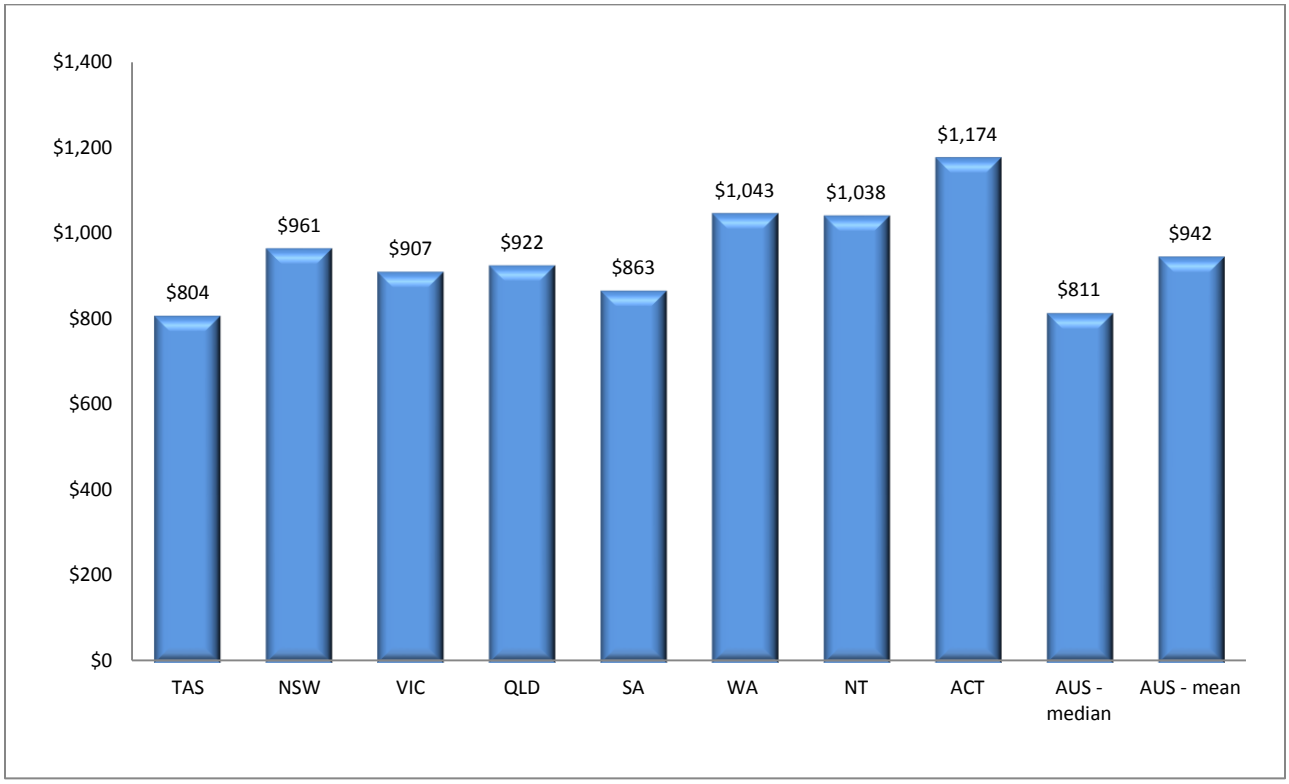
[5] ABS 3218.0 Population

[6] Hobart capital city is defined as greater Hobart in line with the ABS statistical area definition, which comprises Brighton, Clarence, Derwent Valley part A, Glenorchy, Hobart, Kingborough part A and Sorell part A.

According to the ABS there are 232,370 private dwellings in Tasmania with an average 2.4 people per household. There is only limited data available regarding the types and makeup of these dwellings, however analysis of 2012/13 performance data shows that almost 92 per cent (181,000) of customers receiving a water supply are residential homes, with the remaining 8 per cent (16,000) being commercial and industrial properties[7], health and care facilities, sporting grounds and parks (among others). This is closely aligned with the split of customers serviced by a sewerage system, which sits at just over 92 per cent for residential homes and just under 8 per cent for non-residential properties.

With respect to weekly disposable income, Tasmanian households recorded the lowest of any state across the country in 2012/13. This is shown in Figure 10.

**Figure 10: State by state comparison of weekly disposable household income in 2012/13**




*Source: ABS 6523.0 - household income and income distribution, Australia, 2011-12*

With these disposable income statistics in mind, and in an environment where other utility costs are also rising, TasWater is aware that future water and sewerage prices and transition arrangements are of particular significance for our customers. This view has been reinforced in feedback TasWater has received from customers and customer representative organisations particularly in response to the summary of this draft plan.

Under the proposals set out in this draft plan water and sewerage charges could, on average, make up 2.5 per cent of household disposable income in Tasmania by 2017/18. This will remain less than other essential services such as housing and electricity, but nonetheless is a significant impost in a community where average incomes are low.

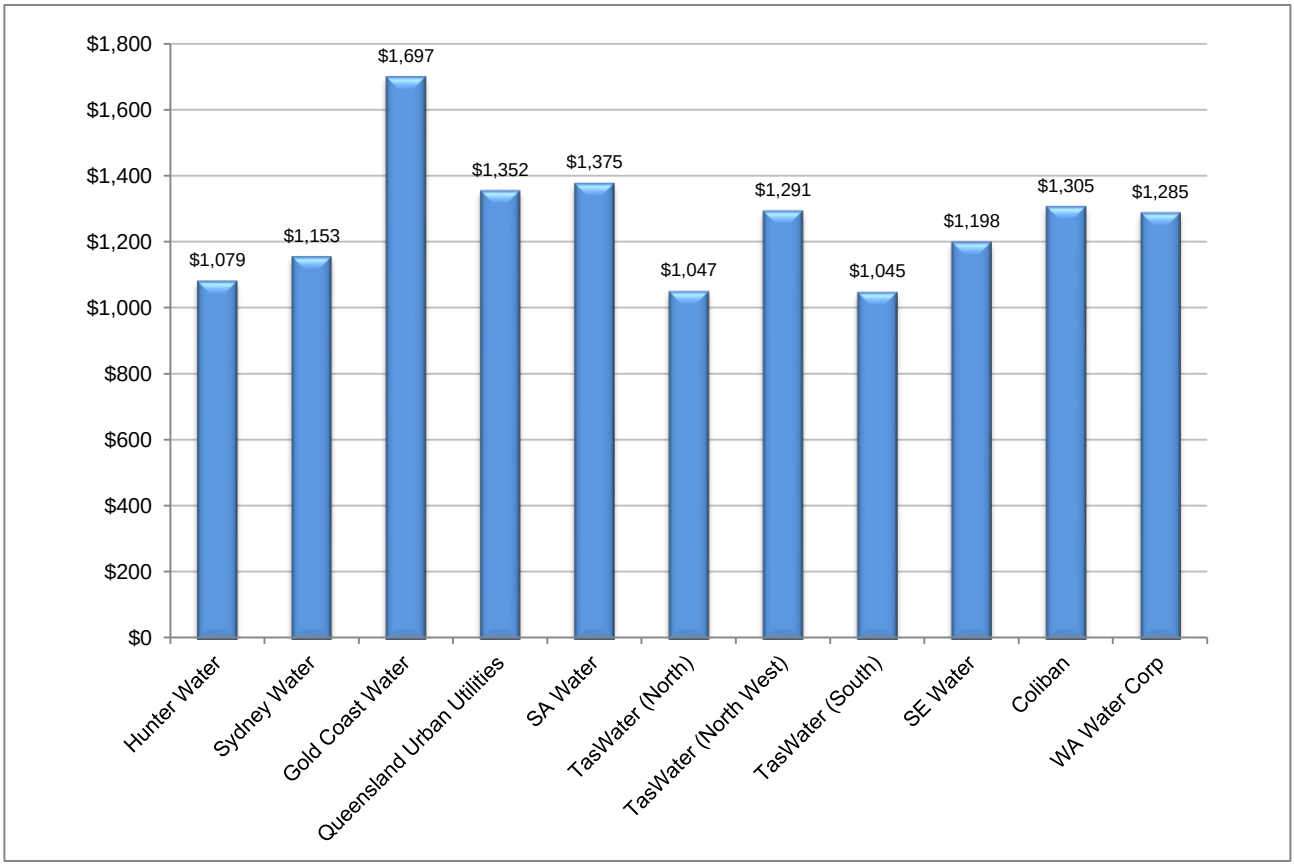
TasWater remains conscious of the impact and affordability of prices on customers. As discussed throughout this draft plan, customer affordability has been a key factor for TasWater in developing the pricing and service level proposals for the 2015-18 period, balanced against the significant ageing and non-compliant infrastructure challenge that the Corporation is also required to address.

[7] Under the NWI definitions these customer numbers exclude service connections (unconnected, vacant properties).

TasWater will continue to work with its various stakeholders and the sector's regulators to ensure that necessary price increases kept to an absolute minimum.

A comparison of residential total average water and sewerage bills with other urban based jurisdictions, based on 200kL of water usage per annum, are displayed in Figure 11 below.

**Figure 11: Other Australian urban residential total bill averages 2014-15**




As can be seen from the above chart TasWater's current tariffs are not out of step with other prices and those proposed under this draft plan are considered not unreasonable given the ongoing capital expenditure requirements and long-term sustainability.

Based on the proposals set out in this draft plan, the total bill for Tasmanian residential customers, based on 200kL, for 2016 will be $1,050.16. The charges that underpin this amount are an important part of TasWater being able to meet its compliance obligations and improve the level of service provided to customers.

## 6.3 Customer classes

TasWater has adopted several customer classes to reflect differing levels of service. With the exception of trade waste customers, these classes are the same as those in place for the 2012-15 period.

With respect to trade waste customers, TasWater is proposing to refine the categories using an improved technical and commercial risk assessment of trade waste impacts on the sewage system as the basis for categorisation and calculation of trade waste charges. More specifically, Category 2 will be split into three to more accurately categorise trade waste customers according to their demand on the sewer system.

TasWater's customer classes are as follows:

- Full Service Water Customers
- Limited Water Quality Customers – those customers receiving water from a supply, which has a permanent boil water alert in place, is subject to a Do Not Consume notice issued by the Director of Public Health or customers receiving water from a supply TasWater has declared to be limited water quality.
- Limited Water Supply Customers:
    - Connected to a water main that periodically does not contain water under positive pressure
    - Have a water connection designed to provide low or intermittent flow, such as where the customer has been required to install, operate and maintain an individual tank or pump
    - Are connected to a non-reticulation water main that is subject to significant pressure variations due to either a pumped supply where the low pressure is below 50kPa and the high pressure is above 500kPa, or an inlet supply to a trunk reservoir such that when the reservoir inlet valve is open the pressure is below 50kPa
    - Receive a supply that TasWater determines to be inadequate.
- Combined Limited Water Quality and Limited Water Supply
- Full Service Sewer Customers
- Limited Sewer Customers (STED Service)
- Fire Service Customers
- Customers with unconnected properties
    - Water service charge; and/or
    - Sewerage service charge (equivalent to 60 per cent of the fixed sewerage service charge per ET)

The forecast customer numbers by class are set out in the following table. The growth factor of 0.5 per cent has been applied to estimate the number of customers for each year of the 2015-18 regulatory period.

**Table 29: High level summary of customer numbers**

| Customer Class | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| Full service water | 206,168 | 207,198 | 208,233 |
| Limited water quality | 2,855 | 2,869 | 2,883 |
| Limited water supply | 527 | 529 | 531 |
| Full service sewer | 185,547 | 186,474 | 187,406 |
| Limited sewer (STED service) | 500 | 502 | 504 |
| Fire service | 2,073 | 2,083 | 2,093 |

It should be noted that the forecasts set out in Table 29 do not reflect the impact of TasWater's capital program over the same period. This means, for example, that where a system is upgraded during the period and customers go from receiving a limited water supply or limited water quality supply to receiving a full service, that change is not reflected in the forecast customer numbers.

## 6.4 Minimum flow rates

The minimum flow rate for serviced land within the Tasmania is the flow rate that the property received or would have received if that property was connected to water infrastructure at 1 July 2009.

The proposed minimum flow rate for properties that are within TasWater's serviced land area from 1 July 2015 is 15 litres a minute[8]. This accounts for those inherited customers who may currently be receiving flow rates below modern design standards and as such shall attract a limited supply target tariff.

## 6.5 Customer growth assumptions

As discussed earlier in the chapter, through this 2015-18 period TasWater is forecasting only 0.5 per cent for each year in the period.

However the 0.5 per cent is a state wide average and in recent times, the majority of Tasmanian growth has occurred in isolated pockets throughout the state. There are also areas that have experienced nil growth.

It should also be noted that Tasmania has a large influx of tourists annually, with somewhere in the order of 900,000 to 1 million customers annually placing seasonal demand on water and sewerage services, particularly on smaller isolated systems such as on the east coast.

This projected growth factor is the key driver for TasWater's increasing volumetric demand, given there is little data relating to any industrial or climate factors of significance.

As TasWater's historical customer water consumption data improves over time it is anticipated that a greater degree of analysis around the growth of residential and commercial and industrial sectors will lead to further optimisation of the capital planning and investment process.

## 6.6 Water supply planning framework

At present, demand forecasting is incorporated into the development of major capital expenditure projects, such as the Kingborough Sewerage Strategy and also as part of the Greater Launceston and Hobart Sewerage Strategies.

TasWater is planning to implement a robust demand analysis process as part of the inaugural Strategic Asset Management Plan (SAMP), which is expected to be completed by June 2015. The SAMP will outline the factors involved in addressing the challenges of defining and delivering a level of service that balances the needs of the customers with the asset's long-term ability to deliver these services.

As discussed previously within this plan, many of the capital projects are based on compliance drivers that will ensure treatment plants meet legislative and regulatory obligations. Although the primary driver for much of the capital works program is compliance, analysis of likely growth is incorporated to ensure the best long-term solution.

Factors affecting demand are not only related to population change, but also include changes in demographics, seasonality, climate change, consumer tastes and expectations, economic factors, agricultural practices and environmental awareness.

The ongoing development of water and sewerage modelling to forecast demand and its effect on TasWater's current and proposed infrastructure is a priority for the Corporation. It is important to note that the use of such models depends on land use planning and development trends, which are subject to change over time.

[8] Refer section 17.6 of the Customer Service Code.

## 6.7 Water volume forecasts

A demand model was created for the development of this draft plan to provide a forecast of expected water usage. It uses available 2013 consumption data and applies the projected 0.5 per cent connection growth.

TasWater is forecasting overall total consumption of 59,683ML by the end of 2017-18, as set out in Table 30 together with the number of equivalent 20mm water connections in each year.

**Table 30: Forecast water connections and volume for each year of the 2015-18 regulatory period**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| No of equivalent 20mm connections | 255,646 | 256,711 | 257,939 |
| Total water volume (ML) | 57,964 | 58,817 | 59,683 |

With respect to average water consumption for a typical 20mm water service, which encompasses both residential and some non-residential customers, TasWater has assumed a figure of 200kL per annum for the purpose of developing this draft plan, where consumption has had to be estimated. This is a continuation of the approach adopted for 2012-15 by the former regional corporations.

TasWater expects this assumption will be revisited for the next pricing period when more data is available. This will enable TasWater to determine whether there are any significant year-on-year variations that can be attributed to pricing, climate or demographic changes.

It is also important to note that TasWater has a number of allocation licences from DPIPWE that allow the Corporation to take water directly from a stream or store it in a dam for supply to our water systems.

These allocations are continually reviewed by TasWater and DPIPWE with a view to ensuring that the extraction points of water allocations endorsed on licences are correctly designated in terms of extraction location and specific resource from which the water is taken, and the quantum is reflective on the historical entitlement. These allocations may need to be adjusted as water demand and supply scenarios change over time.

While in general the overall water allocated exceeds water consumption, there are some discrete water systems that are resource constrained during certain periods of the year, for example those on the east coast during periods of drought and high unseasonal influx of tourists.

The water catchments of Lake Fenton, Mount Wellington and the Derwent River account for the largest allocated volume.

## 6.8 Sewage volume forecasts

As discussed in further detail in Chapter 7, TasWater is continuing to use the ET methodology to determine if its sewerage infrastructure can meet demand.

TasWater's 0.5 per cent growth factor equates to an increase of around 1,100 ETs per year, with growth in customer numbers of approximately 940 per year.

From a volume perspective, it is anticipated that approximately 50,000ML per annum of sewage will be treated in 2015/16, which equates to 209kL of sewage per ET. Factoring in the increase in water demand anticipated over the life of the plan, it is expected that this will increase to nearly 51,000ML by 2017/18. This forecast includes system inflow and stormwater infiltration into TasWater sewerage infrastructure.

**Table 31: Forecast sewerage connections and volume for each year of the 2015-18 regulatory period**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| No of Equivalent Tenements | 238,967 | 240,098 | 241,245 |
| Total forecast sewerage volume (ML) | 49,944 | 50,431 | 50,925 |

## 6.9 Trade waste forecasts

TasWater has estimated the volume of trade waste discharged to sewer by using:

- water consumption data for the 2012/13 year
- base volume (BV) which is equivalent to 80 per cent of the annual potable water meter consumption[9] for the property receiving the trade waste service
- discharge factors (DF) which reflect a percentage of metered water consumption considered to be trade waste discharged to sewer.

More specifically, the following formula is used:

*Trade Waste Volume = FY12/13 water consumption x BV x DF*

With respect to each of these components, the potable water consumption data for 2012/13 has been used as it provided the highest number of properties with available water consumption data due to increased installation of meters over the previous 12 months.

In relation to discharge factors, assuming the base volume includes both a trade waste and domestic portion, this is applied to the base volume to represent the typical volume of trade waste expected to be discharged dependent on the business activity.

The Liquid Trade Waste Regulation Guidelines – Appendix G published by the NSW Department of Water and Energy in April 2009 provides standard discharge factors for typical low risk trade waste customer business activities. These discharge factors have been directly matched to the relevant trade waste codes used by TasWater where applicable. Where a direct match was not available or additional assumptions have been made the justification for each decision has been noted[10].

TasWater will investigate and collect additional data during the 2015-18 regulatory period to improve the accuracy of the trade waste discharge factors. The trade waste discharge factors are shown in Table 32.

With respect to volumes, potable water consumption data is available or can be interpolated for more than 90 per cent of the customer base.

To enable the volume data to be used across the entire customer segment TasWater has applied the following assumptions and rules:

- A default 200kL/a has been applied to all properties where consumption data was unobtainable, based on a typical 20mm water connection. This is based on the applied rules for the calculation of wastewater to sewer for 1 ET.
- The average of the calculated trade waste volume for category 1 (115kL/a) and 2A (185kL/a) is taken as the typical expected discharge volume from customers in each category and therefore used to calculate the applicable target tariff for each category.
- The average of the calculated trade waste volume for category 2B and 2C is disproportionate to the typical expected discharge volume for these customers. To allow trade waste department sufficient time to investigate and clarify accurate volumes for these customers the

[9] Consistent with TasWater's Supplements to the WSAA Water Supply Code and WSAA Sewerage Code.

[10] Defaulted to the lowest available discharge factor.

trade waste discharge volume for category 2B and 2C has been lowered and capped at 300kL/a and 500kL/a respectively.

- Where multiple properties are supplied by the same meter the potable water volume is divided equally among the properties serviced.

**Table 32: Deemed trade waste discharge volumes by category**

| Trade Waste Category | Number of Customers | Trade Waste Discharge Volume (kL/A) | Total Annual Demand (ML/A) |
|---|---|---|---|
| 1 | 869 | 115 | 100 |
| 2A | 2,104 | 185 | 389 |
| 2B | 243^ | 300 | 73 |
| 2C | 251^ | 500 | 126 |
| | | **Total Demand** | **688** |

*Note: Category 2B and 2C trade waste discharge volumes have been capped at 300kL/a & 500kL/a respectively pending further investigation of these customers to determine accurate base volumes.*

## 6.10 Lot growth forecasts

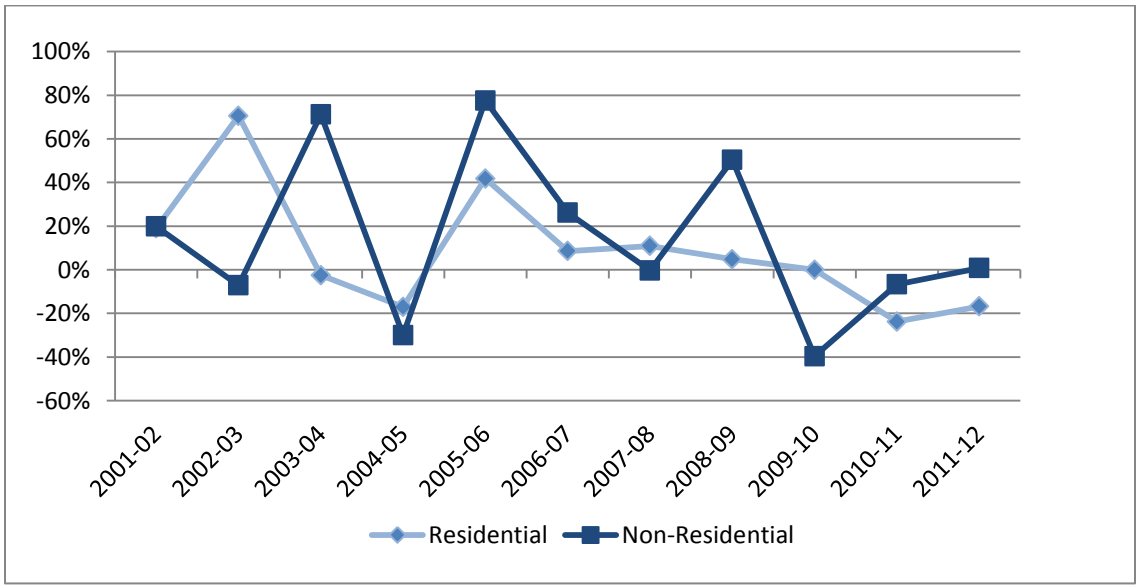
Building approvals is one of several factors TasWater takes into account in forecasting new connections.

This data relates to the number and value of residential and non-residential building approvals and is based on information provided by approving authorities including:

- permits issued by local government authorities and other principal certifying authorities
- contracts let or day labour work authorised by commonwealth, state, semi-government and local government authorities
- major building approvals in areas not subject to normal administrative approval eg building on remote mine sites.

Tasmanian building approvals data for the 10 year period from 2001/02 to 2011/12 is shown in Figure 12.

**Figure 12: Percentage change in Tasmanian building approvals**




*Source: Australian Bureau of Statistics, Building Approvals, Cat. 8731.0.*

The uncertainty in Tasmania associated with the continuation of the first home owners grant, the current unemployment levels, and the relative low levels of residential approvals since 2009/10 would indicate that building approvals do not translate lineally to TasWater's overall customer growth as it is only one of many factors that is taken into account. As discussed throughout this chapter, TasWater is forecasting minimal growth of 0.5 per cent for each year of the 2015-18 period.

In relation to new connections, TasWater is forecasting 337 residential water connections and 337 sewerage connections in 2015/16. Forecast new connections for the remainder of the regulatory period are set out in Table 33.

**Table 33: Forecast water and sewerage new connection forecasts for 2015-18**

| Connection type (separately for water and sewer) | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| Residential lots | 337 | 345 | 354 |
| Non-residential lots | 276 | 283 | 290 |

With respect to growth 'hotspots' across the state, TasWater has seen continued growth in the Brighton, Clarence and Kingston municipalities in the South, and Newnham, Kings Meadows and Legana in the North.

Recent planning approvals sighted by TasWater indicate that Penna/Midway Point, Lindisfarne, Waverley, and Grindelwald are growth areas, with substantial infill development expected in Greater Hobart.

In the North West, the stand out growth area is the Latrobe municipality, specifically Port Sorell and Latrobe. There has been a recent rezoning at Port Sorell to allow some 600 new lots, with 204 approved earlier this year. Growth can also be expected to continue in Wynyard with 100 lots approved, and approval pending for a further 150 lots.

With respect to commercial developments, recent approvals include large scale student accommodation in the Hobart CBD and Burnie, as well as the silos redevelopment in Launceston, are anticipated to commence in the 2015-18 period.

It is important to note that recent approvals do not indicate when works will commence or indeed new connections will materialise; however, TasWater expects that many of these developments will proceed in the medium term.

## 6.11 Demand management initiatives

TasWater's demand management initiatives are focused on providing advice to customers to assist in reducing water use. Initiatives include Tasmania House and Garden Water Use Calculator, which can be accessed by customers on TasWater's web site.

This calculator takes customers through regular home environment and quizzes customers about their use. Throughout and at the end of the calculator, customers are provided with tips on how to minimise water use in each part of the home and garden and an analysis of how much they use with context about average use.

Between December 2013 and May 2014, 1,300 users (approximately 6 per cent of TasWater's customer base) accessed and used the calculator, spending an average of 20 minutes on this service. This calculator will continue to be made available and planning is underway to increase promotion of the calculator's availability.

WaterSense is TasWater's current program of communication providing advice to customers to help reduce water use. TasWater's web site contains detailed information, including four fact sheets around reducing water use in the home and garden by addressing leaks and selecting

appropriate appliances. Information is also disseminated through TasWater's quarterly customer newsletter.

Working with the Royal Tasmanian Botanic Gardens, TasWater also developed numerous fact sheets and videos for gardeners and over the coming year further opportunities to widen the scope of the campaign will be considered.

# 7 PRICING AND CUSTOMER IMPACT ANALYSIS

## 7.1 Summary

For the 2015-18 regulatory period, TasWater is aiming to quicken the pace of the pricing transition to get the majority of customers on a level playing field as early as possible.

The pricing proposal is underpinned by a number of key assumptions, including state-wide postage stamp pricing where all customers pay the same price for the same service irrespective of their location.

TasWater is proposing to continue using the ET methodology as the basis for calculating sewerage charges, is not proposing to alter the current weighting/split of fixed and variable charges, and will continue levying service charges on vacant land.

The proposal sees a continuation of 6 per cent annual increases in target fixed service charges for water and sewerage, with increases in target volumetric charges for water aligned with CPI at 2.5 per cent. Further, it sees all residential customers (and 95 per cent of all customers) reaching target by the end of the period as a result of the following transition parameters:

- customers above target fixed pricing at the start of the period will come down by 1/3 of the gap to the 2018 target in each year through the regulatory period
- typical residential customers below fixed service charge targets at the start of the period will see a maximum annual increase to fixed service charges (water and sewerage combined) of no more than $100 in each year, or 10 per cent, whichever is the greater, until both targets are reached
- non-residential customers below target will see the combined $100 side constraint increased in proportion to the meter size or number of ETs
- customers below target variable rates will see equal yearly increases across the three years of the period so that they arrive at the target rate by 2018.

TasWater is also proposing the introduction of a new developer charges policy that better reflects Tasmanian circumstances, and a refinement of the methodology for categorising and charging regulated trade waste customers.

## 7.2 Regulatory pricing framework

TasWater has an operating licence, issued under the Industry Act, to own and operate water and sewerage infrastructure and to provide water and sewerage services. These services have been declared as regulated services, as customers receiving services through TasWater infrastructure cannot access the service from a competitor.

Stormwater services, water recycling services and reuse services are not regulated services and therefore not subject to price regulation.

Section 68 of the Industry Act 2008 and the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011* set out the pricing principles with which TasWater must comply in building prices for the regulated services it provides. Together, this legislation contemplates:

- the recovery of efficient costs in providing regulated services and complying with regulatory obligations
- prices that provide effective incentives to promote economic efficiency, reduce costs or otherwise improve productivity with respect to a regulated service
- cost reflective pricing for the provision of regulated services, to the extent that it is commercially and technically reasonable

- two-part pricing for water services based on the recovery of fixed costs and variable costs
- prices that allow for a return on assets that are required in the provision of the regulated service to which those prices relate.

Among other requirements, the Regulations[11] require TasWater to be fully compliant with the pricing principles by 2020. The practical implication of this is that TasWater needs to transition all customers to state-wide, uniform prices by that time.

A key consideration in the transition is the need to manage the impact of price changes on customers while ensuring the ongoing financial sustainability of the business.

Further detail on TasWater's regulated services, and their sub-elements, the rationale behind the structuring of tariffs and the target tariffs for 2015-18 are discussed throughout this chapter.

### 7.2.1 Price Reform Priorities for 2015-18 Regulatory Period

The Economic Regulator has specified its price reform priorities for the second regulatory period in the Price and Service Plan Guideline[12].

The Regulator's priority objectives, which have been determined based on the existing pricing structures that continue to deliver inequitable pricing across the state and TasWater's financial position, are as follows:

- Continuing to transition customers to a rational price structure consistent with NWI pricing principles
- Transitioning customers paying above the target tariff towards the target tariff
- Continuing to transition all other customers towards the target tariff
- Generating revenue that, at a minimum, equals the lower revenue limit to achieve sustainability
- Managing the impact of price changes on customers

The Regulator has acknowledged that while achieving these objectives during the second regulatory period is desirable, more time may be required for this to occur.

As is typically the case with any utility business such as TasWater that delivers essential services, the expectations of many stakeholder groups, which often have differing views and objectives, needs to be carefully considered.

Going into this second regulatory period TasWater's focus is on equity and fairness for all customers, achieving a level playing field, and delivering better services and outcomes for all Tasmanians.

TasWater is aware of continuing community concerns about cost of living pressures including the affordability of water and sewerage services.

TasWater also understands that many of its stakeholder groups see current pricing transition arrangements as taking too long and being inherently unfair.

In developing the proposed approach to the pricing and delivery of services for the three year period from 1 July 2015, TasWater has considered the need to balance the following outcomes:

- Managing the impacts of increases for customers currently paying below target pricing
- The expectations of those customers currently paying over target pricing

[11] More specifically, regulation 32 of the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*.

[12] Refer section 4.2 of the Tasmanian Water and Sewerage Industry, 2014-15 Price Determination Investigation, Price and Service Plan Guideline, November 2013.

- Continuing the path of public health and environmental compliance improvement
- Meeting owner expectations as set out in the Shareholders' Letter of Expectations, particularly with respect to facilitating economic development
- Ensuring the Corporation maintains an appropriate financial position so that it can meet its obligations and deliver the agreed standards of customer service.

## 7.3 Rationale behind structure of regulated services and tariffs

### 7.3.1 Regulated services

The Industry Act defines regulated services as follows:

> ***Water service*** *means a service that is provided in connection with the collection, storage, treatment, conveyance, reticulation or supply of water and includes a retail service for the supply of water but does not include:-*
>
> *(a) Supply or use of water for irrigation purposes; or*
>
> *(b) Supply or use water in connection with the generation of electricity.*
>
> ***Sewerage service*** *means:-*
>
> *(a) a service that is provided in connection with the collection, storage, treatment, conveyance or reticulation of sewage and includes a retail service for the collection of sewage; or*
>
> *(b) any other service declared to be a sewerage service by the Minister by order.*

As detailed in section 7.3.4, each of these services has a number of sub-elements for which separate tariffs apply.

The cost of providing each regulated service can be broadly split into the annual charges customers pay for turning on the tap or flushing the toilet, and the one-off fees and charges customers pay for water and sewerage related services, for example a fee to connect to TasWater's water and sewerage infrastructure.

### 7.3.2 Unregulated services

Unregulated services are those that are not subject to regulation under the Industry Act or declared by order of the Minister for Primary Industries, Parks, Water and Environment to be unregulated. They include water for irrigation; reuse water and stormwater services via a combined sewerage stormwater system.

TasWater is required to recover the costs of, and returns on, assets used to provide unregulated services (that is, unregulated assets) from the persons utilising those services rather than from the regulated customer base.

Pricing for unregulated services is not covered by this plan and the revenues, costs and assets relating to unregulated activities have accordingly been excluded from this plan to ensure they are not cross-subsidised by regulated customers. More detail of the range of unregulated services is provided in section 7.15.

### 7.3.3 Pricing zones

Currently, postage stamp pricing applies in Tasmania on a regional basis, with one set of target prices for the North, one set for the North West and one set for the South.

TasWater considers that state-wide postage stamp pricing is the fairest and most practical pricing approach in Tasmania at this current time, particularly given the dispersed population and asset base.

For the 2015-18 regulatory period TasWater is proposing one pricing zone for the whole state with one state-wide 'target price' for each service.

TasWater has developed its proposed state-wide target prices for fixed water charges, variable water usage charges and fixed sewerage charges, together with a pathway for customers to transition towards these prices.

There are a number of specific reasons that justify the appropriateness of postage stamp pricing, particularly within the Tasmanian context:

- the concept of paying the same price for the same service is generally viewed as equating to an equitable outcome for an essential service
- uniform pricing is simple to understand, particularly given the many different pricing arrangements which previously existed in Tasmania
- many small towns could not afford to pay the real costs associated with operating and maintaining small water supply and wastewater treatment systems, thereby rendering the systems unsustainable (this is not unique to Tasmania)
- the administrative cost of developing a complex nodal (system by system) pricing system, which would in all likelihood require data of a level that TasWater does not yet have, is prohibitive.

As discussed in Chapter 3, the concept of postage stamp pricing was raised through the targeted stakeholder consultation undertaken in early 2014. There was solid support across all regions for a single state wide target price for each service, with a general feeling that postage stamp pricing made it fair/equitable for everyone and that with one water authority, one price made sense.

The issue was not prominent in the submissions TasWater received in response to the summary of the draft plan that was publically released on 30 May 2014.

### 7.3.4 Regulated tariff structure

There are three main categories of regulated tariffs: water, sewerage (including trade waste), and other fees and charges. The elements of each of these categories are set out below.

**Figure 13: List of Regulated tariffs, fees and charges by category**

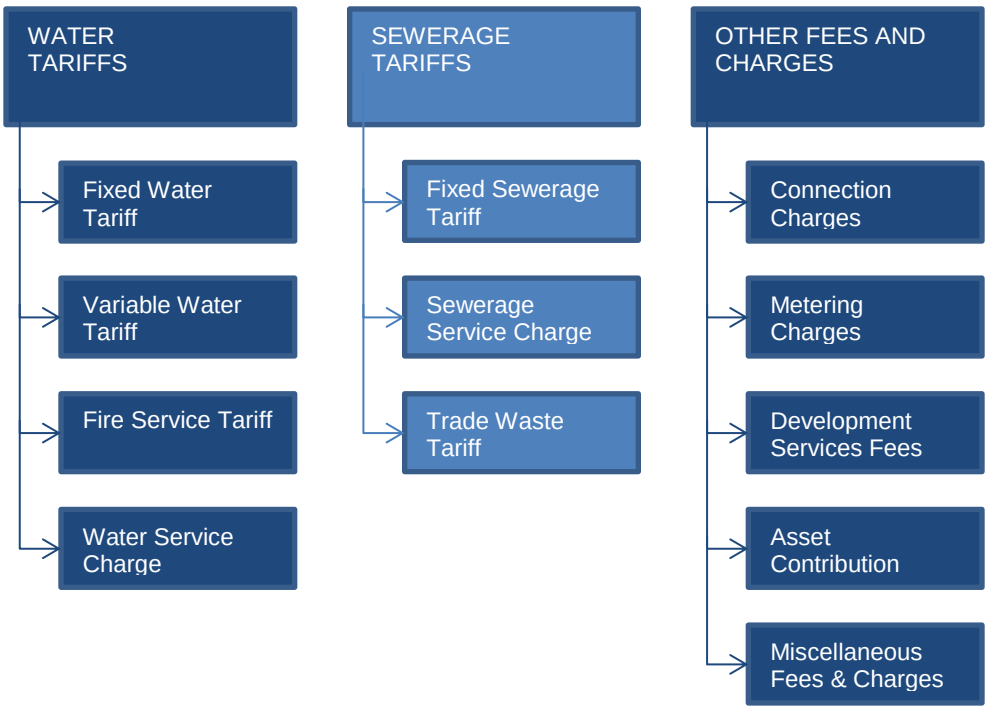


**Table 34: Description of regulated tariffs, fees and charges by category**

| Tariff/Fee/Charge | Description |
|---|---|
| Water | |
| - Fixed water tariffs | Annual charge contributing to the maintenance and replacement of water infrastructure |
| - Variable water tariff | Charge per kilolitre for water usage, split between potable and non-potable sources |
| - Fire service charge | Annual charge for the provision of capacity to support fire fighting in private buildings |
| - Water service charge | Annual charge for the ability to connect to TasWater's infrastructure, including where a physical connection may not be in place (vacant land charge) |
| Sewerage | |
| - Fixed sewerage tariffs | Annual charge covering infrastructure maintenance and flow contributed to the sewerage network |
| - Trade Waste tariffs | Annual fixed charges covering administration, auditing, infrastructure maintenance and demand on the sewerage network depending on the category of the customer. |
| - Sewerage service charge | Annual charge for the ability to connect to TasWater's infrastructure, including where a physical connection may not be in place (vacant land charge) |
| Other Fees and Charges | |
| - Connection Charges | Cost recovery charges levied for connecting to TasWater's water or sewerage infrastructure, or disconnection from our infrastructure |
| - Metering Charges | Cost recovery charge levied for items such as special meter reads, meter testing and meter relocation |
| - Development Services Fees | Cost recovery charges levied for TasWater's assessment of development applications, certificates for certifiable works and post development compliance assessments |
| - Asset Contribution Charges | Cost recovery charges levied to cover the cost of the expansion of TasWater infrastructure required to support development or the consumption of excess infrastructure capacity (includes developer charges and service introduction charges) |
| - Miscellaneous Fees and Charges | Cost recovery charges levied for a number of sundry fees such as location of services or pressure and flow testing |

As discussed in section 6.3, TasWater has adopted four customer classes to reflect whether a customer is receiving full service, limited water quality, limited water supply or a combination of limited water quality and limited water supply.

Pricing arrangements differ for these customer classes and the specific detail is set out in sections 7.5 and 7.8.

## 7.4 Pricing transition objectives and price constraints

In determining the preferred price transition arrangements, including price constraints, for the 2015-18 regulatory period, TasWater has been very conscious of the fact that inequitable pricing arrangements still exist right across the state. In addition, by the end 2018 customer prices will have been in transition for almost a decade.

TasWater is of the view in developing this draft plan that the transition should not be prolonged beyond this regulatory period if it could be achieved in that timeframe without subjecting customers to price shocks.

The price modelling undertaken indicates that the transition can be achieved during the 2015-18 period, and TasWater has used the following price constraints to transition customers to uniform, state-wide target tariffs in a manageable way:

- **Customers above target fixed pricing** at the start of the period will come down by 1/3 of the gap to the 2018 target in each year through the regulatory period.
- **Residential customers below fixed service charge targets** at the start of the period will see a maximum annual increase to fixed service charges (water and sewerage combined) of no

more than $100 in each year, or 10 per cent, whichever is the greater, until both targets are reached.

- **Non-residential customers[13] below target** will see the combined $100 side constraint increased in proportion[14] to the meter size or number of ETs.
- **Customers below target variable rates** will see equal yearly increases across the three years of the period so that they arrive at the target rate by 2018.
- **Trade waste customers** will transition to target by going up or down by 1/3 of the gap to the 2018 target in each year through the regulatory period if they are above or below target respectively.

The proposed proportional increase of the $100 price constraint aims to ensure that those customers who have current charges which remain well below target are able to transition more quickly to their target tariff.

The combined $100 increase is very similar to the current arrangement that is in place for 2012-15; however it will not be limited to a $50 maximum for each service. This means that a customer who, for example, is $80 below target on water and $20 below target on sewerage will reach target for both services in the next year, compared with the current arrangements that would result in only the sewerage charge reaching target in the next year.

It is important to note that the maximum increase of $100 applies to fixed water and sewerage charges only and it does not account for any increase to the variable charge for customers who are also below the target water usage charge.

These side constraints will continue to apply throughout the regulatory period until a customer reaches target. Once customers are at target their prices will move in line with the approved annual increase in the relevant charge. The annual increase in fixed charges for most services is 6 per cent, which is a continuation of the approach that was approved for 2012-15, while target variable water charges will increase by 2.5 per cent.

As discussed in Chapter 3, a common theme of the feedback received through consultation TasWater has undertaken in developing this draft plan has been that the annual increase in charges should be capped at CPI. This is not a viable outcome at this time as it would mean TasWater is unable to implement service and infrastructure improvements required by regulators. It is important to note that TasWater considers that it will not continue to require price rises of the same magnitude seen to date and proposed for this period. TasWater is of the view that it will be proposing price increases of 5 per cent per annum in the third regulatory period and 4 per cent beyond that (assuming three year regulatory periods after 2018).

## 7.5 Water tariffs

As set out in section 7.3.4 above, TasWater levies four types of water tariffs being fixed water tariff, variable water tariff, fire service tariff and water service charge.

With the exception of water service charges, which are discussed in more detail in section 7.12, the proposed price for each of these charges for each year of the regulatory period, together with an explanation as to how they have been determined, is set out in this section. A discussion regarding the weighting of fixed and variable charges is also included.

[13] Non-residential customers are those with larger than 20mm water connections and greater than 1 ET sewerage charge.

[14] Scaling factors for customers with larger meter sizes are set out in section 7.5.1.

### 7.5.1 Fixed water tariffs

Fixed water charges reflect the costs of providing water services to a property, including the cost of maintaining and upgrading assets for example, which are independent of the amount of water supplied.

Fixed water tariffs for full service customers are based on the size of a property's metered water connection. This approach is used in many other jurisdictions around Australia and is accepted as best practice.

The relationship between the diameter of the metered connection and the potential flow that can be provided is used to scale the fixed price for water. Scaling factors for water connections are set out in the following table, which shows that a standard 20mm metered connection is used as the base factor with a ratio of 1.00.

**Table 35: Scaling factors for fixed water service charges**

| Water Connection Size (mm) | Multiplier (x) |
|---|---|
| 20 | 1.00 |
| 25 | 1.56 |
| 30 | 2.25 |
| 32 | 2.56 |
| 40 | 4.00 |
| 50 | 6.25 |
| 65 | 10.56 |
| 75 | 14.06 |
| 80 | 16.00 |
| 100 | 25.00 |
| 150 | 56.25 |
| 200 | 100.00 |
| 250 | 156.25 |

The target fixed water service charge for each connection size is calculated by multiplying the relevant scaling factor by the target fixed water service charge for a 20mm water connection.

TasWater's target fixed water services charges per connection for full service customers are set out in Table 36. As discussed in section 7.4, target fixed service charges are subject to annual increases of 6 per cent, which is a continuation of the approach that applied through the 2012-15 regulatory period.

**Table 36: 2015-18 Target fixed water service charges per connection ($)**

| Water Connection Size | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| 20mm | 293.24 | 310.84 | 329.48 |
| 25mm | 457.44 | 484.88 | 513.96 |
| 30mm | 659.76 | 699.36 | 741.32 |
| 32mm | 750.68 | 795.72 | 843.44 |
| 40mm | 1,172.96 | 1,243.36 | 1,317.92 |
| 50mm | 1,832.72 | 1,942.72 | 2,059.24 |
| 65mm | 3,096.60 | 3,282.44 | 3,479.28 |
| 75mm | 4,122.92 | 4,370.40 | 4,632.48 |

| Water Connection Size | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| 80mm | 4,691.84 | 4,973.44 | 5,271.68 |
| 100mm | 7,331.00 | 7,771.00 | 8,237.00 |
| 150mm | 16,494.72 | 17,484.72 | 18,533.24 |
| 200mm | 29,324.00 | 31,084.00 | 32,948.00 |
| 250mm | 45,818.72 | 48,568.72 | 51,481.24 |

As previously discussed, a percentage of customers receive a service that TasWater considers is limited due to pressure and/or flow related issues.

TasWater applies a 10 per cent discount to the target fixed water service charge for these customers to reflect the deficiency in the local water reticulation infrastructure, which the customer should not be expected to pay for.

As these charges are linked to the fixed service charge for full service customers, they are also subject to an annual increase of 6 per cent. The target fixed water services charges per connection for limited supply customers are set out in Table 37.

**Table 37: 2015-18 Target fixed water service charges per connection for limited water supply customers ($)**

| Water Connection Size | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| 20mm | 263.92 | 279.76 | 296.52 |
| 25mm | 411.72 | 436.44 | 462.60 |
| 30mm | 593.84 | 629.48 | 667.24 |
| 32mm | 675.68 | 716.20 | 759.16 |
| 40mm | 1,055.76 | 1,119.08 | 1,186.20 |
| 50mm | 1,649.64 | 1,748.56 | 1,853.48 |
| 65mm | 2,787.20 | 2,954.40 | 3,131.64 |
| 75mm | 3,711.00 | 3,933.60 | 4,169.60 |
| 80mm | 4,223.08 | 4,476.36 | 4,744.92 |
| 100mm | 6,598.56 | 6,994.32 | 7,413.96 |
| 150mm | 14,846.76 | 15,737.28 | 16,681.44 |
| 200mm | 26,394.28 | 27,977.40 | 29,655.88 |
| 250mm | 41,241.08 | 43,714.68 | 46,337.32 |

### 7.5.2 Variable water tariffs

Variable charges reflect water supply costs which change over time, including electricity and pumping costs and the cost of chemicals used to treat water.

TasWater is guided by the Water and Sewerage Industry (Pricing and Related Matters) Regulations and the Economic Regulator's Price and Service Plan Guideline in proposing variable charges.

As a minimum, a variable water usage charge for a property must at least cover the cost of delivering water to that property.

However, the variable charge can be greater under certain circumstances, including if:

- there are constraints on the amount of water supply available or the capacity of treatment plants/infrastructure
- it is desirable to do so to reduce the demand for water

- the Regulator believes the charge rate should be greater than the cost of provision to enable funds to be recouped that the business may not otherwise receive.

For the 2015-18 period, TasWater is proposing that target water usage charges continue to be set on a similar basis to that used for 2012-15. This will assist TasWater in meeting its legislative requirement to transition all state-wide customers to uniform prices and minimise price shocks.

The variable component of a customer's water bill is determined based on volume consumed per kilolitre (kL) as determined by metered usage. This means that a customer will pay extra if they use more water and vice-versa in the event they use less.

As previously discussed, TasWater has a number of customers across the state who receive water from a supply which has a permanent boil water alert in place or has been declared by TasWater to be limited water quality. These customers are classed as limited water quality and will receive a lower variable rate. A 20 per cent reduction is applied to the full service rate to reflect that limited quality water goes through a reduced treatment process (meaning there are nil or minimal treatment/chemical costs in the supply process).

Limited water quality customers receiving a reduced volumetric rate for water where the customer is on a permanent boil alert, a Do Not Consume notice, or a long-term temporary boil alert notice are still required to pay the full fixed service charge unless they also receive a limited supply. Where a customer has both limited water supply and limited water quality, they are entitled to both the discounted fixed water service charge for limited water supply and the discounted variable water charge for limited supply.

The target variable water charges for full service and limited quality are set out in the following table. As discussed in section 7.4, these target variable water charges are subject to annual increases of 2.5 per cent, which is a continuation of the approach that applied through the 2012-15 regulatory period.

**Table 38: 2015-18 Target variable water charges per kilolitre of water ($)**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| Full service (potable supply) | 0.9711 | 0.9954 | 1.0202 |
| Limited water quality | 0.7769 | 0.7963 | 0.8162 |

### 7.5.3 Fire service tariffs

Many customers across the state, particularly commercial and industrial customers, have a water service provided to their property to support a sprinkler system or hose reel in the event of fire. This may be combined with the standard potable service, or in addition to it.

Through the 2012-15 period, fire service charges have been levied to reflect that the need for the service requires TasWater to build capacity into its network to meet peak supply requirements. Except for dedicated fire services, these should not be directly metered connections and are not often called upon.

These fire service charges were equivalent to 25 per cent of the relevant target fixed water service charge to take account of the fact that the service is called into use infrequently.

TasWater intends to continue levying fire service charges for the 2015-18 regulatory period in the same manner, and the target fire service charges per connection are set out in Table 39.

Table 39: 2015-18 Fire service charges per connection ($)

| Water Connection Size | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| 20mm | 73.28 | 77.68 | 82.36 |
| 25mm | 114.36 | 121.20 | 128.48 |
| 30mm | 164.92 | 174.84 | 185.32 |
| 32mm | 187.64 | 198.92 | 210.84 |
| 40mm | 293.24 | 310.84 | 329.48 |
| 50mm | 458.16 | 485.68 | 514.80 |
| 65mm | 774.12 | 820.60 | 869.80 |
| 75mm | 1,030.72 | 1,092.60 | 1,158.12 |
| 80mm | 1,172.96 | 1,243.36 | 1,317.92 |
| 100mm | 1,832.72 | 1,942.72 | 2,059.24 |
| 150mm | 4,123.68 | 4,371.16 | 4,633.28 |
| 200mm | 7,331.00 | 7,771.00 | 8,237.00 |
| 250mm | 11,454.68 | 12,142.16 | 12,870.28 |

### 7.5.4 Weighting of fixed and variable charges

Through the 2012-15 regulatory period, there has been a higher weighting of fixed costs to variable across all three regions in Tasmania. TasWater is not proposing to change the mix of charges for the 2015-18 regulatory period.

The current split/weighting of charges is largely driven by the fact that water can be sourced readily in most cases (a major driver of the variable charge) while significant investment is required in infrastructure improvements (covered by fixed charges). In this regard, the mix of charges is a determining factor of TasWater's ability to deliver the significant capital program required to implement service and infrastructure improvements

As an infrastructure business with predominantly long-life assets, TasWater's cost base is largely fixed. Further, Tasmania is not exposed to the same circumstances as other jurisdictions with water scarcity issues for example, which have been significant drivers of the weighting of fixed and variable charges.

The issue of the mix of charges was raised by a number of customers and stakeholders during both targeted consultation undertaken by TasWater and in response to the summary of the draft plan that was published on 30 May 2014.

TasWater acknowledges feedback received regarding the weighting of fixed and variable charges and notes the view of many customers and stakeholders that charges should be more heavily weighted towards variable charges.

Any change to the mix of fixed and variable charges at this time would adversely impact on TasWater's ability to deliver the capital program required to address its ageing and non-compliant infrastructure. In addition, there are still many different pricing arrangements for customers across the state that are in transition (both up and down). TasWater therefore considers that it is not the appropriate time to be attempting to change the mix of charges.

TasWater is of the view that this matter warrants further detailed investigation. The Corporation intends to pursue this during the next three years with a view to informing a sensible and appropriate approach for the following regulatory period. At that time, all residential customers and 95 per cent of all customers are expected to be at uniform target tariffs.

TasWater wants to ensure the arrangements are informed to ensure there are no perverse outcomes, particularly for vulnerable and low-income customers.

## 7.6 Sewerage tariffs

Sewerage charges help pay to maintain and operate the sewerage pipes, pump stations and treatment plants which take away and treat sewage from a customer's property. The charge also contributes towards improving the infrastructure, which is ageing and significantly non-compliant, so TasWater can provide a more efficient, reliable and environmentally sound service.

Since the reform of the water and sewerage industry, Tasmanian customers have seen a single fixed service charge for the sewerage service they receive, with no variable pricing component to reflect the volume of sewage discharged into the sewerage system. Notwithstanding this, the fixed charge does cover costs associated with treatment and disposal of domestic sewage. This is also because it is not practical or effective to meter sewerage connections.

As a consequence an Equivalent Tenement (ET) methodology has been used as the basis for calculating sewerage service target prices. ET is a measure of the load a property places on the sewerage system, and is based on the discharge of a standard residential dwelling.

This draft 2015-18 Price and Service Plan continues to use the ET methodology as the basis for calculating sewerage service target prices for the regulatory period. In addition, TasWater has not contemplated the introduction of a variable price for sewage for this regulatory period.

As is currently the case, a customer's sewerage service charge target price increases proportionally with the ET assessment, with non-residential properties charged based on the load they place on the sewerage system relative to a single residential dwelling.

Practically, this means that if a property is deemed to place twice as much load on the sewerage system, it will be assessed as two ETs and the target price will be twice the standard sewerage service charge.

A customer will receive a sewerage charge if their property is connected to a sewerage system or if the property is within TasWater's serviced land area but not connected to the sewerage infrastructure. As discussed in section 7.12, this latter group of customers will receive an unconnected sewerage service charge, which equates to 60 per cent of the full sewerage service charge (0.6 ETs).

For the purpose of calculating sewerage charges, consistent with the approach approved for the 2012-15 period, a customer's ET assessment will result in a minimum of one ET being applied, although ET rates for different property types may be less than one.

A more detailed explanation of the ET methodology is provided in Attachment I. In addition, a schedule of the ET rates for different industries/property use types is set out in Attachment J.

It should be noted that TasWater has arrangements in place for customers to have their ET calculation reassessed if they believe it is inaccurate. Details are available on the Corporation's website at www.taswater.com.au.

It should be noted that an ET reassessment may result in an increase or decrease in the ET rates and therefore the applicable target price. The new rates and target price will be applied to the customer's account from the next billing period, with the charges transitioning (consistent with the approved price constraints) at the start of the next financial year.

TasWater's target fixed water services charges per connection for full service customers are set out in Table 40. As discussed in section 7.4, target fixed service charges are subject to annual increases of 6 per cent, which is a continuation of the approach that applied through the 2012-15 regulatory period.

**Table 40: 2015-18 Target fixed sewerage service charges per ET ($)**

| No of ETs | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| 0.6 ETs^ | 337.60 | 357.88 | 379.32 |
| 1 ET | 562.68 | 596.44 | 632.24 |
| 2 ETs | 1,125.40 | 1,192.92 | 1,264.48 |
| 5 ETs | 2,813.52 | 2,982.32 | 3,161.24 |
| 10 ETs | 5,627.08 | 5,964.68 | 6,322.48 |
| 25 ETs | 14,067.72 | 14,911.72 | 15,806.24 |

*Note: This is the rate for a customer whose property is within TasWater's serviced land area but not connected to the sewerage infrastructure. The above ETs are an example only and each customer has its own assessed number of ETs.*

## 7.7 Customer transition impacts (including alternative price constraint scenarios)

TasWater expects that the pricing transition parameters set out in this draft Price and Service Plan will see all residential customers, and 95 per cent of all customers, reach target prices by the end of the period in mid-2018.

The price constraints discussed in section 7.4 enable this to be achieved without customers facing price shocks.

Other price constraint scenarios, including moving all customers directly to target tariffs on day one of the period and increasing current charges without the proposed side constraint, were contemplated in the development of this draft plan, but were discarded on the basis that they did not meet enough of TasWater's objectives for the plan, particularly with respect to achieving price equity by 2018 and managing the impact of price increases.

Effectively, by the end of the next regulatory period TasWater's price transition arrangements will result in the vast majority of water and sewerage customers across Tasmania being on a level playing field in terms of prices.

The increased pace of transition downwards for customers who are above target at the start of the period is particularly positive for the commercial and industrial sector, which has historically cross subsidised the residential sector.

In terms of key outcomes, the transition arrangements will see the following:

- customers who will start the regulatory period above target prices will transition down to target by 2018
- all customers will reach target prices by 2020, with the majority (all residential and greater than 95 per cent in total) expected to reach target by the end of the second pricing period in 2018.

These outcomes are reflected in the following four tables that show there are no water or sewerage customers above target from 2017/18. In addition, they indicate that there will be no customers (water or sewerage) below target by 2020, which meets the legislated deadline/requirement.

Table 41 and Table 42 show the distribution of customers above and below the target water charges by percentage and by the number of customers respectively.

**Table 41: Distribution of connections around the target tariff – water charges (percentage of customer connections)**

| Connection Size | Year | Proportion paying greater than the target tariff by: | | | | | Proportion paying less than the target tariff by: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0-25% | 26-50% | 51-75% | 76-100% | 100% + | 0-25% | 26-50% | 51-75% | 76-100% | 100% + |
| 20mm | 2015/16 | 60.3 | 21.6 | 1.0 | 0.5 | 1.8 | 1.7 | 0.4 | 0.1 | - | - |
| | 2016/17 | 82.1 | 1.5 | 0.5 | 0.3 | 0.8 | 1.2 | 0.3 | 0.1 | - | - |
| | 2017/18 | - | - | - | - | - | 1.0 | 0.2 | 0.1 | - | - |
| | 2018/19 | - | - | - | - | - | 0.6 | 0.2 | 0.1 | - | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |
| All other connection sizes | 2015/16 | 3.8 | 1.2 | 0.7 | 0.9 | 2.7 | 0.4 | 0.3 | - | - | - |
| | 2016/17 | 5.1 | 1.6 | 1.1 | 0.6 | 0.9 | 0.4 | 0.2 | - | - | - |
| | 2017/18 | - | - | - | - | - | 0.3 | 0.1 | - | - | - |
| | 2018/19 | - | - | - | - | - | 0.2 | 0.1 | | - | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |

**Table 42: Distribution of connections around the target tariff – water charges (number of customer connections)**

| Connection Size | Year | Number paying greater than the target tariff by: | | | | | Number paying less than the target tariff by: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0-25% | 26-50% | 51-75% | 76-100% | 100% + | 0-25% | 26-50% | 51-75% | 76-100% | 100% + |
| 20mm | 2015/16 | 127,542 | 45,637 | 2,195 | 1,136 | 3,830 | 3,560 | 940 | 199 | 58 | - |
| | 2016/17 | 174,537 | 3,165 | 1,080 | 659 | 1,802 | 2,493 | 580 | 208 | 46 | - |
| | 2017/18 | - | - | - | - | - | 2,059 | 374 | 217 | 34 | - |
| | 2018/19 | - | - | - | - | - | 1,200 | 353 | 206 | 34 | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |
| All other connection sizes | 2015/16 | 7,987 | 2,602 | 1,498 | 1,878 | 5,756 | 785 | 728 | 72 | 5 | - |
| | 2016/17 | 10,870 | 3,434 | 2,302 | 1,310 | 1,904 | 784 | 365 | 40 | 5 | - |
| | 2017/18 | - | - | - | - | - | 678 | 245 | 39 | 5 | - |
| | 2018/19 | - | - | | - | - | 352 | 233 | 8 | 5 | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |

Table 43 and Table 44 show the distribution of customers above and below the target sewerage charges by percentage and by the number of customers respectively.

**Table 43: Distribution of ETs around the target tariff – sewerage charges (percentage of total customer ETs)**

| Category | Year | Proportion paying greater than the target tariff by: | | | | | Proportion paying less than the target tariff by: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0-25% | 26-50% | 51-75% | 76-100% | 100%+ | 0-25% | 26-50% | 51-75% | 76-100% | 100%+ |
| One ET | 2015/16 | 7.4 | 0.3 | 0.1 | 0.1 | 0.1 | 11.1 | 1.1 | 0.2 | - | - |
| | 2016/17 | 7.7 | 0.2 | - | - | 0.1 | 5.0 | 0.6 | 0.1 | - | - |
| | 2017/18 | - | - | - | - | - | 2.3 | 0.6 | - | - | - |
| | 2018/19 | - | - | - | - | - | 0.8 | 0.5 | - | - | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |
| All other customers | 2015/16 | 2.6 | 1.0 | 0.5 | 0.3 | 0.6 | 6.3 | 4.5 | 2.5 | 0.2 | - |
| | 2016/17 | 3.7 | 0.8 | 0.2 | 0.1 | 0.3 | 6.3 | 3.9 | 0.9 | 0.1 | - |
| | 2017/18 | - | - | - | - | - | 5.4 | 2.6 | 0.3 | 0.1 | - |
| | 2018/19 | - | - | - | - | - | 4.5 | 1.1 | 0.3 | 0.1 | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |

**Table 44: Distribution of ETs around the target tariff – sewerage charges (number of customer ETs)**

| Category | Year | Number paying greater than the target tariff by: | | | | | Number paying less than the target tariff by: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0-25% | 26-50% | 51-75% | 76-100% | 100%+ | 0-25% | 26-50% | 51-75% | 76-100% | 100%+ |
| One ET | 2015/16 | 17,577 | 700 | 256 | 149 | 291 | 26,616 | 2,513 | 430 | 78 | -- |
| | 2016/17 | 18,412 | 368 | 93 | 56 | 125 | 11,916 | 1,423 | 254 | 60 | - |
| | 2017/18 | - | - | - | - | - | 5,615 | 1,421 | 62 | 47 | - |
| | 2018/19 | - | - | - | - | - | 1,877 | 1,220 | 44 | 45 | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |
| All other customers | 2015/16 | 6,324 | 2,442 | 1,228 | 675 | 1,527 | 14,952 | 10,763 | 5,923 | 589 | - |
| | 2016/17 | 8,930 | 1,888 | 501 | 236 | 688 | 15,062 | 9,446 | 2,253 | 339 | - |
| | 2017/18 | - | - | - | - | - | 12,997 | 6,153 | 816 | 274 | - |
| | 2018/19 | - | - | - | - | - | 10,893 | 2,728 | 661 | 244 | - |
| | 2019/20 | - | - | - | - | - | - | - | - | - | - |

The tables above show that there will be a number of large commercial and industrial customers below target pricing at the start of the period, who will not meet target pricing by the end of the second period 2018 or by the 2020 deadline set under the Regulations to achieve pricing equity under the pricing price constraints set out in this plan.

The service charges for approximately 4,000 water and 27,000 sewer customers will not reach target by 2018, though 95 per cent of these will be at or close to target by the end of 2020.

The customers in this latter category are typically larger sized commercial and industrial customers, for example those with a meter size greater than 100mm and who have high sewerage pricing targets. They are dispersed across the state, however a greater than average proportion are in the southern region.

For the majority of customers that fall into this category, a maximum combined increase of $150 per annum (or 10 per cent) over the first two years of the third regulatory period will have them at target by 2020 and therefore complying with the legislative deadline.

The following table shows the comparison of existing target tariffs to proposed target tariffs.

It is worth noting, that while there might be movement upwards or downwards from the current regional prices, individual customer charges go up and down depending on how far they transitioned to date and how far they still need to go to be at their respective target tariffs.

**Table 45: comparison of current regional target tariffs and proposed state-wide target tariffs**

| | Target Prices | | Change in regional to state-wide target price |
|---|---|---|---|
| | 2014/15* | 2015/16# | |
| Fixed water service charge per connection (20mm DN) | | | |
| Northern region | $322.00 | | ↓ |
| North Western region | $432.02 | $293.24 | ↓ |
| Southern region | $305.97 | | ↓ |
| Variable water charge $/kL (potable supply) | | | |
| Northern region | $0.9474 | | ↑ |
| North Western region | $0.9474^ | $0.9711 | ↑ |
| Southern region | $0.9474 | | ↑ |
| Fixed sewerage service charge per connection (one ET) | | | |
| Northern region | $536.00 | | ↑ |
| North Western region | $669.63 | $562.68 | ↓ |
| Southern region | $549.11 | | ↑ |

*Notes:*
** approved by the Economic Regulator in the existing price determinations for each region*
*# TasWater proposed state-wide target prices for the first year of second regulatory period*
*^ stated variable rate for new customers only, the rate for existing customers in the North-West region depends on which municipality a customer is within as there was no one volumetric rate for the first regulatory period.*

A range of scenarios have been developed to demonstrate how various customers current charges might transition under the transition approach set out in this draft plan. These include the price transition for a customer who at the start of the regulatory period is:

- above target
- below target
- at target.

The scenarios compare the expected total water and sewerage bill (fixed and usage charges) of a customer at target tariff compared against the total bill of a customer who is either above or below target. All calculations assume a typical customer, with a 20mm water connection, one ET and water usage of 200kL per annum.

Under these assumptions, the typical annual water and sewerage bill between 2015 and 2018 will be in the order of $1,050 in 2015/16, $1,106 in 2016/17 and $1,166 in 2017/18. In the last year these annual charges equate to a daily spend on water and sewerage of approximately $3.20.

A comparison of the scenarios is provided in Figure 14.

**Figure 14: Comparison of indicative price transition scenarios**

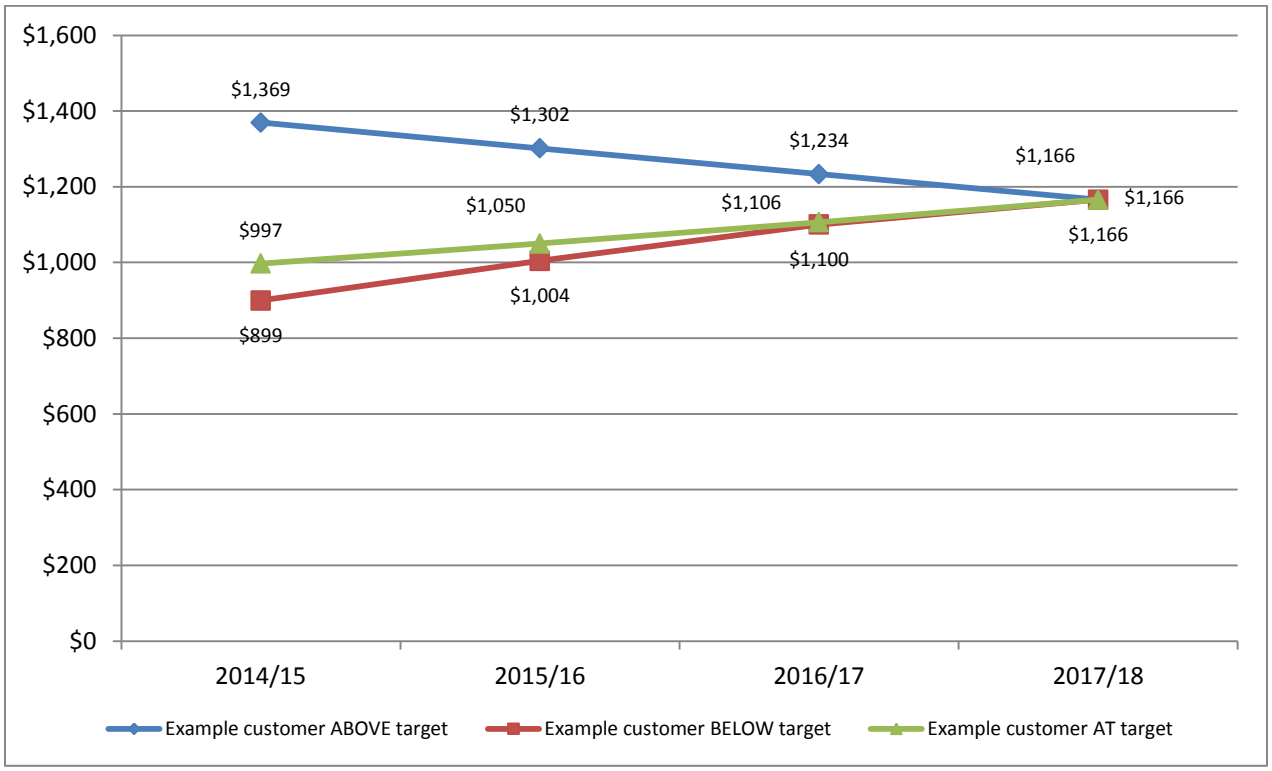



Figure 14 shows the price transition for a customer who has an annual bill of just over $1,369 in 2014/15 (which is above the proposed target tariffs), compared against the transition for a customer who has an annual bill of just under $900 in 2014/15 (which is below the proposed target charges) and a customer who has reached target tariffs at the start of the period.

It shows that prices for the customer above target will reduce by 1/3 gap between the 2017/18 target tariff and their 2014/15 tariff in each year, which is equivalent to a reduction in the annual bill of $68 per year in this example.

Prices for the customer below target at the start of the period will increase in line with the price constraints set out in section 7.4 until they reach target. In the example this means the customer's annual bill increases by $105 in the first year of the period (being $100 for the fixed charges and $5 for the variable charges), $96 in the second and $66 in the final year, which gets them to target.

Prices for the customer who has reached target prices at the start of the period will increase by 6 per cent each year, meaning their annual bill will increase by $53 in the first year, $56 in the second and $60 in the third.

### 7.7.1 Specific pricing scenarios and rules covering the application of and/or transition to target tariffs

In addition to the 'typical' way in which a customer would transition to target prices, there are a range of scenarios (outside the annual price constraints) whereby customers move directly to the appropriate target price.

This includes, but is not limited to, the creation of new customers and changes to existing customer circumstances, the pricing configurations upon the creation of meter networks, and fire service configurations.

A high-level summary of these scenarios is set out in the following table.

**Table 46: High-level summary of the circumstances when a customer will go direct to target tariff or transition to target under the price constraints**

| Scenario | Target Tariff/s Applied | Transition to Target Tarrif/s under price constraints |
|---|---|---|
| Existing customer changes their property's predominant use | ✓ | |
| Existing customer requires altered connection arrangements through a successful development application process | ✓ | |
| Previously unconnected properties connect to water and/or sewerage infrastructure (including new sub-divisions) | ✓ | |
| Where a customer's property is already connected to water and /or sewerage infrastructure, but is currently not receiving charges | ✓ | |
| Newly discovered connection(s) to existing installations | ✓ | |
| Changes to existing connection points, ie change of connection size | ✓ | |
| Existing water service customer who is discovered should also be receiving a fire service charge | | ✓ |
| New trade waste customer (applying for a consent) | ✓ | |
| Existing sewerage service customer who should also be receiving a trade waste charge – trade waste discovery) | | ✓ |
| Adhesions/consolidations (unless part of a development application) | ✓ | |
| Amalgamation | ✓ | |
| Demolition | ✓ | |
| Unconnected vacant lot to connected lot | ✓ | |
| Change of ownership | ✓ | |
| Change of tenant (unless part of a development application) | | ✓ |
| Parcels of land that cannot be built upon | n/a | n/a |
| Car parks (no amenities) and public open spaces with no service connections | n/a | n/a |
| Slivers of land (ie unconnected nature strips) | n/a | n/a |
| Improvement from permanent boil alert to potable water supply (applies to variable charge only) | ✓ | |

*Note: n/a means no charges apply*

It is important to note that while the 2012-15 price determination provided the former regional corporations with specific arrangements to protect them against revenue loss from customers well above target[15], TasWater is not seeking such an arrangement for the 2015-18 period. The Corporation is of the view that it is not necessary given the transition arrangements for the next period will see prices for all customers above target brought down to target by the end of the period.

[15] As per section 5.4.13.2 of the Economic Regulator's 2012 Final Report, the regional corporations were allowed by the Regulator to impose customer charges in accordance with:

- subject to (2), the transition arrangements, notwithstanding any changes to a customer's connection arrangement, amalgamation of titles, conversion of strata titles to a single title, or other arrangement; and
- prevailing target tariffs where there was a change of use resulting in a genuine and permanent reduction in water demand resulting in a change in the number and/or size of water connections; and/or a genuine and permanent reduction in the number and/or size and/or load of sewerage connections.

## 7.8 Pricing for different customer classes

As discussed in Chapter 6 and section 7.3.4, TasWater has adopted several customer classes to reflect the level of service a customer is receiving. Pricing arrangements, as is set out in section 7.5, differ for each of these customer classes and can be summarised as follows:

- Full service customers
  - fixed water service charge per connection
  - full service (potable supply) variable water charge per kilolitre of water used
  - fixed sewerage service charge per ET
- Limited water quality[16] customers
  - fixed water service charge per connection
  - limited quality variable water charge per kilolitre of water used (equivalent to 80 per cent of the full service variable water charge)
- Limited water supply customers
  - discounted fixed water service charge per connection (equivalent to 90 per cent of the fixed water service charge for full service customers)
  - full service (potable supply) variable water charge per kilolitre of water used
- Limited water quality and limited water supply customers
  - discounted fixed water service charge per connection (equivalent to 90 per cent of the fixed water service charge for full service customers)
  - limited quality variable water charge per kilolitre of water used (equivalent to 80 per cent of the full service variable water charge)
- Fire service supply customers
  - Fixed fire service charge per connection
- Trade waste supply customer
  - Annual trade waste service charge (per category 1, 2A, 2B, 2C)
- Customers with unconnected properties
  - Water service charge; and/or
  - Sewerage service charge (equivalent to 60 per cent of the fixed sewerage service charge per ET).

## 7.9 Trade Waste Charges

TasWater provides a service to collect, transport and treat liquid trade waste provided it is of an appropriate volume and quality to be safely accepted to our wastewater systems. TasWater's sewerage network and treatment plants are typically designed for domestic waste. Consequently there are additional costs associated with the management, transportation and treatment of liquid trade waste through these networks.

[16] Limited water quality applies only for those customers on a Do Not Consume notice and/or permanent boil alert or on a long term temporary boil alert notice.

### 7.9.1 2012-15 approach to trade waste charging

For the 2012-15 regulatory period, TasWater (and the former regional corporations) applied a nominal risk based scheme to assess the impact that trade waste discharged by the customer has on the sewerage network.

Currently there are two regulated categories of trade waste customers: Category 1 and 2, and two unregulated categories of trade waste customers: Category 3 and 4.

Category 1 and 2 customers are those assessed as having low grade or low to medium volumes of trade waste, while Category 3 and 4 customers are considered to be higher risk with respect to their impact on the sewerage network.

Current trade waste charges for Category 1 and 2 customers were set by the Economic Regulator as part of the 2012 price determination and are reflected in the regional Price and Service Plans for the 2012-15 period. Category 1 and 2 customers are consented to discharge liquid trade waste to sewer according to a standard regulated contract the terms of which are subject to approval from the Economic Regulator. They are non-residential customers, typically business, generally commercial in nature.

Category 3 and 4 customers are unregulated and those customers must negotiate a contract with TasWater under section 61 of the Industry Act specific to their individual needs and risks.

The 2012 price determination and the first regional Price and Service Plans set out specific commitments and regulatory responsibilities relating to the provision of trade waste services to customers. In this regard we have completed the state-wide identification of customers receiving a trade waste service and introduced trade waste charges to their accounts. Further, in keeping with our commitment to transition all customers to equitable charges for trade waste services, existing customers are now either paying target prices or transitioning to the target prices in accordance with the approved pricing side constraints.

With respect to the identification of customers, 3,463 commercial customers were identified to be receiving a trade waste service during the first regulatory period. These customers were classified as category 1 or 2 customers depending on an initial assessment of their trade waste discharge.

### 7.9.2 Proposed Regulated Trade Waste Categorisation

TasWater is committed to providing a comprehensive trade waste service to trade waste customers state-wide in accordance with the pricing principles outlined in the Industry Act. Our aim for the 2015-18 regulatory period is to:

- better reflect the costs of servicing trade waste customers, while promoting economic efficiency
- provide certainty through the use of clear criteria for categorising low risk commercial trade waste customers
- aid TasWater's adoption of prices transitioning to one consistent set of trade waste tariffs across the whole state
- embed a methodology which acknowledges urban, regional and seasonal business operating constraints and opportunities
- increase self-assessment ability through improved accessibility to relevant information and assistance for trade waste customers.

To meet this commitment and aim, TasWater has refined the current trade waste categories using an improved technical and commercial risk assessment of trade waste impacts on the sewage system as the basis for categorisation and calculation of trade waste charges.

The risk approach is based on a method outlined in the *'WSAA Australian Sewage Quality Management Guideline 2012',* which is recognised nationally as the most comprehensive guideline

to managing trade waste discharge to sewer, and sees Category 2 broken into sub-categories A, B and C.

In determining a customer's overall risk score and therefore their applicable category, the following factors are taken into account:

- **Business Activity (A)** – customers are allocated based on differing specific business activity, (eg supermarket, bakery, restaurant, automotive service/repair) which will determine their business activity score of either five or 10[17].

  The score is based on consideration of the typical organic and chemical strength of the waste stream, and the robustness and degree of control of the process producing the waste stream.

- **Substance score (S)** – The substance score applies both to substances used in the processes generating liquid waste and which may potentially be present in the effluent, as well as those substances regularly discharged. 'Domestic' substances (BOD, COD and suspended solids) attract a relative score of zero. Non-domestic substances are grouped according to the risk they pose to health and safety, infrastructure, treatment processes, and compliance obligations, among other things.

  Non-domestic substances that pose these risks are grouped in three ways, being low, medium and high impact, and attract risk scores of five, 10 and 15 respectively.

- **Pre-treatment score (P)** – a customer's pre-treatment score is determined based on the type and complexity of pre-treatment device required for different business activities.

  Pre-treatment fixtures are grouped in three ways, being low, medium and high risk, and attract risk scores of five to eight, 15 and 18 respectively.

- **Trade Waste Volume score (V)** – a customer's volume score is based on three inputs, being metered water consumption for the business for the 2013/14 financial year, reduction in volume on assumption that 80 per cent of metered consumption is discharged to sewer, and reduction in the sewer discharge volume based on agreed industry discharge factors.

  There are four volume groups (based on volumes of up to 300kL pa, 301-600kL pa, 601-1100kL pa and greater than 1101kL pa) which attract risk scores of five, 10, 20 and 30 respectively.

  Customers may request a review of the trade waste volume score at any time during the regulatory period if they feel their water use is significantly different to the volume applied when calculating the risk score or where their usage has increased or decreased by a large amount.

The first three factors group 'like' businesses together based on elements typical to business activity, and the volume score provides the differentiation necessary to accurately categorise trade waste customers according to their demand on the sewer system.

The combined risk scores, customer categories and the number of customers expected to be in each category are set out in Table 47.

**Table 47: Trade waste risk scores and categories for 2015-18 regulatory period**

| Lower Risk Score | Upper Risk Score | Risk Category | No of Customers |
|---|---|---|---|
| 0 | 39 | 1 | 869 |
| 40 | 49 | 2A | 2,104 |
| 50 | 59 | 2B | 243 |
| 60+ | | 2C | 251 |

[17] Customers are grouped by business activity on the premise that businesses conducting the same activity will produce a similar waste stream.

The table above excludes Category 3 and 4 customers, of which there are approximately 100, who are managed through individual contracts.

### 7.9.3 Proposed Trade Waste Charges Policy

With respect to determining trade waste charges to apply for the 2015-18 regulatory period, TasWater has reassessed the time and effort required to effectively conduct the administrative, auditing and technical functions of managing liquid trade waste. This has been conducted using current available data and learnings gained during the 2012-15 regulatory period.

By increasing customers' ability to self-assess their trade waste status administrative efficiencies have been identified and taken into account. In addition, now there is available water consumption data that enables a more accurate estimation of the volume trade waste customer segments discharge to sewer.

The target trade waste charges proposed are comprised of two components: an annual management component, which is calculated based on an apportionment of time spent on the administrative and technical components required to adequately manage each customer segment; and a usage component for each category, which has been calculated based on deemed average trade waste discharge volumes for customers in each category. The proposed target trade waste charges for 2015-18 are set out in Table 48.

As discussed in section 7.4, and the trade waste pricing policy, all target trade waste charges are proposed to increase annually by the proposed inflation rate of 2.5 per cent.

With respect to trade waste customers' transition to target, as set out in section 7.4 it is proposed that customers above target at the start of the period will come down by 1/3 of the gap to the 2018 target in each year through the regulatory period, and customers below target will go up in the same manner, ie by 1/3 of the gap to the 2018 target in each year through the period.

In addition to target tariffs for trade waste, TasWater intends to continue charging an application fee. The application fee has been standardised and is not dependent on a customer's category. The proposed application fee set out in Table 48 is sufficient to cover the average time required to assess a trade waste application from a low risk commercial customer.

TasWater also intends to continue levying non-compliance[18] charges, based on defined multipliers, to enable the recovery of costs associated with a trade waste customer failing to comply with the conditions of an agreement or consent, or failing to obtain approval for discharge of liquid trade waste to sewer.

The non-compliance multipliers are applied to reflect either a minor or major non-compliant event. Minor non-compliance refers to a single event which on its own does not have a significant impact on the continued provision of a trade waste service to the customer, but if left unchecked could compromise the service. Major non-compliance events are those that are expected to cause significant impact on the sewerage network, the receiving environment or public health and safety.

TasWater is of the view that these charges are more reflective of the expected infrastructure and operational costs incurred by compliant businesses that have been required to install pre-treatment within the price and service plan period.

The application of relevant charges for non-compliance is a critical regulatory tool ensuring non-compliance action is applied in a timely manner, and proportionate to the level of non-compliance is a key component in keeping administrative costs at a reasonable level across the customer base.

[18] Referred to as 'exceedance charges' in the 2012-15 regulatory period.

**Table 48: Trade waste charges for 2015-18 regulatory period**

| Trade Waste Category | Application Fee | Target Tariff | Non-Compliance Charge (Minor) | Non-Compliance Charge (Major) |
|---|---|---|---|---|
| 1 | $134.80 | $520.76 | $1,041.54 | $1,562.28 |
| 2A | $134.80 | $853.60 | $1,707.16 | $2,560.76 |
| 2B | $134.80 | $1,197.80 | $2,395.60 | $3,593.40 |
| 2C | $134.80 | $1,796.40 | $3,592.84 | $5,389.28 |

TasWater is of the view that the approach to categorising and charging trade waste customers for the 2015-18 period achieves the following:

- Improved reflection of a customers' demand on the wastewater system, consequently improving the equity of trade waste charges for all customers
- Increased clarity for customers of the basis for categorisation and compliance requirements for each business activity
- Clearer identification of customers whose demand on the sewer requires additional management through an individual contract for Category 3 or 4 customers
- Ability to differentiate customers and target resources towards the higher risk customers where the potential benefits to the customer and TasWater are greatest
- Aids improved environmental monitoring and compliance.

With respect to Category 3 and 4 customers, notwithstanding that pricing in not regulated, TasWater recognises the complexity and potential costs involved with implementing appropriate pre-treatment and/or improving waste quality by other means to comply with conditions for acceptance of liquid trade waste to sewer for these customers. TasWater undertakes to work with these customers on a case by case basis to negotiate appropriate prices and timeframes to meet our requirements for the trade waste service provided to them.

## 7.10 Developer charges

Developer charges refer to assets gifted by developers and cash payments made by developers to TasWater related to the construction of reticulation works for new developments.

Traditionally developer charges are made up of three components:

- **Works Internal** – reticulation assets within the development put in by the developer and transferred to TasWater
- **Works External** – extensions to connect to TasWater's network put in by the developer and transferred to TasWater
- **Headworks payments** for defined costs of new or existing system assets deemed to be attributable to the new development through the uptake of capacity in the system

TasWater is proposing a new developer charges policy which involves removing headworks charges for all development that is consistent with TasWater's infrastructure growth plans, introducing 'out of sequence charges' for developments that require TasWater to bring forward works ahead of schedule and the introduction of 'isolated development charges' if development is outside of any growth plan.

If network capacity is not available within the existing system then 'out of sequence' or 'isolated development charges' may be applied, as appropriate, in order to deliver the required additional system capacity. This is expected to only apply to new developments adding significant additional system load within an existing system that is at or near capacity where TasWater's previously planned expenditure will need to be brought forward to address the lack of capacity.

It is proposed that there be no change to the way in which site infrastructure (works internal) and connection (works external) costs are calculated and levied.

A summary of the new approach is provided below:

- No charge where a proposed development lies within the existing network capacity.
- An **'Out of Sequence Development'** charge equivalent to the funding cost for undertaking the works earlier than would otherwise be the case would apply where a proposed development lies within the 10 year capital expenditure plan of TasWater but is brought forward to cater for a new development.
- An **'Isolated Development Charge'** will apply where a proposed development is outside the 10 year capital expenditure plan of TasWater, with the developer to pay all infrastructure costs of their development[19].

The State Government's headworks waiver policy, which commenced on 1 April 2014, would see the new methodology subsidised for nine months of the next regulatory period[20] with the new approach to be fully operational from 1 April 2016.

Over the next two years TasWater will develop system based asset management plans which contain growth plans that will guide the identification of whether a development is within the 10 year capital expenditure plan of TasWater or not, and therefore whether Out of Sequence Development and Isolated Development charges apply.

### 7.10.1 Rationale for the Shift in Approach:

Headworks charges are applied to recover the value of installed spare capacity within a water and sewerage network and it is the calculation and application of this component, which has been strongly criticised by developers. In short, TasWater's current policy of applying the Net Present Value (NPV) approach is perceived as a significant disincentive to development on the basis that it is expensive, difficult to calculate and dependent on a number of assumptions that are not easily verified.

The Board of TasWater commissioned an external review using Frontier Economics (FE). FE found that a significant and unintended consequence of the previous policy was that the approach was perceived as a significant disincentive to development and sending inappropriate price signals. In a low growth economic environment in Tasmania, TasWater's owners, Board and management have focussed on the development of a policy that is appropriate for, and contributing positively to, the Tasmanian community.

In the lead-up to the State Election in March 2014 both major parties announced policies delivering support to development in the form of a waiver of headworks charges. Ultimately, the newly elected Liberal State Government introduced a headworks charges waiver for a two-year period from 1 April 2014 to 31 March 2016.

Shortly thereafter, FE delivered its final report and TasWater's Board recommended to its owners that they support adoption of a revised approach to headworks charges, whereby no headworks charges are payable on developments where capacity (planned or historical) exists within a system.

The pathway from the NPV approach (current policy) to the State Government Headworks Waiver and then to the Frontier approach (new policy) represents a logical and pragmatic refinement. That

[19] Should TasWater choose to invest in infrastructure to service potential additional customers that investment which is over and above the Isolated Development Charge shall be at TasWater's cost.

[20] The State Government's Headworks Waiver policy is for a period of two years commencing 1 April 2014. At the completion of that two year period, TasWater will be nine months into the second regulatory period.

is, a transition from an economically pure, but complex and onerous policy to a sound, simple and more fair policy.

The new policy delivers a more transparent approach to headworks charges that is more efficient to deliver, incentivises development in line with strategic land use planning and continues to deliver price signals (ie relative to the burden the development places upon infrastructure capacity).

TasWater intends introducing the new policy on 1 July 2015. This is within the State Government Headworks Waiver period and provides for a smooth transition from that waiver to the new policy on 1 April 2016.

### 7.10.2 2012-15 approach

TasWater's previous developer charges policy provided for upfront charges, in three components, to be imposed on developers (and subsequently recovered from property owners) as a condition of connection to TasWater's water or sewerage network infrastructure.

The three components of developer charges as set down in the previous developer charges policy were:

- Works internal – any infrastructure internal to a subdivision, installed at a developer's cost and gifted (ie contributed) to TasWater
- Works external – where a development requires assets (eg a pump station, reservoir, connecting main) to be installed to support the development at the cost of the developer[21].
- Headworks – a capital contribution towards a development's consumption, in perpetuity, of capacity in water and/or sewerage infrastructure. These charges are usually levied on a per property/lot basis for a new subdivisional development.

The policy requires developers to pay headworks charges applicable only to their development, calculated on a zonal basis as the difference between the cost of the assets required to service the headworks zone and the amount funded by periodic future charges over a defined time period (ie the net present value (NPV)).

The key principle of the NPV methodology is that, so as not to place an additional burden on existing customers, the cost of providing water and sewerage services for a specific development area is fully recovered from both upfront headworks charges and periodic annual charges, as follows:

| | | | | |
|---|---|---|---|---|
| Upfront charge (headworks charge) | = | Cost of providing assets | - | Present value of amount recovered through periodic bills |

While this methodology appeared sound, particularly on an economic and social equity basis, its inclusion of sunk costs resulted in what FE termed "perverse price signals" whereby spare capacity was priced out of the market and not taken up by developers, to the detriment of the larger customer base (ie the Tasmanian community):

> *"If the primary objective of headworks charges is to provide a signal to developers as to the cost of serving development in different locations, then the inclusion of sunk asset costs is likely to distort this signal and could even result in perverse price signals where the headworks charge is higher for infill developments where there is no emerging capacity constraint (but where a high sunk asset cost is included) than for greenfield areas where there is a need for major augmentation but lower sunk asset allocations. This could lead to the perverse result whereby the attempt to recover a share of the costs of building in excess capacity from new customers actually discourages new customer connections which would lower the average cost for all*

[21] On a case by case basis these works are, at TasWater's discretion, either installed at a developer's cost and gifted (ie contributed) to TasWater or constructed by TasWater with a capital contribution from the developer. In some cases the assets required for the development are upsized by TasWater in order to deliver additional capacity, with TasWater funding the marginal cost of the upsizing.

*customers, including existing customers, by virtue of spreading fixed costs over a larger customer base.*

*In our view treating a share of sunk assets costs as incremental costs attributable to customers in new developments for the purposes of sending a 'price signal' is fallacious. While it is true that sizing capacity to meet expected future growth will result in higher costs than if capacity was sized to meet only existing demand, if such growth does not in fact eventuate, these costs will still need to be recovered from the existing customer base. If there is excess capacity in an area which could be utilised by new customers, it would seem to make sense to encourage them to join the network to spread the fixed costs over a larger base. Seeking to simultaneously recover past costs of excess capacity from new customers may do the opposite, or encourage development in areas which will actually add to the overall costs of the network.*

*(Developer Charges Investigation, Final Report, Frontier Economics, p.30)*

In summary, the current policy hinders economic development with spare system capacity sitting unutilised, installed but not taken up, being paid for by all existing customers and with no marginal revenue (in the form of additional annual charges from new customers) being received.

### 7.10.3 State Government Headworks Waiver Policy

The State Government introduced its Headworks Waiver Scheme on 1 April 2014, which provides support to new developments by waiving headworks charges for qualifying developments.

The scheme is designed to stimulate economic development by bringing forward pending and new developments. Accordingly, it applies:

- only to the headworks component of developer charges
- to developments where headworks become due and payable within the eligibility period 1 April 2014 to 31 March 2016.

In assessing qualification for the scheme, headworks are defined as becoming due and payable within the eligibility period:

- for subdivisions: when the final plan of survey is lodged with Council and the works have reached practical completion within the period 1 April 2014 to 31 March 2016
- for other development activities: when the Certificate of Certifiable Works is applied for or issued within the period 1 April 2014 to 31 March 2016.

The Scheme sits above TasWater's previous Developer Charges Policy and, accordingly, headworks continue to be calculated and conditioned in permits, but are then waived in accordance with the scheme rules. This is important as it allows developments to be completed outside the eligibility period.

### 7.10.4 Proposed Developer Charges policy for 2015-18

In summary, under the new policy the headworks component of developer charges will be applied in one of three ways depending upon the nature of the development:

- In sequence – No charge. Developments proposed in identified 'growth areas', and which align with TasWater's asset management plans, will pay no headworks charges in taking up spare capacity (note: spare capacity must be available).
- Out of sequence – Charges apply. Developments proposed where sufficient capacity is not available and significant capital upgrades within existing serviced areas are required, will pay an 'out of sequence charge' calculated as the bring-forward financing cost of the capital project required to deliver the service capacity.
- Isolated service – Charges apply. Developments proposed in areas with no existing or planned services will pay an 'isolated service charge', calculated on a case-by-case basis reflective of the risks posed by the development.

This new developer charges policy will facilitate a smooth transition from the State Government's Headworks Waiver Scheme to a new model integrated with broader regional planning processes and incentivising development.

The majority of the costs of installing new infrastructure to service growth will be funded through debt, with financing costs met by one or more of:

- Additional revenue earned as a result of the stimulus to development
- Economies achieved through the amalgamation of the three regional water corporations (and common services provider Onstream)
- Earnings retained and not distributed to owners
- Periodic annual charges spread across the broad customer base and recovered over the life of the assets.

From an economic perspective, the new policy represents a refinement in approach to delivering price signals. From a complex approach where headworks pricing for each development is assessed on sub-system by sub-system basis to an approach where each development is still assessed by location, but those developments occurring within planning envelopes (both physical and temporal) have no charge applied for taking up spare capacity.

While most of the pricing principles set down in Section 68 of the Water and Sewerage Industry Act relate to recovery of efficient costs, two part pricing and returns on assets, three pricing principles warrant further comment regarding the new policy. These are:

- the price is to provide for efficient pricing through variation between locations, regions or schemes to reflect the costs of servicing particular customers or classes of customers; (S.68 (1) (b) (ii));

  Headworks pricing, as contained within the new policy, delivers pricing signals that differentiate between developments on the basis of:

  - location: differentiation between developments that occur within strategic land use planning locations or regions and those that do not. Price signals are delivered by isolated service charges specific to the development
  - timing: differentiation between developments that occur in line with planned system expansion for strategic land use planning locations or regions and those that do not. Price signals are delivered by out of sequence charges
  - capacity: differentiation between developments that occur within the spare installed capacity of that zone or region and those that do not. Price signals are delivered by out of sequence charges specific to the development.

- the price is to provide effective incentives to promote economic efficiency, reduce costs or otherwise improve productivity with respect to a regulated service (S.68 (1) (c));

Examination of the current policy in practice through the FE review has shown examples of "perverse price signals" where development is being discouraged in zones where infrastructure and capacity exists. This is primarily due to the inclusion of 'sunk assets' in the calculation.

- to the extent that it is commercially and technically reasonable, the price charged to a particular customer or class of customers is to reflect at least the costs that are directly attributable to the provision of the regulated service to that customer or class of customers. (S.68 (1) (e)).

  With retention of works internal and works external charges, combined with connection charges and annual charges, each new development will meet at least the marginal costs of supply. The additional annual charge revenues earned by TasWater will significantly offset the "foregone" headworks revenue.

The new policy delivers simplicity, transparency and consistency of developer charges pricing across Tasmania and is supported by the government, community, developers, owners and the Board. FE summarises the new policy as follows:

> *Under this regime, developers would only face developer charges with a significant headworks component if the development imposes significant costs or commercial risks on TasWater. This would be most likely where:*
>
> - *The development requires the system to be expanded in a manner contrary to TasWater's existing capital plans, which in turn are consistent with broader regional planning signed off by local government. In this sense the policy can be seen as integrating with these broader planning processes.*
> - *A development represented a unique commercial risk to TasWater if the development were to fail, such as a resort or industrial park adjoining a small town.*

Frontier Economics go on to state that:

> *This recommended approach reflects our judgement that:*
>
> - *a complex approach that requires considerable TasWater resources to maintain and administer is unlikely to be cost-effective*
> - *it will ensure that development that is consistent with strategic land use plans is not unnecessarily impeded*
> - *appropriate locational signals can be imposed where they are warranted, without the potential for sending inappropriate signals to the majority of development*
> - *TasWater's financial bottom line is protected where development impose specific costs or risks*
> - *there is no need to recover the sunk costs of the already depreciated system from new customers.*

In relation to a detailed developer charges methodology, TasWater will develop a guideline in parallel with the preparation of its 10 year Asset Management Plan over the balance of the 2014/15 financial year. Consistent with the approach detailed above, the guideline would specify that the basis for determining out of sequence charges will be the financing costs associated with bringing forward the infrastructure investment required to service the development.

In addition, TasWater will explore the appropriate mechanism/s or ways in which it can increase transparency and ensure sufficient information is available to allow the development sector to make well informed decisions.

TasWater will submit this guideline to the Economic Regulator upon being developed.

## 7.11 Service introduction charges

Service introduction is the construction of water and/or sewerage infrastructure to service areas not previously receiving reticulated water and/or sewerage services.

Service introduction charges are one-off charges levied on owners of existing premises where a service is introduced. The charge covers the property owner's share of the cost of installing, altering or utilising TasWater's assets so a regulated service can be provided to that property. It excludes connection charges, fixed charges and developer charges.

During the 2012-15 period, the approved *Service Extension, Expansion and Introduction Policy* specified that service introduction proposals needed to satisfy one of the following two tests in order to proceed:

- The introduction of water and/or sewerage services is to be commercially viable for the Corporation (which may include external funding - eg a contribution from owner Councils, government grant(s), customer contributions, or a combination of any of these)

- The absence of water and/or sewerage services is causing significant and/or wide scale environmental harm and/or public health issues, as identified by the local Environmental Health Officer, the Environment Protection Authority or the Department of Health and Human Services.

### 7.11.1 Service Introduction policy concepts for 2015-18

TasWater is of the view that these tests remain appropriate and should continue for 2015-18 for the purpose of considering service introduction proposals.

The previous policy did not include any threshold approval test relating to the level of community support required for a service introduction proposal to proceed, and this is something TasWater considers should be part of a service introduction policy for this next regulatory period.

It should be noted that TasWater does not have the ability to compel property owners to connect to its infrastructure. This is an important consideration for the assessment of any service introduction proposal, most of which will typically come at significant cost.

In order to meet the 'commercially viable' test, TasWater is of the view that a community support/take-up threshold is necessary and that a threshold of 80 per cent would be appropriate (assuming 10 per cent of existing property owners will never connect). This threshold would be a key input to the calculation of service introduction charges, which are discussed further below.

Practically, this approach would mean that TasWater would undertake consultation with the affected town or community upon receiving a service introduction proposal. This consultation would be based on high-level, preliminary design work as well as the level of charges (using the community support/take-up threshold).

For the proposal to proceed, community support of 80 per cent or greater would be required for TasWater to undertake detailed design work and prepare a business case to present to the Board. One of the requirements for a business case to proceed following approval by the Board would be that the threshold is met in terms of contractual take-up.

It is TasWater's intention to refine these concepts and subsequently provide a more detailed proposal and draft policy to the Economic Regulator in advance of its draft report and determination being finalised for release and consultation.

### 7.11.2 Service introduction charging methodology concepts for 2015-18

For 2015-18 TasWater considers that service introduction charges should be calculated based on a net present value methodology, with the key principle being that the cost of introducing the service/s for a specific area is recovered from the customers who benefit through a combination of an upfront charge and periodic charges. Importantly, this means that existing customers are not cross-subsidising those customers where a service/s is introduced.

More specifically, the service introduction charge would be calculated by determining the cost of providing the assets specific to the service being introduced and subtracting the present value of the amount that would be recovered from the threshold amount of customers through ongoing service charges.

Service introduction charges will vary across the state as the assets required to service one area will be different to those required for another. They will not be levied on new developments to which developer charges apply.

These charges will be levied from the date on which the water and/or sewerage service becomes available. Consistent with the requirements of the Water and Sewerage Pricing Regulations, TasWater will allow the owner of a property subject to a service introduction charge to pay that charge:

- over a period of 12 months
- at the owner's request, over a period of less than 12 months.

Once a property is connected following the introduction of a service, a connection fee for water and/or sewerage services will be payable by the customer. In addition, recurrent fixed and variable charges will apply thereafter.

## 7.12 Service charges

Section 68A of the Industry Act provides TasWater with the ability to levy a service charge on a property which is within the serviced land area but not connected to water and/or sewerage infrastructure. This can equally apply to both vacant land and built on land that is not connected.

Historically, as a result of differences in the identification of serviced land across the regions there have been some inconsistencies in the application of service charges. TasWater is of the view that a single approach to the identification of serviced land will positively impact the consistent application of service charges across the state.

The issue of service charges generally was one of the key themes/issues that was raised through the targeted stakeholder consultation as well as in response to the summary of the draft plan that was released publically on 30 May 2014.

As discussed in Chapter 3, a number of submissions discussed this issue and the responses shared a common view that the charges should either be wholly removed, with customers able to opt out from receiving a reticulated supply as is the case with other utilities such as gas, copper, landline, electricity, or discounted.

Notwithstanding feedback received, for 2015-18 TasWater intends to continue levying service charges on properties that are within the serviced land area and where there are services available through a water main or sewerage main passing the property, but the property is not connected, consistent with the provisions of section 68A of the Industry Act.

TasWater is of the view that it is appropriate for all customers who can connect to a service to contribute to the cost of the network; in part because it is an important factor in minimising prices in sparsely populated geographical areas. Revenue collected from levying the charge is not insignificant and it allows services to be provided on a more cost effective basis.

Service charges will be levied on new allotments located within TasWater's serviced land boundaries, irrespective of whether the allotments are developed or not. In addition, service charges will vary according to the type of service (ie full or limited) a customer might expect to receive upon connection, which will be informed by the identification and classification of serviced land.

Consistent with the approach during the current regulatory period, the service charge for water will be equal to the fixed water tariff for 20mm connections, recognising that no consumption occurs on these properties.

The service charge for sewerage will be 60 per cent of the one ET sewerage tariff, recognising that no volume of sewage is discharged. This is consistent with the arrangements that apply for 2012-15.

As these charges are linked to the fixed service charge for full service customers, they are also subject to an annual increase of 6 per cent. The water services charges per connection for 2015-18 are set out in Table 49.

**Table 49: 2015-18 Proposed service charges ($)**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| Water service charge | $293.24 | $310.84 | $329.48 |
| Sewerage service charge | $337.60 | $357.88 | $379.32 |

The proposed service charges shall be billed to customers on a quarterly basis in advance.

A copy of TasWater's draft Service Charges Policy is included at Attachment D to this plan.

## 7.13 Service replacement

TasWater currently provides services to a number of small towns across the state, many of which do not comply with the Tasmanian Drinking Water Quality Guidelines (TDWQG).

The Economic Regulator, through TasWater's operating licence, and the Director of Public Health, through the provisions of the Public Health Act, require all drinking water systems to comply with the health requirements of the Australian Drinking Water Quality Guidelines (ADWG). Essentially this implies full treatment for the majority of the systems, which has historically provided TasWater with only two options: conform to the requirements of ADWG or instigate service replacement.

During the 2012-15 period, two service replacement solutions are being implemented for the towns of Mountain River in the state's South and Pioneer in the North. The approach for each of these towns was different in that at Pioneer TasWater installed rainwater tanks and associated infrastructure whereas in Mountain River the customer was duly compensated an amount sufficient for the supply and installation of rainwater infrastructure by private contractors.

After an internal review of both solutions TasWater is proposing to apply the Mountain River model for future service replacements. Using the learnings from these projects, and taking account of various legislative requirements, TasWater has now developed a consistent and transparent state-wide framework for the assessment of options for how water services are provided to communities within small towns.

The framework is captured by TasWater's *Water Quality Policy*, which is supported by a *Small Towns Water Supply Guideline*, copies of which are provided at Attachment G.

The Policy and Guideline seek to balance the compliance obligation to provide a safe supply of drinking water and the economic justification of major investment in very small towns. They also account for the fact that there are non-economic considerations that may warrant the installation of treatment infrastructure in meeting compliance obligations.

In this regard, the guideline requires consideration of a range of criteria relating to community health, regional planning, growth and demographic issues, town sustainability and organisational reputation. In addition, it is non-negotiable that ensuring public safety is paramount in determining TasWater's preferred approach.

The key assessment criteria, which are also set out in the guideline provided at Attachment G, used to allocate each small town across the state to one of the following 'appropriate solution categories' are as follows:

- **Category A1** – Provide treated water in accordance with the TDWQG at a cost of less than $20,000 per connection.
- **Category A2** – Provide treated water in accordance with the TWDQG based on a risk based assessment – not financial threshold.
- **Category B** – Discuss options with communities, owners, regulators and DHHS. Options may include provision of alternative cost effective supplies such as service replacement or other supply arrangements including legislative change to support permanent non potable supplies.

- **Category C** – Consult with all Stakeholders and, subject to agreement, implement Service Replacement.

A list of small towns and the outcomes of the framework (ie application of the key assessment criteria) as applied to completed, current and future projects is also included with the Water Quality Policy and Small Towns Water Supply Guideline at Attachment G.

It is important to note that while no additional towns have been specifically identified for service replacement at this time there are a number of Category B towns, meaning that further investigation and consultation is required before a preferred solution (which could be service replacement) can be determined. This will be updated over time as additional information is obtained from current and future investigations.

Consistent with the Economic Regulator's Price and Service Plan Guideline and TasWater's Water Quality Policy, in the event that service replacement is a possible solution to address water quality issues, TasWater will undertake a thorough consultation process with the residents of the affected town and other relevant stakeholders, including regulators (including DHHS, EPA, Tasmania Fire Service and relevant planning authorities), as part of the decision making process for determining the preferred solution and the details thereof.

With respect to what the service replacement solution looks like and how it will be implemented, at the time of submitting this draft plan TasWater, is consulting with relevant regulators (particularly DHHS) on the following key concepts:

- Upon determining service replacement as the preferred solution, TasWater will seek support from DHHS to proceed down the path of service replacement followed by community consultation.
- Community consultation and education supported by DHHS regarding service replacement and possible conversion of the existing supply into an unregulated, non-potable service.
- Following the conversion of the supply, TasWater will provide affected customers with a period of time (e.g. a month) to sign up to a contract that involves the provision of financial compensation as a key part of the service replacement.
- Financial compensation will be determined by TasWater commissioning an audit of each property by a qualified professional to derive a cost estimate of the infrastructure required to implement a rainwater tank solution. Compensation will generally be set to a maximum dependant on the rainfall patterns for a particular area. As appropriate TasWater will develop a Transitional Supply and Demand Management Plan that will assist property owners to understand their water demand habits.
- Once the majority of affected customers have signed contracts, TasWater will request approval from the Economic Regulator, consistent with the Price and Service Plan Guideline for an amendment to TasWater's serviced land area (by Gazette or other appropriate mechanism) to reflect that there is no longer any obligation to supply drinking water to those customers.
- In the event that there are some customers who have not signed contracts, the formal amendment of the change to the serviced land area would trigger disconnection of the affected customers from the system.
- In the event that TasWater maintains an irrigation supply in place for a town that has had its drinking water supply replaced, the system would become an unregulated supply and customers would be charged on a cost recovery basis. The supply will be disconnected from the household and terminated at the boundary and customers clearly advised regarding the appropriate uses of the water. Supply would be governed by contract, with water to be supplied for authorised purposes only, such as irrigation, and prices to be reviewed every three to five years.

It is TasWater's intention to refine these concepts in consultation with the regulators and subsequently provide a more detailed proposal and draft policy to the Economic Regulator in advance of its draft report and determination being finalised for release and consultation.

## 7.14 Charges for other regulated services

### 7.14.1 Other regulated water tariffs

TasWater also has several sites throughout the state which provide public potable water filling facilities (these are available not just to water cartage operators). There are effectively five ways in which bulk water can be provided to these 'mobile' customers. These are through:

- Private filling stations (dedicated meter banks are provided at various points on the water network)
- Public filling stations – e-card system (customers can utilise the Avdata system of e-cards for public filling points at various points on the water network)
- Public filling stations – registered key access system (customers can utilise the registered key access for public filling points at various points on the water network
- Public filling stations – token based (some newsagents and councils are agents for token based filling points at various points on the water network)
- Portable metered standpipes.

TasWater owns and operates 37 filling stations points throughout the state some that use an e-card access system where customers either prepay for usage, or utilise a credit system with monthly invoicing, others access via purchasing tokens from TasWater or its agents.

Consistent with the approach to levying water and sewerage charges, TasWater is proposing that consistent state-wide charges apply for each of these water filling options from the start of this next regulatory period.

The type and level of charges for each of these water filling options is set out in Table 50.

**Table 50: 2015-18 water filling charges ($)**

| Access type | Tariff | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|
| Private filling stations | Fixed charge per annum | As per meter size (see section 7.5.1) | As per meter size (see section 7.5.1) | As per meter size (see section 7.5.1) |
| | Per kL[1] | $0.9711 | $0.9954 | $1.0202 |
| Public filling stations (e-card and registered key) | | | | |
| - Volumetric charge | Per kL | $1.4627 | $1.5165 | $1.5727 |
| - Security deposit | One-off Fee | $50.00 | $50.00 | $50.00 |
| Public filling stations (token based) | Per token[2] | $0.7313 | $0.7582 | $0.7863 |
| Portable stand pipes | Fixed charge per annum | As per meter size (see section 7.5.1) | As per meter size (see section 7.5.1) | As per meter size (see section 7.5.1) |
| | Per kL[1] | $0.9711 | $0.9954 | $1.0202 |
| e-card credit top up | Processing Fee[3] | $5.50 | $5.63 | $5.77 |

*Notes:*

1. *Consistent with the proposed water variable charges for each year of the period as set out in section 7.5.2*
2. *Tokens are for 500 litres of water*
3. *Escalated by CPI each year*

In relation to charges for public filling stations, TasWater intends to continue the approach approved for the 2012-15 period where a wholly volumetric charge for filling from the system is set based on the target variable charge and a component that represents a deemed contribution to fixed costs. Each year these charges will increase by the prevailing CPI factor.

With respect to private filling stations, these customers, which are permanently connected and have been charged in accordance with the 2012 price determination, will transition to their respective target tariffs under the same proposed rules as other water customers.

### 7.14.2 Development assessment service fees

Development assessment services relates to all development, subdivision, building and plumbing applications processed by TasWater. Services include assistance with planning, building, plumbing, water and sewerage related works, trade waste and information requests.

Pricing is structured relative to the scope of the proposal, taking into consideration the following:

- Time required by TasWater staff to assess and provide advice to the proposal
- Land size
- Total allotments
- Water supply/sewerage requirements

Development applications either forwarded by councils or submitted to TasWater for assessment will attract fees, as proposed in schedule of charges, escalated annually by the proposed CPI factor.

In relation to the rezoning of land, section 34 of the *Land Use Planning and Approval Act (LUPAA)* applies (through amendment to a Planning Scheme) while Section 43 enables assessment of both the rezoning aspect, along with an application for development of the land after the rezoning.

The fee classifications are:

| Classification | Thresholds | |
|---|---|---|
| | Rezoning (Ha) | Subdivision of Land (Lots*) |
| Minor | <0.4 | 2 |
| Medium | 0.4 – 1.0 | 3-10 |
| Major | >1.0 – 3.0 | 11-25 |
| Significant | >3.0 | >25** |

*Notes:*
** total lots in the subdivision / boundary adjustment*
*** development with major infrastructure (eg sewage pump station, water pump station, reservoir, pressure reducing station) defaults to significant.*

| Non-subdivision/building applications / plumbing applications | |
|---|---|
| **Classification** | **Thresholds** |
| Minor[1] | Single dwelling/extension/alteration<br>One-two units/town houses<br>Auxiliary dwelling/dependence unit<br>Shed/garage/carport<br>Demolition<br>Shop refit<br>Light industrial/commercial/retail site / <0.15Ha<br>Minor extension to commercial / light industrial/retail<br>New connections<br>Change of use |
| Medium[2] | Three-10 dwellings/units/town houses/dependence units<br>Light industrial/commercial/retail site/0.15-0.Ha<br>New/modified backflow protection devices<br>New/modified fire protection/metering services<br>Restricted or wayside water connection |
| Major[3] | 11-30 dwellings/units/townhouses/dependence units<br>Industrial/commercial/retail site/>0.3Ha-1.5Ha |
| Significant[4] | >30 dwellings/units/town houses/dependence units<br>Heavy industrial/commercial/retail site/>1.5Ha<br>Effluent reuse/development within buffer areas |

*Notes:*

1. *Minor is 0-6 EP (where EP is the equivalent population as defined in the Water Services Association of Australia – Sewerage Code 2002)*
2. *Medium is 6-30 EP*
3. *Major is 31-90 EP*
4. *Significant is >90 EP*

Fees and charges associated with development assessment services have been derived by standardising the 2012-15 regional charges which will be escalated in line with CPI in each year of this next regulatory period. These proposed fees and charges are detailed in Attachment H.

There are a number of one-off activities that TasWater undertakes at a customer's request, including special meter reads, service location, production of property information plans, removal of a device to restrict the supply of water, and pressure and flow testing.

TasWater intends to continue charging customers for carrying out these activities, which were standardised across the state in 2014/15. The proposed charges, all of which are escalated in line with CPI each year, are set out in Table 51.

**Table 51: Miscellaneous one-off fees ($)**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| Special meter read[1] | $52.35 | $53.65 | $55.00 |
| Service location fee[2] | $92.91 | $95.24 | $97.62 |
| Property information plan[3] | $42.20 | $43.25 | $44.33 |
| Restriction charge[4] | $92.99 | $95.31 | $97.70 |
| Pressure and flow testing fee[5] | $92.91 | $95.24 | $97.62 |

*Notes:*

1. *One-off read of a meter outside the normal reading cycle, ie when there is a change of ownership or a landlord requests a special meter reading when a tenant is vacating a property.*
2. *Provision of advice to external parties (such as utility companies and contractors) about the location of water and sewerage infrastructure.*
3. *Production of a property information plan from the GIS system that details TasWater's services surrounding a property, outside the standard "Dial before you dig" process.*
4. *The removal of a device used to restrict the supply of water.*
5. *Testing of water pressure and flow (typically for the purposes of developments) upon request.*

### 7.14.3 Other regulated sewerage tariffs

#### Motor home dump points (sanitary dump station)

A motor home dump point (MDP) or sanitary sump station is a facility intended to receive the discharge of wastewater from any holding tank or similar device installed in a recreational vehicle. There are several such facilities in TasWater's serviced area. TasWater will charge one ET sewerage charge for properties providing these facilities.

Should these sites also have a water connection they will receive a fixed 20mm connection charge and their usage metered.

**Table 52: Motor home dump point charges**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| One ET | $562.68 | $596.44 | $632.24 |

Existing customers will transition to their respective target tariffs under the proposed side constraints.

#### Septic tank effluent disposal (STED) schemes

TasWater operates several limited sewerage services around the state which takes only the liquid waste from customers. In this instance, customer are required to manage their own septic tank for solids and it is recommended these septic tanks be pumped out once every five years (see AS1547:2000). As such, the service received is less than a full sewerage service.

TasWater will continue to levy a 0.9 ET service charge annually for these properties. The 10 per cent discount from the full service charge reflects the approximate annual cost of a septic tank pump out once every five years. Customers who receive this service are classified as receiving a limited sewerage service.

**Table 53: STED scheme charges**

| | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|
| 0.9ET | $506.40 | $536.80 | $569.00 |

Existing customers will transition to their respective target tariffs under the proposed side constraints.

## 7.15 Unregulated services

TasWater provides a small number of unregulated services. These services are considered unregulated by the Economic Regulator as they are sold into markets that have alternative forms of supply. As these services are unregulated the costs of these services should not be borne by regulated water and sewerage customers. For some of these products, like reuse and biosolids, the delineation between regulated and unregulated services is not always clear. In some cases the provision of reuse is a lower cost option for regulated sewerage customers than the alternative of further treatment to allow disposal to the environment.

### 7.15.1 Smithton truck wash

There are two water outlets, being a spray bar (sprays water underneath the truck) and a wand/gun that sprays water from a handle. The disposal of the water goes into our system.

This service is utilised by rural customers to avoid cross contamination between farms. It is not part of our core functions and further work is being undertaken as to whether TasWater should take responsibility for this function, or whether we should seek to return this asset to council. This came across from Circular Head council as part of our water and sewerage assets in the Transfer Order.

### 7.15.2 Irrigation

Irrigation water is available to some customers under limited circumstances. The irrigation water supply comes from the same treatment and distribution infrastructure that provides water to our urban customers. It is allocated to irrigation customers once urban demand has been satisfied. This surplus capacity generally occurs during the cooler, wetter months. As such, the provision of irrigation supply services actually leads to cost optimisation of pipe capacity in off-peak periods through the recovery of additional unregulated revenue.

TasWater currently provides bulk irrigation water directly to about 100 customers, including Daisy Banks Dam operated by Tasmanian Irrigation Pty Ltd, which supplies irrigation water into the Coal River Valley.

### 7.15.3 Reuse

TasWater operates several recycled water schemes, supplying a total of 70-plus customers who irrigate land. Recycled water schemes vary between unregulated services and least cost wastewater disposal solutions. An example of a non-regulated service is the Clarence recycled water scheme. An example of a regulated scheme is a small regional scheme supplying one customer for free in what is the most cost effective method of managing wastewater discharge. Expansion of recycled water provision is only likely to be undertaken where it is the least cost option for wastewater discharge. This may occur where the alternate receiving environment is highly sensitive or valuable and the cost of advanced wastewater treatment is less sustainable than the development and operation of recycled water infrastructure.

At this time, the “commercial” reuse schemes have operational costs which substantially exceed revenue received. It is not envisaged that reuse water services will result in a positive financial return during the life of this plan.

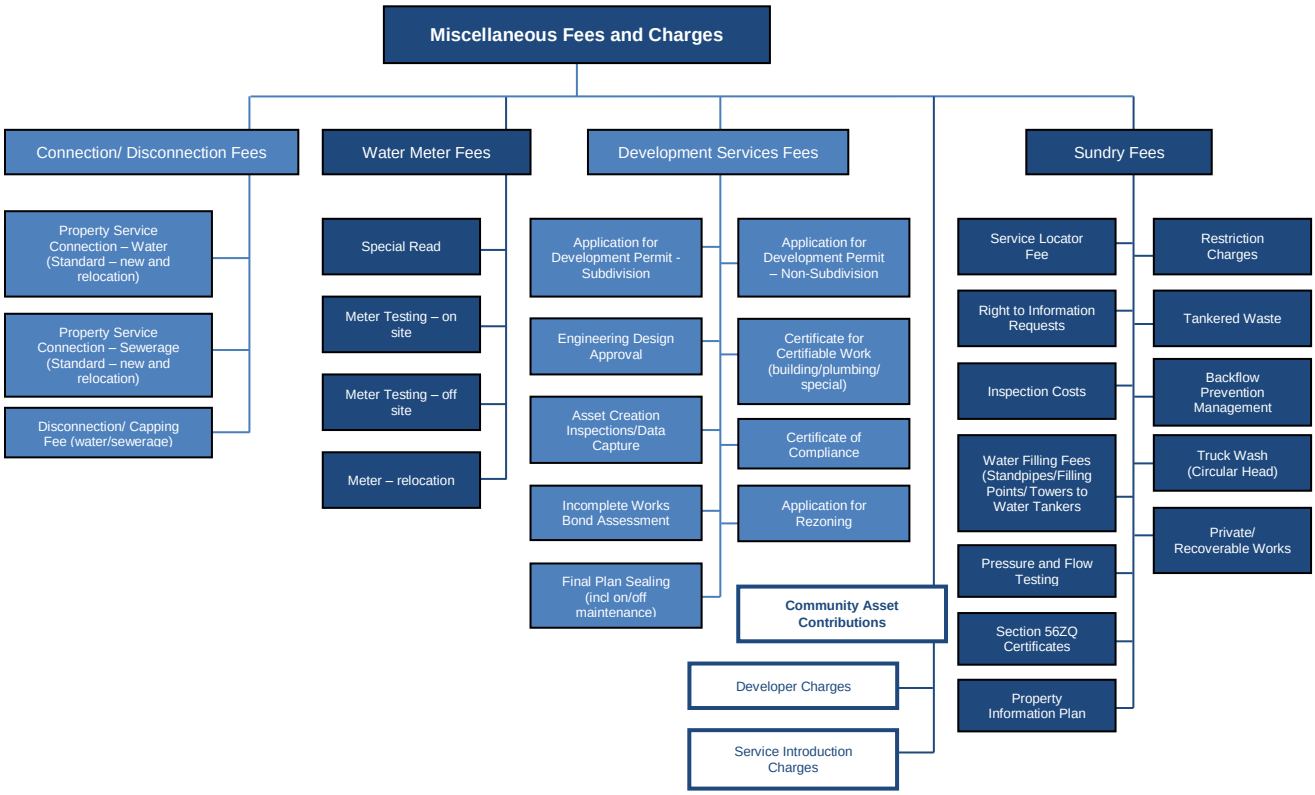
### 7.15.4 Tankered waste

Liquid trade waste and domestic septic waste is currently tankered from businesses and homes by cartage contractors to a select number of TasWater’s wastewater treatment plants. Most WWTPs are not designed to accept this waste, which is often unidentified and uncharacterised when it arrives at the WWTP. However, this service is unregulated as there are competitive alternatives for waste producers in regards to disposal. These include landfills and some commercial providers who have waste separation facilities.

## 7.16 Miscellaneous fees and charges

TasWater provides a range of one off services which are collectively known as miscellaneous fees and charges. These various fees and charges are set out below.

**Figure 15: Breakdown of miscellaneous fees and charges**




TasWater's rates for each fee and charge for each year of the 2015-18 period are set out in Table 54.

**Table 54: Miscellaneous fees and charges**

| Type of charge | Details | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|
| Property Service Connection – Water (standard 20mm Ø connection) | Fee for new water service connections or a relocation of a water connection (20mm) | $2,032.69 | $2,083.50 | $2,135.59 |
| Property Service Connection – Water (standard 25mm Ø connection) | Fee for new water service connections or a relocation of a water connection (25mm) | $2,218.57 | $2,274.03 | $2,330.88 |
| Property Service Connection – Water (non-standard) | Fee for new water service connection, which is not a standard connection | POA | POA | POA |
| Property Service Connection – Sewer (standard 100mm Ø connection) | Fee for a new sewerage service connection to residential or relocation of a sewerage connection | $1,481.69 | $1,518.73 | $1,556.70 |
| Property Service Connection – Sewer (non-standard connection) | Fee for new sewerage connection or relocation of a sewerage connection | POA | POA | POA |
| Disconnection/ Capping Fee residential (water/sewerage) | Fee for disconnection of the service to the main and capping the residential service connection. | $423.40 | $433.98 | $444.83 |

| Type of charge | Details | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|
| 20mm meter installation | Fee for supply and installation of standard 20mm meter | $253.86 | $260.21 | $266.72 |
| > 20mm meter installation | Fee for supply and installation of > 20mm meter | POA | POA | POA |
| Fire Service installation | Fee for new fire service connection - stand alone or combined with new water service | POA | POA | POA |
| Special Meter Reads | Fee for the one-off read of the meter outside the normal reading cycle, eg when there is change of ownership | $52.35 | $53.65 | $55.00 |
| Meter Assessment (testing on-site) | Fee for undertaking an initial flow test of a water meter with a measured quantity of water | $70.38 | $72.14 | $73.95 |
| Meter Testing (off-site) | Fee for undertaking an accredited test of a water meter, payable only if the meter is found to be working correctly. | POA | POA | POA |
| Meter Relocation (< 3 meters) | Fee for the relocation of an existing water meter at the property. | $423.40 | $433.98 | $444.83 |
| Meter Relocation (> 3 meters) | Fee for the relocation of an existing water meter at the property. | POA | POA | POA |
| Meter downsizing (50mm to 20mm) | This represents the cost of replacing an existing water meter with a smaller water meter | $342.47 | $351.03 | $359.81 |
| Meter downsizing (others) | This represents the cost of replacing an existing water meter with a smaller water meter, other than 50mm to 20mm | POA | POA | POA |
| Service Locator Fee - Business Hours | Fee charged for staff to locate and advise external parties (utility companies and contractors etc.) where water and sewerage infrastructure is located. | $92.91 | $95.24 | $97.62 |
| Right to Information requests (RTI) | This fee represents access to information held by State Government departments, ministers, councils or authorities within the guidelines of the Right to Information Act 2009. | 25 fee units | 25 fee units | 25 fee units |
| Inspection Costs | This fee represents where another utility or development may be working around our pipes and we need to be on site to ensure that what they are doing will not affect our services. | $53.56/hr | $53.56/hr | $53.56/hr |
| Pressure and Flow Testing | This fee occurs where a developer may need to know the pressure/flow that could be provided to a proposed development before proceeding. | $92.91 | $95.24 | $97.62 |
| Restriction Charge | This fee represents the cost of the removal of a device used to restrict the supply of water. | $92.99 | $95.31 | $97.70 |
| Backflow Prevention Management | Administration costs charged for boundary backflow devices | POA | POA | POA |
| Administration Fee | This fee may be applied for failure to pay a debt due. The fee will not be charged if: a) The account balance is less than $50; and b) the customer is eligible for a concession; c) the customer pays the overdue amount within five days; d) the customer contacts TasWater prior to the fifth day after the due date and is offered a flexible payment plan. | $5.00 | $5.13 | $5.25 |

# 8 ATTACHMENTS

## A Customer Contract

## B Description of Serviced Land

## C Connection Policy

## D Service Charge Policy

## E Liquid Trade Waste Policy

E.1 Liquid Trade Waste Policy – June 2014

E.2 Draft Liquid Trade Waste Charges Policy

E.3 Commercial Trade Waste Consent Section 60 Final Draft

E.4 Trade Waste Customer Categorisation Tables

## F All other policies relating to TasWater's interactions with customers and potential customers

F.1 Complaints Management Policy - May 2014

F.2 Financial Hardship Policy - June 2013

## G TasWater Small Towns Water Supply Strategy

G.1 Water Quality Policy - June 2014

G.2 Small Towns Water Supply Options Guidelines – June 2014

## H Schedule of Fees and Charges

## I Explanation of Equivalent Tenement (ET) methodology

## J Equivalent Tenement (ET) Rates

## K OTTER data sheets

## L Service Extension and Expansion Policy (to be provided)

(to be provided pending separate consideration by the Board)

## M Water metering policy (to be provided)

(to be provided pending separate consideration by the Board)

## N Service introduction charges policy (to be provided)

(to be provided pending regulator consultation on concepts outlined in section 7.11)

## O Developer Charges policy and methodology (to be provided)

O.1 Developer charges policy (to be provided pending development of 10 year Asset Management Plan and detailed methodology as outlined in section 7.10)

O.2 Developer charges methodology (to be provided pending development of 10 year Asset Management Plan)

## P Service replacement policy and contract (to be provided)

(to be provided pending regulator consultation on concepts outlined in section 7.13)

P.1 Service replacement policy

P.2 Service replacement contract


TasWater

Draft Price and Service Plan 2015-18