

WATER AND SEWERAGE REFORM IN TASMANIA

**SUBMISSION TO INFRASTRUCTURE AUSTRALIA FOR
SUPPORT FOR INFRASTRUCTURE INVESTMENT**

STATE GOVERNMENT OF TASMANIA

Proposal Summary

Initiative Name:	Water and Sewerage Reform In Tasmania
Location (State/Region(or City)/ Locality):	Tasmania – all regions.
Name of Proponent Entity:	<i>Department of Primary Industries, Parks, Water and Environment</i>
Contact (Name, Position, phone/e-mail):	<p><i>Ben Goodsir</i> <i>Director</i> <i>Urban Water Policy unit</i> <i>Department of Primary Industries, Parks, Water and Environment</i> <i>Phone: (03) 6233 9257</i> <i>E-mail: Ben.Goodsir@dpipwe.tas.gov.au</i></p>
Project Description:	<p>The Tasmanian Government has recently introduced major reforms in its water and sewerage sector. In 2008, prompted in part by Tasmania’s commitment to the objectives of the National Water Initiative, two industry reform Acts were passed: the <i>Water and Sewerage Industry Act 2008</i>, and the <i>Water and Sewerage Corporations Act 2008</i>.</p> <p>These Acts establish four corporations and a more rigorous regulatory framework for the water and sewerage sector, in response to the failure of the industry to provide services that meet national health and environmental standards and to be sustainable in the long term.</p> <p>The reforms involved significant structural changes to the industry, with water and sewerage services now delivered by three regional corporations and one common services corporation, instead of Tasmania’s 29 local governments and three former bulk water authorities. A new regulatory framework is almost complete, providing performance monitoring and reporting, independent oversight of compliance with environmental and health standards, customer service standards and independent price regulation.</p> <p>During the reform process it became apparent, after due diligence reports and detailed studies that, almost \$1 billion would need to be invested in new and upgraded water and sewerage infrastructure in Tasmania over the next decade, due to under-charging, and therefore under-investment, in the sector. This capital investment is required to upgrade a significant amount of urban water and sewerage infrastructure that is currently non-compliant with contemporary environmental and public health requirements, as well as enabling more rapid augmentation of existing networks to areas that require services due to their economic significance and/or growth over the past decade of economic expansion.</p> <p>Compared to other states, Tasmania has a small and decentralised population. Tasmania also has low rates of population growth and a higher proportion of pensioners and people on low incomes. Economic growth tends to lag behind national rates. These features have made reform of the sector, and the critical requirement for increased revenue for the corporations through higher water and sewerage charges, particularly difficult.</p> <p>The Tasmanian Government has implemented an Interim Price Order, under the <i>Water and Sewerage Industry Act 2008</i>, to commence the transition of revenues in the water and sewerage sector towards sustainable levels. In doing so, it commences the movement of the sector towards full cost recovery over a sensible timeframe while ensuring that customers do not face large price shocks. The IPO operates until June 2012.</p> <p>The IPO commenced in July 2009 and maintains, for each municipality, the pricing regimes for water and sewerage services that had been in place prior to the reforms in each of the 29 municipalities. These pricing regimes varied substantially between councils, with no metering of residential consumption in a number of the larger Southern municipalities. This has resulted in major pricing cross subsidies that have generally benefited</p>

households with lower wealth, and therefore usually lower incomes. The process of unwinding these cross subsidies therefore will have adverse effects for some sectors of the community. While the State Government has implemented a Community Service Obligation scheme to provide some support to low income households, this will not protect them from the full impact of the price changes in the years ahead.

The reforms to Tasmania's water and sewerage sector have the potential to transform the sector and significantly raise health and environmental standards, and the quality of services, to many parts of the Tasmanian community. However, there is very considerable concern in the Tasmanian community about the increases in charges, especially when the IPO expires and independent price regulation commences. This was the reason why the Government amended the initial IPO to constrain price increases until 2012-13 to 5 per cent.

For many customers, prices have risen, and will continue to rise, with few changes as yet in the services provided or the quality of services. The potential future benefits are therefore not apparent to many in the community, just as it is not clear that there has been systemic under-investment due to the under-recovery of costs. There is significant community anger and a real risk that some of the reforms will be unwound, or that the necessary investment will not be rolled out due to the community's rejection of the price increases necessary to ensure sufficient revenues for the regional corporations.

Tasmania's Director of Public Health has identified a number of regional centres across the state that currently receive water from drinking water supply systems, which do not meet acceptable standards. These systems supply raw or poorly treated water that require permanent or temporary boil water alerts to be maintained as a public health precaution. The Director of Public Health has highlighted these systems as non-compliant and therefore high priority projects to the three regional corporations. The drinking water supply systems that the Director of Public Health has highlighted were outlined in letters to the regional corporations, (The letters are attached for information).

The Director of Public Health oversees drinking water supplier responsibilities and investigates threats to public health. *Under the Public Health Act 1997*, guidelines issued by the Director of Public Health are statutory instruments. The State's Drinking Water Quality guidelines apply to drinking water and are specifically concerned with protecting public health. These guidelines contain legally enforceable requirements, recommendations and information.

To meet the regulatory requirements of the Director of Public Health, the three regional corporations have commissioned independent studies that examine the options available for upgrading high risk water supply systems. The reports have investigated a range of water supply options, ranging from withdrawal of reticulated service and replacement with rainwater systems, to construction of full treatment plants. All options were assessed against their ability to meet the Director of Public Health's requirements and do so in the most cost effective manner. To date reports have been received for 14 of the 20 centres listed in the proposal, these are attached for information.

Under independent economic regulation, most of these projects would not be implemented in the medium term due to higher ranked projects and the constraints on the capacity of the regional corporations to expand their revenues and fund such projects through user pay tariffs. It should be emphasised that this project aims to lift drinking water service standards (not introduce new services) to small regional towns that were initially serviced by small local councils. Often the councils did not have the finances or skill base to install and maintain appropriate drinking water services, a situation that is also seen in many other jurisdictions across Australia.

This submission presents a set of high priority projects, as identified by Tasmania's Director of Public Health, designed to bring water service standards in a number of regional centres up to an acceptable service standard level but not to Australian Drinking Water Guideline level. The approach and focus of this project is consistent with the recommendations made in the recent Infrastructure Australia report into regional water quality and security.

Should funding for these projects be successful, the funding will:

- bring forward the start date, and therefore the completion date for projects that improve water supply quality and prevent some areas from being on boil water alerts, including some on permanent boil

- water alerts; and
- enable compliance with regulatory health standards for some towns where, under a business as usual scenario, the drinking water treatment plants would not be upgraded.

Based on a strict benefit cost analysis, it may not be possible to demonstrate that all the projects produce benefit-cost ratios that exceed 1. However, these projects are needed to meet acceptable drinking water standards in accordance with the requirements of the Tasmania's Director of Public Health. The projects included in this submission represent the least cost, and therefore most cost effective, options to meet these requirements, as the accompanying reports demonstrate. In this particular case, given the regulatory requirements, it is evident that the criterion of cost effectiveness is more relevant than the requirement to generate a benefit-cost ratio that exceeds 1.

In addition to the priority drinking water projects outlined in this submission, funding is also sought for one priority waste water treatment project.

Currently, Coles Bay, which is a major tourist centre for the State, has no reticulated sewerage services, with all properties relying on on-site waste water treatment systems. Coles Bay has a permanent residential population of approximately 500 people, which increases to in excess of 5,000 during summer months. The town is bordered on either side by the nationally and internationally recognised Freycinet National Park and the RAMSAR listed Moulting Lagoon.

Providing reticulated sewerage services to Coles Bay will result in significant reductions in nutrient and pathogen loading from the current on-site wastewater treatment systems. This has the potential to have a significant positive impact on the waterways surrounding Freycinet National Park and Coles Bay. This will help ensure the iconic tourism status and environmental values of the area are maintained, whilst at the same time providing further sustainable economic development opportunities. All treated effluent from the sewerage system will be utilised for farm irrigation in the surrounding rural areas, further reducing the nutrient loading to local waterways and providing an additional water source in a area where this is a constraining resource.

As with the earlier listed projects, without the input of external funding it is unlikely that this project would be undertaken in the short to medium term, due to the small residential population base (Approximately 500) making it difficult to justify the cost of installing sewerage infrastructure that will be required to handle a peak tourist population of over 5,000.

In addition, the timely rollout of these projects would improve equity outcomes and provide an enormous boost to the momentum of the reforms. The indirect benefit, namely greater public acceptance of the reforms and a willingness to support the price reforms, including the unwinding of the cross subsidies, cannot be quantified but will be very substantial if it prevents a return to previous (unsustainable) industry structures and pricing policies.

1. Priority List for regional towns, based on advice from Director of Public Health

Ben Lomond Water

Westbury/Hagley

Exton

Derby

Branxholm

Fingal

Mole Creek

Bracknell

Conara

Epping

Karoola/Lalla

Total estimated cost of projects \$25,822,000

Cradle Mountain Water

Waratah

Tullah

Rosebery

Total estimated cost of projects \$9,000,000

Southern Water

Colebrook

Gretna

Hamilton

Judbury

Ouse

Tunbridge

Wayatinah

Total estimated cost of projects \$15,478,000

2. Priority wastewater management project for iconic tourist town

Coles Bay Wastewater Management \$22,500,000

Total estimated cost of priority projects \$72,700,000

Theme seven of Infrastructure Australia's seven national infrastructure priorities is 'Adaptable and secure water supplies'. The Infrastructure Australia document *National Infrastructure Priorities* makes the following important points:

'The National Water Initiative provides a sound framework for pursuing urban water reform as well as for trading in water rights in an environmentally sustainable way. However there is a need for jurisdictions to accelerate the implementation of reforms.'

'In regional areas, water quality and security of supply can be improved and a plan to address the highest priorities needs to be developed – as a matter of urgency.'

'More consistent implementation of pricing and regulatory reforms will provide incentives for efficient use and investment in urban water sector assets. There is also a need to develop a plan to address regional towns' water quality'

This proposal reflects the 'Adaptable and secure water supplies' objectives articulated by Infrastructure Australia. A key driver of the submission is to accelerate Tasmania's urban water and sewerage reform in line with the objectives of the National Water Initiative (NWI), in order to ensure that Tasmania's restructured water and sewerage industry is operating on a sustainable footing. For the reform to deliver the intended economic, environmental and public health outcomes in a reasonable timeframe, the new regional corporations must have appropriate balance sheet and revenue strength to fund their operations. However, the regional corporations are currently facing significant revenue uncertainty due to the need to focus their near-term capital expenditure plans on addressing a range of legacy issues inherited from the former owners of Tasmania's water and sewerage infrastructure, which is constraining their ability to invest in new infrastructure that would expand their revenue base.

Water quality and security of supply in regional areas was also a strong driver for water and sewerage reform in Tasmania. Twenty-three Tasmanian towns in the State are currently on permanent boil water alerts, including some which are key tourist destinations. In a number of cases these are low supply, high cost systems that require significant financial contributions to ensure that they are upgraded to be compliant with national standards.

A major objective of the reforms was to improve water security in Tasmania, particularly in significant tourism towns along the East Coast and North West Coast. Due to the amount of non-compliance issues that will be a priority for future capital works, some projects will be delayed, notwithstanding the importance of adequate water and sewerage services for the economic development of these areas.

Pipeline category nominated by proponent (please indicate one category only):	Ready to Proceed
Capital Cost of Initiative by Proponent (\$M, nominal, undiscounted):	\$1 billion (Total capital program cost is for both water and sewerage network upgrades)
Commonwealth contribution sought by Proponent, and cash flow in financial years (\$M, nominal, undiscounted):	\$72 million
Other funding (source/amount/cash flow) (\$M, nominal, undiscounted):	
BCR by Proponent excluding Wider Economic Benefits	
High level development and implementation program	

Templates for Individual Stages in the Reform and Investment Framework

Stage 1: Goal Definition	
Goal Statements	<p>Tasmania's water and sewerage reforms are intended to achieve the following goals:</p> <ol style="list-style-type: none"> 1. Secure the long-term sustainability of Tasmania's water resources; 2. Improve the quality of water and sewerage services to Tasmanian communities; 3. Improve current water and sewerage infrastructure and planning; 4. Improve public health and environmental outcomes; 5. Ensure that access to acceptable water and sewerage services is not a constraint to economic development; 6. Ensure greater efficiency and improved pricing signals through structural reform; 7. Develop a more publically accountable sector; 8. Develop a more customer focussed sector. <p><i>List and provide sources for the higher and/or lower order goals such as those of a National/State/Regional/City/Location specific focus with reference back to existing plans and strategies:</i></p> <p>Tasmania's water and sewerage reforms are consistent with the overall objectives of the National Water Initiative (NWI), including its specific urban water and best practice water pricing objectives. The NWI urban water reforms aim to:</p> <ul style="list-style-type: none"> • provide healthy, safe and reliable water supplies; • increase water use efficiency in domestic and commercial settings; • encourage the re-use and recycling of wastewater where cost effective ; • facilitate water trading between and within the urban and rural sectors; • encourage innovation in water supply sourcing, treatment, storage and discharge; and • achieve improved pricing for metropolitan water. <p>The goals of the water and sewerage reforms align with the goals of the Tasmanian Infrastructure Strategy. The Strategy coordinated the Government's effort across the major economic sectors of transport, energy, water and the digital infrastructure and manages integration between sectors. In addition, the Tasmanian Infrastructure Strategy complements the Tasmanian Innovation Strategy and Tasmanian Skills Strategy to provide a foundation to support sustained economic outcomes.</p> <p>The overarching goals of the Tasmanian Infrastructure Strategy are:</p> <ol style="list-style-type: none"> 1. Coordinated infrastructure planning 2. Effective governance and decision making 3. Viable and sustainable infrastructure

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	<p>4. Efficient infrastructure delivery</p> <p>Importantly, the Tasmanian Infrastructure Strategy also recognises the essential role land use planning plays in the location and provision of infrastructure. The State Government is currently collaborating with local councils and industry to develop Regional Planning Projects across three regions, which include infrastructure investment strategies for each region.</p> <p>Relevant goals of the Regional Planning Projects include:</p> <ol style="list-style-type: none"> 1. A reasonable lifestyle and standard of living for all Tasmanians; 2. Vibrant, inclusive and growing communities where people feel valued and connected; 3. Thriving and innovative industries driven by a high level of business confidence; and 4. Sustainable management of our natural resources.
<p>Objective Statements</p>	<p><i>List the objective(s) that the initiative is aiming to meet:</i></p> <p>The more detailed objectives of the Water and Sewerage reforms are as follows:</p> <ol style="list-style-type: none"> 1. Establish sustainable water businesses that can build, fund, and provide water and sewerage services in Tasmania 2. Ensure all wastewater treatment plants are compliant with their Environmental Protection Notices (EPNs). 3. Ensure that the appropriate drinking water standards are met in all towns that receive reticulated water services. 4. Introduce reticulated water and sewerage services to new areas to improve public health and environmental outcomes and/or promote economic development. 5. Implement consumption based pricing (two-part pricing) following the introduction of water meters. 6. Introduce independent and transparent water and sewerage pricing that reflects the National Water Initiatives Pricing Principles. 7. Develop a supply and demand framework to ensure water security across Tasmania. 8. Ensure dams for urban water supply are managed to avoid unacceptable risks to people, property and the environment. 9. Ensure Performance data are made publically available in the annual State of the Industry Report and the National Performance Report and is meets national requirements. This will ensure licensed operators performance is transparent and accountable. <p>The pricing principles in the Water and Sewerage Industry Act require two-part pricing for water through fixed and variable charges, which may vary between locations reflecting the cost of servicing particular customers or classes of customer. This pricing regime is to be implemented once independent price regulation commences, scheduled for 1 July 2012 with a first regulatory period of three years. The expected length of each subsequent period is five years.</p>

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The Water and Sewerage Industry Act provides the Treasurer with the power to issue interim price orders. On 1 July 2009, the Interim Price Order was published. The IPO is designed to lead the sector towards achieving full cost recovery while ensuring that customers do not face large price shocks.

On 30 November 2009, the Government announced a cap of five per cent on the annual increase in water and sewerage bills for all customers for three years from 2009-10 to 2011-12. Initially the IPO set a revenue cap between zero and 10 per cent over this period depending on the municipality. The IPO applies to the prices that can be charged by the three regional corporations. As the pricing arrangements that were used by councils are being maintained, there are no volumetric charges in most of the larger municipalities.

There are clear economic efficiency benefits from cost reflective pricing that unwinds cross subsidies and ensures that all consumers face the appropriate price signals. This is discussed in more detail below.

Different councils had adopted very different approaches to charging, most of which were not related to costs to supply or water usage. Some based charges on the Assessed Annual Value (AAV) of the property only, while others used a combination of AAV and a volumetric charge per kilolitre of water consumed. Some had charges according to the pipe size used to connect the property to the network. There were also very different free water allowances from council to council. As a consequence, the levels of water and sewerage charges are very different from municipality to municipality for customers with similar water use. To move immediately away from these arrangements to a consistent approach would result in very large price increases for some customers. Therefore, a phased approach has been taken.

Pricing regulations are being prepared which will establish pricing principles in addition to those in the Industry Act and describe matters the Regulator must consider when making a price determination. The independent Economic Regulator, when making price determinations, will be required to consider the impact of price increases on customers. The pricing regulations will reflect the Government's policy that property owners will be liable for the fixed charges and occupiers will be liable for variable charges.

Two-part pricing will be supported by a rollout of meters to properties without a working meter. The rollout is the responsibility of the regional corporations. An independent study has recommended the mandatory rollout of meters across Tasmania by June 2012. Meter installation costs are to be built into the fixed charge and apportioned over the 10 year life of the meter (around \$10 per year).

Goal and Objective Alignment

Outline how the proponent's goals and objectives for the initiative align with higher and/or lower order goals and objectives of others.

Tasmania became a signatory to the NWI in June 2005, joining the Commonwealth and the other states and territories to deliver a blueprint for water reform in Australia. Tasmania's water and sewerage reform goals are consistent with those of the NWI for urban water and sewerage reform. Tasmania will continue to implement its reforms in line with best practice principles set out in the NWI urban reform framework.

The goals of Tasmania's Infrastructure Strategy and Regional Planning Projects also

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align with this of the water and sewerage reform.

Outline how the proponent's goals and objectives align with Infrastructure Australia's strategic priorities.

IA's strategic priorities:

SP1	SP2	SP3	SP4	SP5	SP 6	SP7
Expand Australia's productive capacity	Increase Australia's productivity	Diversify Australia's economic capabilities	Build on Australia's global competitive advantages	Develop our cities and/or regions	Reduce green-house emissions	Improve social equity, and quality of life

Undertaking to improve the quality of drinking water supplied in regional centres to an acceptable standard aligns with two of IA's strategic priorities; SP5 – Develop our cities and/or regions, and SP7 – Improve social equity and quality of life.

SP5 – Develop our cities and/or regions

Providing drinking water of a nationally accepted standard to regional centres throughout Tasmania removes a significant impediment to growth for these communities. With the regional water and sewerage corporations being handed water and sewerage assets from across their whole region that require substantial capital input to raise it to an acceptable standard, there is limited opportunity for capital to be invested in smaller regional projects such as listed in this submission. Without funding from IA it is unlikely that the majority of the centres highlighted in this submission will have their existing drinking water services upgraded to accepted national standard in the medium term.

SP7 – Improve social equity and quality of life

With Tasmania having the most decentralised population in the country a substantial proportion of the population live in regional centres, outside of the major urban areas. Not providing drinking water services of a similar level of quality and safety as provided in the major urban centres creates an unequitable situation for those that live in regional centres. With the residents of regional centres potentially penalised by not receiving drinking water as the capital required to improve the service is not available. Funding from IA will enable the listed projects to commence in the short term without the need for significant cross-subsidisation of the projects by consumers in larger urban areas.

Improving the quality of the drinking water services currently supplied to regional centres so that it meets the requirements of the ADWG will result in a significant improvement in the quality of life for these communities. The long standing permanent boiled water alerts could be removed, not only removing the health risk of the drinking water but also improving the perception of the centre, for both residents and visitors.

Stage 2: Problem Identification

<p>Problem Identification:</p> <p>Current issues</p>	<p><i>List those current problems, issues or challenges that the proponent considers will limit the ability to achieve the goals and objectives identified in Stage 1:</i></p> <p>The major challenge for Tasmania's water and sewerage reform is to realise the benefits of reforming the sector in a timely manner, whilst transitioning the sector to a commercially sustainable footing.</p> <p>However, the poor condition of Tasmania's water and sewerage infrastructure and significant deferred maintenance/investment costs present a serious impediment to the regional corporations delivering the reform objectives in a reasonable timeframe. The problem is magnified because of the revenue uncertainty that the regional corporations are facing as recently established businesses, and the relatively limited prospects for revenue growth offered by below average economic growth, low population growth and average incomes that are significantly below the national average.</p> <p>It is expected that \$1 billion of new water and sewerage infrastructure is required in Tasmania over the next decade. However it is becoming increasingly clear that the regional corporations will not have sufficient revenues to be able to service the debt funding required to progress the required infrastructure expenditure in a reasonable timeframe, while operating as sustainable businesses.</p> <p>Despite the significant progress that has already been achieved, the implementation of the water and sewerage reforms still faces a number of challenges. These include moving to two-part pricing, unwinding very large pricing cross subsidies and enabling the revenue of the regional corporations to increase to sustainable levels. Other challenges are delivering information systems and undertaking national performance reporting that are of a standard that meet auditing requirements. These challenges, coupled with the legacy issues the regional corporations face due to the poor quality infrastructure that has been transferred to them, threaten the overall success of the reform.</p> <p>The three regional corporations, in consultation with State Government regulators, have identified that upgrading existing non-compliant systems and moving to two-part pricing are the principal priorities in the short to medium term. There is a significant amount of capital required to complete these works particularly as:</p> <ul style="list-style-type: none">• 23 Tasmanian towns are on permanent boil water alerts as the reticulated water supply is not compliant with the ADWG.• over 50 per cent of Tasmania's 81 Level 2 wastewater treatment plants are non-compliant with their environmental and public health requirements.• it is estimated that approximately 87 000 (less than half) of the State's 200 000 water connections are metered and even less were charged for their water services on a two-part basis. <p>Addressing these challenges is made increasingly difficult and costly by Tasmania's decentralised population. There are a number of low volume-high cost systems throughout the State that need to be upgraded, which to a significant extent offsets the economies-of-scale available to the new regional corporations.</p> <p>The regional corporations will find it particularly challenging to move towards becoming sustainable businesses whilst trying to resolve the significant legacy issues that were transferred to them on 1 July 2009. With capital committed to improving compliance with health, environmental and occupational health and safety standards, as well as rolling-out of water meters, the water regional corporations cannot, in the</p>
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short to medium fund investments in infrastructure that would underpin increases in their revenue base and promote economic development in Tasmania more generally. Increasing the regional corporations' revenue streams is also constrained by Tasmania's relatively low population growth, which affects the ability of each regional corporations to grow its customer base, and the ability of Tasmanians to pay for water and sewerage services on a full cost recovery basis is constrained by the State's lower than average earnings capacity and low economic growth.

Delaying infrastructure projects that increase the regional corporations' revenue base will have serious implications for the timeframes in which the reform objectives will be delivered.

Some activities that may potentially be delayed without an injection of capital funding from the Australian Government include:

- the upgrading of substandard drinking water services that are currently not compliant with the ADWG, particularly in small regional centres.
- the introduction of water and sewerage services to populated areas on the urban fringes that are not connected to reticulated water and sewerage networks but might reasonably expect to be. There are also a number of significant tourist destinations that have substantial development potential that can only be realised with the introduction of reticulated services.
- addressing key water capacity constraints in tourist areas, such as the East Coast, which attract national and international visitors to the State. Infrastructure capacity constraints may lead to a downturn in tourism and weakened private investment. Any stalling of development in these areas may impact on the construction, retail, accommodation and hospitality sectors.
- increased use of recycled wastewater for irrigation purposes (which aligns with the NWI's urban water reform alternative supply options).
- exploration of opportunities for innovation, such as acting as a "test bed" for coupling smart metering and data management with the National Broadband Network, and also strategic linking to infrastructure investment with the Tasmanian Planning Commission.
- undertaking large-scale rationalisation of existing systems to improve overall efficiency of the network. For example, the NW Coast has a number of small drinking water treatment and supply systems that are located in close proximity to each other. There are potentially significant savings to be made by inter-connecting systems and reducing the number of drinking water treatment plants.

Initiatives like those outlined above are the kinds of innovative outcomes that align Tasmania's urban water reform with the objectives of the NWI, and ideally Tasmania would like to be placed in a position where it can pursue such projects. However, it is imperative that before this can take place; non-compliant systems are upgraded so that water quality in regional areas can be brought up to the standard required by the ADWG.

Additionally there would be environmental, public health and economic implications for the State if non-compliance is not addressed. For instance, Tasmania is promoted nationally, and internationally, as a clean-green State, and a number of businesses rely heavily on this image to attract trade. A major disease outbreak due to poor drinking water infrastructure has the potential to affect exports and visitor numbers to the State.

Stage 3: Problem Assessment

<p>Problem assessment</p>	<p><i>To what extent does (or will) the problem impacts upon the goals and objectives?</i></p>
<p>Current problems</p>	<p><i>How is the problem currently affecting the nation/ state/ region (city)/ locality?</i></p> <p><i>Quantify the extent to which the problems may affect the attainment of the goals/objectives</i></p> <p>Inefficient pricing</p> <p>Inefficient pricing results in over consumption and inefficient investment based on distorted price signals. Treasury commissioned Marchment Hill Consulting to undertake a study determining what form of water metering might best support the objective of moving to an equitable and efficient two-part water pricing framework.</p> <p>The study supports a mandatory rollout of automated meter read meters across Tasmania as the preferred metering option, where all customers without a working water meter would be required to have one installed by June 2012.</p> <p>The MHC study found that unmetered households tend to over consume water when they do not face a price signal (i.e. when additional water usage is perceived to be free). Once metered, these households can be expected to reduce their consumption by 15 per cent. This is expected to save 5.2 GL per year across the state per year.</p> <p>Also, when all customers have an accumulation meter that is automatically read on a weekly basis, network and household leakage will be identified more quickly. The information provided by metering can also improve expenditure decisions.</p> <p>The study estimated that network leakage can be reduced by one fifth (i.e. a proportion of 20 per cent of the current rate), saving 3.5 GL per year.</p> <p>By metering flows at the connection to each household, leaks within households can also be identified and fixed much more quickly. Evidence suggests that 56 per cent of the water lost to leaks in unmetered households can be saved by installing an accumulation meter with AMR capability, saving 626 ML per year.</p> <p>Metering can also be expected to yield a capital expenditure saving associated with a reduced need for network augmentation, as water consumption is better managed by consumers. The study estimated a 0.5 per cent reduction in capital expenditure related to network growth.</p> <p>The monetary values of the benefits outlined above were modelled over a twenty year period, along with the costs of the meter rollout. The net present value contribution of each cost and benefit element to the option of mandatory rollout of accumulation meters with AMR capability, as estimated by MHC is shown in the table below.</p>

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Table: Project Net Present Value

Cost and Benefit Element	NPV Contribution to the Proposed Metering Project (\$m)
Meters	-23.6
Meter Reading	-0.3
Systems	+0.8
Water Consumption	+11.3
Network and Household Leakage	+14.4
Capital Efficiency	+0.4
Total NPV	+3.1

This NPV result was subjected to rigorous sensitivity analysis, which showed that the mandatory automated meter rollout option was robust against unfavourable variations of up to 50 per cent in key inputs.

Full water metering in other Australian jurisdictions has been demonstrated to provide the following benefits:

- it enables water leaks in the pipeline system and on properties to be identified, which reduces water loss, allows the water businesses to better direct their maintenance and capital expenditure and reduces water bills to customers;
- it allows equitable and efficient pricing for water use as the volumetric component is based on metered usage;
- it allows customers to better manage their consumption and provides incentives to reduce water use and their water bills by providing them with information on the volume of water they use;
- it can reduce the need for augmented infrastructure due to lower growth in water demand;
- it reduces the need for water restrictions as a way of managing water demand;
- it informs the development of water sector policies with information on customers' actual usage;
- it supports water markets with data for service providers, customers, regulators

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and policy makers; and

- it reduces the carbon footprint of the water industry by reducing the volume of water needed to be pumped and treated, with a consequential reduction in demand for electricity and treatment chemicals.

The qualitative beneficial impacts of water metering on customers, social equity and water policy development are greatest when meter reading is universal, accurate and frequent. This suggests that an accelerated and mandated meter project generates the strongest benefits.

List the data and evidence is available to support the quantification

The MHC report is available at:

[http://www.treasury.tas.gov.au/domino/df/df.nsf/LookupFiles/MH-Consulting-Water-Meter-Rollout-CBA.pdf/\\$file/MH-Consulting-Water-Meter-Rollout-CBA.pdf](http://www.treasury.tas.gov.au/domino/df/df.nsf/LookupFiles/MH-Consulting-Water-Meter-Rollout-CBA.pdf/$file/MH-Consulting-Water-Meter-Rollout-CBA.pdf)