Essential Services Commission

Application of the UK's RIIO reforms to the Victorian Water Sector

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1 Executive Summary

The Essential Services Commission (ESC) engaged KPMG to provide expert economic advice on different/new approaches to establishing a water entity's revenue allowance (i.e. an alternative to the building block – or at least material changes to the way the building block is applied by the ESC), and more particularly on the application of the RIIO framework to the Victorian water sector.

RIIO is the new regulatory framework for energy networks in Great Britain (GB). RIIO stands for Revenue set to deliver strong Incentives, Innovation and Outputs. The RIIO approach is intended to deliver a framework that is customer focused, robust and transparent. This framework aims to address some of the shortcomings from the previous model, such as a lack of meaningful customer engagement, support for pricing submissions and a limited capacity to deliver the innovation required to adapt to technological, environmental and social pressures.

To achieve these objectives, RIIO introduced targeted changes to the previous regulatory framework to ensure an improvement in customer value. For example, RIIO ensured wider stakeholder engagement and closer alignment between what customers wanted and the design of a business's pricing submission (through explicit incentives). It also introduced a longer regulatory period (eight years) to give customers greater transparency over future charges. Further, it also introduced innovation incentives together with the creation of an innovation fund that companies could use to facilitate their R&D and deliver better outputs for consumers.

1.1 What are our high level recommendations?

KPMG's recommendations have objectives of delivering better customer value and of promoting the long term interests of customers. KPMG recommends that the ESC considers the introduction of measures aimed to achieve:

- An increased focus on the services required by each water business's customers;
- Greater incentives and pressures for innovation; and
- Increased transparency and accountability of management to manage risks under its control.

The examples of these measures identified in this document are summarised in the table below.

Key issue identified with the current regime	**KPMG recommendations to address identified issue**
A) Delivering better customer service	Enhance the process for including more meaningful customer consultation in the water businesses' pricing submissions: • Water businesses, following the ESC's guidance, to establish Customer Challenge Panels to perform two critical functions: - review regulatory proposals prior to submission to the ESC and to prepare a submission to the ESC endorsing the submission (where

Key issue identified with the current regime	**KPMG recommendations to address identified issue**
	appropriate) or identifying where customers do not agree (where appropriate); and - review water businesses' delivery versus plan and report to the ESC on an annual basis at year end. • Strengthening the existing arrangements for customer surveys/consultation concerning the levels of service they require (better/worse), expectations regarding price trends and trade-offs between service levels and costs. The Customer Challenge Panels would also review the pricing submissions put forward by the companies and supply the ESC with a report supporting/challenging the submission. • The ESC to supervise the direct engagement between water businesses and consumers to ensure high quality and avoid misdirection.
	Develop customer service and output performance based incentives that build on or complement current incentives, through an appropriate balance of reputational incentives, penalty-only incentives and reward/penalty incentives that reflects the public ownership of the water industry in Victoria. The initial design of incentives could be based on the existing Guaranteed Service Level (GSL) scheme, and ensure that they reflect, at least, the cost of providing that service (such that water businesses have incentives to avoid the payment). The business and its Customer Challenge Panel should negotiate the number and nature of GSLs, and the incentive payment associated with them. There may be scope to enhance customer service incentives facing businesses by increasing the number of GSLs and the payments attached to them. A key task of the Customer Challenge Panel would be to advocate for GSLs and payment amounts that reflect customer priorities. Incentive levels should reflect customer feedback on what they want to see changed (e.g. quality and reliability of service, environmental outcomes etc).
B) Providing greater incentives and pressure for innovation	Creation or expansion of specific on-going funding for well-justified innovation projects developed by the industry. To avoid the duplication of any existing programs (such as the Intelligent Water Networks Program (IWN)), a coordinated investigation between the ESC and the Department of Environment, Land, Water and Planning should take place to agree to the appropriate governance arrangements for the collection and distribution of funding for innovative projects. An innovation fund could build on current programs such as the IWN Program to develop a strategy to support innovation in the industry. The fund should be ring fenced for innovative projects, based on a use it or lose it

Key issue identified with the current regime	KPMG recommendations to address identified issue
	approach. This would only be released to businesses if the business was successful in having their innovation projects selected for funding. Bids would be assessed on possible industry returns from the benefits of innovation, likelihood of successful delivery, quality of pricing submission etc. Arrangements would be in place to ensure that a business secures some benefit from intellectual property developed through their innovation, but that learnings would then be shared with the water sector to allow for a larger scale rollout of the solution.
	Modifications to the benchmarking process to provide greater incentives to efficiency and innovation. By using benchmarking between water businesses (e.g. average cost of providing certain services) to calculate the water businesses' revenue allowance going forward, the ESC would provide businesses with the incentives to deliver their outputs efficiently. On the one hand, the ESC would incentivise currently inefficient companies to either reduce costs (without reducing output) or face the possibility of not recovering their costs from consumers. On the other hand, efficient water businesses will have further incentives to innovate as they keep some of the improvements in efficiency they introduced. If businesses believe that the ESC will maintain a similar approach going forward, they are more likely to innovate as they can expect to keep these higher revenues.
C) Transparency and accountability of management for those risks under its control	Consider use of fast tracking approaches as part of the regulatory process – whereby a water business that produces a "well justified pricing submission" (i.e. evidence based, supported through customer consultation and with enough evidence of the robustness of the estimates) can gain regulatory approval earlier and with less regulatory scrutiny. As part of the pricing submission guidance, the regulator specifies the standard that it would expect to meet the requirements of fast tracking (e.g. a number of key criteria typically including, outputs for customers, cost efficiency, financeability etc.). If a submission meets the threshold standard, it is approved with no further regulatory intervention and is "fast tracked". Additional financial reward could be given to the fast tracked water business where the reputational effect is not strong enough. For example, fast-tracked businesses could receive preferential treatment to innovation funds (noting a key issue is likely to be the extent to which financial rewards incentivise the government-owned water businesses to

Key issue identified with the current regime	**KPMG recommendations to address identified issue**
	prepare high quality price submissions). Alternatively, a business could be rewarded for delivering a high quality price submission by allowing lighter handed reviews going forward. Non-fast tracked water businesses would be required to improve their submissions in line with benchmarking and feedback from the regulator, and resubmit to the regulator, who will continue to review and challenge the business until they meet with regulatory approval.
	Clarify areas of cost pass through. Under the current arrangements, the ESC identifies a number of cost pass-throughs and allows for mid period price re-openings. The ESC will need to identify further relevant risks and, if required, review the risk management mechanisms currently in place (e.g. the clarification of existing/introduction of new pass throughs or indexation to protect the cost base from variations in the prices of inputs). The ESC should publish the mechanisms that it is planning to use for all water businesses during the price review. Further, it should also publish the criteria to be used to approve company specific exclusions. Further, during the price review, businesses could propose additional risk management tools to cover business specific risks, as not all businesses will be facing the same risks. For example, some water businesses could be affected by changes in legislation that, if the legislation were to happen, would generate a significant increase in costs. Water businesses should present, as part of a good pricing submission, a list of potential risk exclusions and how they comply with the criteria published by the ESC.

The elements of our recommendations are designed to:

- Improve engagement with customers through all stages of the regulatory price review process;
- Ensure service standards and expenditure proposals more accurately reflect customer needs;
- Reduce the cost of service provision, and subsequently, alleviate some of the bill pressure customers are currently experiencing;
- Improve transparency regarding investment decisions and service offerings; and
- Encourage businesses' management teams by rewarding (reputationally and/or financially) the best performance through incentive awards (and penalise the worst).

In order to implement these recommendations, the following changes would need to be determined:

1 Changes to the regulatory process:

- The ESC to outline the expected customer consultation process through guidance to the sector;
- The creation of Consumer Challenge Panels;
- The ESC to develop and disseminate clear guidelines regarding the incentives to be placed on businesses and their structures;
- The ESC/Government to create a panel for assessing innovation funding applications, to prepare eligibility criteria and a process for approving the requirements;
- The ESC to consult on approaches to aggregate benchmarking techniques and develop appropriate benchmarking tools and models;
- The ESC to develop and consult on guidance for determining a "well justified pricing submission"; and
- The ESC to consult on appropriate selection of risk mechanisms and publish the mechanisms that it is planning to use for all water businesses during the price review, including the criteria to be used to approve business specific exclusions.

2 Changes to the calculation of the revenue allowance

- Under the existing CPI-X approach and our recommended arrangements, the allowed revenues would be based on the sum of the requirements for operating expenditure, allowed return on capital, depreciation, and allowance for taxation that is indexed using a Consumer Price Index.
- The main difference between the existing Victorian arrangements and the application of a RIIO approach to Victoria is that, under a RIIO approach, the ESC would agree a set of financial incentives for the forthcoming regulatory period that would introduce (positive and negative) adjustments to the water business' allowance depending on its performance.

3 Transitional implementation considerations to manage any bill impacts for customers and also setting pricing on the basis of financeability requirements of the regulated water businesses.

2 Background

The Essential Services Commission (ESC) regulates the prices and service standards of Victoria's government owned water businesses in a manner that meets the requirements of the *Essential Services Commission Act 2001* (ESC Act), the *Water Industry Act 1994* (WI Act), and the Water Industry Regulatory Order (WIRO). The WIRO provides the detailed framework within which the ESC must assess and approve prices. A summary of the objectives of economic regulation of the Victorian water sector can be found in Appendix B.

The WIRO was revised in 2014 and allows the ESC greater flexibility to use an approach other than the building block methodology to establish an entity's revenue allowance and prices. Given this greater flexibility, over the next 18-24 months, the ESC will explore alternative approaches to price setting (along with a range of other matters relevant to its role).

In the last few years, electricity, gas and water regulatory regimes in different parts of the UK have been through major reforms. Prior to these reforms, the regulatory regime was characterised by the building block approach to regulation, where the regulator scrutinised the different cost categories for the companies separately (operating costs, capital expenditure, cost of capital etc.). This focused on cost cutting and had the following limitations:

- Generally there was a lack of innovation in companies' approaches to delivering services for their customers;
- The focus on cost cutting meant that customers did not have a say in the quality of service and level of outputs they received from their utilities; and
- Companies faced little incentive to improve either in terms of efficiency or delivery for customers; in effect, the companies became dependent on their regulators to tell them what to do.

To address these issues, the British energy regulator, Ofgem, re-wrote the regulatory rules to establish the *RIIO* (Revenue = Incentives + Innovation + Outputs) process for gas and electricity. Key features of this model included:

- The use of total expenditure (totex) analysis to manage the perceived regulatory problem of capex bias and regulatory gaming;
- The introduction of incentives for companies to deliver improved customer outputs;
- The use of a fast tracking approach for companies that put forward good business plans in the regulatory process; and
- Making companies more responsible for their business plans and performance.

A key principle of economic regulation is that it substitutes for the pressures a company faces were it operating in a competitive market. One of the implications of this is that better performing utilities that deliver better outcomes for customers can earn enhanced returns. In other words, companies that perform well are rewarded, and those that do not perform well are penalised – much like in the private sector. The output benefits where these models have been applied have proven to be significant. These benefits have been such that the RIIO model is also being assessed by regulators in New York and California in the US, and in Hong Kong.

3 Terms of Reference

The ESC engaged KPMG to provide expert economic advice on other approaches to establish a water entity's revenue allowance (i.e. an alternative to the building block – or at least material changes to the way the building block is applied by the ESC), and more particularly the application of the RIIO framework to the Victorian water sector. KPMG was encouraged to be creative and "think outside the square".

KPMG was instructed to prepare a paper that:

- Proposes a "fresh" approach to economic regulation, describes its key features, identifies perceived benefits and risks, and sets out the main steps needed to move to implementation (including any issues that would need further exploration);
- Have regard to Victoria's water industry and the pricing framework;
- Better achieve (relative to our current approach) the matters that the ESC must have regard to when determining water prices;
- Have particular regard to matters related to economic efficiency, including incentives for regulated entities to pursue cost efficiencies and/or service improvements, and the practicality of application to Victoria's water industry; and
- Is not intended to be a detailed framework or methodology, but rather a conceptual thought-piece that sets out the main features of a new methodology, the merits of which can be consulted on publicly.

4 The history of Great Britain's energy regulatory reforms, RIIO and the outcomes achieved

The fundamental principles of RPI-X regulation have been in place in Great Britain (GB) for over 30 years across a number of network industries. However, 10 years ago Ofgem, the regulator of the GB's energy sector, decided to move away from that model and introduce a new framework under the name of Revenue = Incentives + Innovation + Outputs (RIIO). This example was followed recently by Ofwat (the regulator of the water and wastewater industry in England and Wales) as part of its last price review (PR14)).

4.1 The issues with RPI-X

The decision to change the regulatory approach and move away from RPI-X regulation followed an extensive process by Ofgem spanning two years called RPI-X@20.

The factors that led to a review of the GB energy regulatory regime are outlined in detail in Appendix F, but can be broadly summarised as follows:

1. The RPI-X model was unable to deliver the innovation and research and development requirements of the fast evolving energy markets;
2. Events in the financial markets from 2007-08 onwards underlined the importance of liquidity and highlighted the need for companies to be able to finance their operations in a sustainable and effective way, ensuring that the market was able to function efficiently in both the short and long term;
3. Energy markets were experiencing significant changes, stemming from external technological progress as well as environmental and social factors;
4. Over the many years of its operation, the RPI-X framework had grown increasingly complex and as such the administrative burden on both the regulator and regulated parties was considerable;
5. Revenues under RPI-X were set in a process that involved only the regulator and the companies, but with very limited interaction with consumers; and
6. Incentives to minimise costs were resulting in the lowest risk/lowest return solutions, which were inappropriate for the delivery of networks that can adapt to the challenges of climate change.

Whilst a number of these challenges are broadly consistent with those experienced in the Victorian water sector (e.g. a focus on cost reduction reducing incentives for innovation, a lack of change to regulatory arrangements since their inception), there has been no material evidence of a bias towards capital investment, and customers have been actively involved in the price setting process (although as we will establish later, their needs could be better reflected in expenditure and service proposals).

4.2 RIIO

The RIIO model has been established as Revenue set to deliver strong Incentives, Innovation and Outputs. The RIIO approach is intended to deliver a framework that is robust, transparent and focused on meeting and exceeding consumer expectations. The overarching objective of the RIIO regulatory model is to encourage network companies to a) play a full role in the delivery of a sustainable energy sector, and b) deliver long-term value for money network services for existing and future consumers. The main characteristics of RIIO are shown in the diagram below:

Some of these features are similar to RPI–X (e.g. revenues are still set ex-ante and the cost base is protected from inflation (RPI)), but there are a number of key areas where the RIIO framework differs from the RPI-X regulatory approach. These are:

1. **Price controls are set for eight years** – the longer price control period provides greater levels of certainty for investors with a view to encouraging appropriate levels of investment. The longer term allows for more ambitious delivery plans to be put in place, with clear rewards for companies that deliver effectively against their plans and penalties for companies that perform poorly.
2. **Greater support for innovation and R&D initiatives** – RIIO includes a number of incentives linked to innovation and allows companies to benefit from initiatives that deliver desirable and sustainable outcomes to the market. RIIO allocates funding to a number of schemes, such as the Low Carbon Network Fund (LCNF), which can be used to trial new technological, operational and/or commercial arrangements.
3. **Wider stakeholder engagement –** the RIIO framework puts more emphasis on companies taking measures to ensure that they understand their current and future customers'

requirements and factor these into their business plans. Furthermore, there are also mechanisms in place for third parties to be responsible for delivery, where there is a robust case for this. Principles guiding third party delivery include that the expected long-term benefits are greater than expected long-term costs, the projects must be material and separable, and there must be no risk timely delivery and overall system integrity.

4. **Promote sustainable networks** - by focusing on the delivery of outputs instead of inputs, RIIO offers companies the flexibility to react more flexibly to new challenges, as the regulator needs to be less prescriptive about the projects implemented by companies.
5. **Remove the "black box" –** the increased relevance of stakeholder engagement requires that third parties are able to understand the decisions of the regulator. Therefore, RIIO requires a clear justification of the decisions of the regulator. Further, the introduction of incentives for the delivery of high quality business plans (e.g. fast track incentives) seek to limit the asymmetries of information between the companies and the regulator.
6. **Fast track incentives –** if the regulator considers that a company's regulatory submission is of a high quality, companies are offered to obtain their final settlement one year earlier than the other companies, together with some financial incentives. This provides companies with incentives to provide the best business plan to the regulator.

4.3 Outcomes of reforms

Ofgem developed RIIO as a result of its RPI-X@20 project that started in 2008. This process resulted in the first price reviews under this new framework (RIIO–GD1 and RIIO-T1) taking place between 2011 and 2013. These reviews determined the revenues for the transmission and gas distribution networks of the period April 2013 to March 2021.

The third price review under this framework has been applied to the electricity distribution networks and took place between 2013 to 2015, and it entered into effect on 1 April 2015. Despite only being in place for two years, customers have experienced a number of benefits for the transmission networks and the gas distribution networks, as follows:

1. **Transmission Networks** – the electricity transmission share of an average customer's bill between April 2013 and March 2015 increased by £0.81 from £21.78 to £22.59[1] per bill. This reflects the increased investment in the transmission network by all three Transmission Operators (TOs) to facilitate the growth in renewable generation. The gas transmission share of an average customer's bill decreased £2.95 from £16.63 to £13.68 over the same period. This reflects the reduced financing impact of the RIIO-T1 final proposals and lower expenditure on the gas transmission network as the immediate need to expand the network identified during the RIIO process has further reduced. After one year's results, it is too early to say whether TOs' expected output delivery will meet the targets set against the different output categories.

[1] See RIIO Transmission Annual Report 2013-14, available in https://www.ofgem.gov.uk/ofgem-publications/93999/riiotransmissionannualreport2014final-pdf and RIIO-GD1 Annual Report 2013-14, available in https://www.ofgem.gov.uk/ofgem-publications/93973/riio-gd1annualreport2013-14-final-pdf

2. **Gas Distribution Networks** – at the beginning of the RIIO regime, the industry accepted a controllable cost allowance of £16.8 billion for the eight year period. Companies forecast that after the first year, their actual eight year costs will be 11% below their allowance. Customers will receive around 36% of this £1.9 billion saving through the sharing mechanism. On this basis, the distribution transportation component of an average annual consumer's bill will reduce from £141.02 in 2013-14 to £133.29 by the end of RIIO-GD1. Companies are achieving this out-performance as a result of delivering outputs more efficiently, the advantages of real price effects being lower than those used in setting the price control, and the slower recovery of the economy leading to a reduced workload in connecting new consumers.

5 Applying the concepts of RIIO to the Victorian water industry

While it is reasonable that the regulatory regime for Victorian water businesses consider the RIIO reforms, it is clear that some (but not all) of the RIIO tools are appropriate to the Victorian context.

5.1 Alignment between the objectives for RIIO and for the regulatory framework for the Victorian water sector

The basis for the reforms to the GB energy sector were broadly consistent with the objectives, legislative and regulatory arrangements in the Victorian water sector (as identified in Appendix B). The objectives for RIIO and proposals for Victoria seek to achieve similar outcomes, particularly those related to innovation incentives, customer engagement and tailored approaches to each business.

Despite the similarity between the objectives of economic regulation in the Victorian water sector, and those that drove the reform of the GB energy sector, there are some key differences that will need to be considered when determining which of the tools applied under RIIO could be introduced into Victoria's current regulatory framework. These differences include:

- The Victorian water businesses are owned by Government, whereas the GB energy sector was privatised well before the introduction of RIIO. One could argue that public ownership could affect the level of risk that companies can take as they are more heavily scrutinised, but they are unlikely to go bankrupt as Government is likely to intervene. Equally, consumers are less likely to be in favour of high returns to well performing companies as these could be understood as a shadow tax on these services;
- Under the Victorian arrangements, metropolitan water businesses pay an annual dividend to Victorian Government (i.e. Treasury) equivalent to 65% of pre-tax profit, while regional/rural water businesses do not pay a dividend to Government due to their not-for-profit status. GB energy companies are all private companies that have a flexible approach to dividends, based on financial performance; and
- In the Victoria water industry, there is no systemic capex bias, compared to the GB energy sector that experienced a strong bias to capex investment, leading to the introduction of totex analysis.

The reform package outlined in the remainder of this section considers the application of specific RIIO reforms, given these differences.

To assess the potential application of the RIIO reforms to the Victorian water sector, KPMG developed a set of assessment criteria that reflected these objectives (see Appendix C), and assessed those reforms against the criteria (see Appendix D) to ensure that only those reforms that were applicable to the objectives of the Victorian water sector were further developed.

5.2 High level reforms

Our recommended framework is premised on two key deliverables:

- **Ensure customers' needs are identified during the price review:** Reforming arrangements to deliver high quality pricing submissions that reflect customer needs, drive the business to minimise the costs of delivery and incentivise transparency and rigour in development of those submissions; and
- **Ensure that customers' needs are delivered efficiently:** Incentivise businesses to outperform their regulatory settlement by either delivering more of the outputs customers want or delivering them at a lower cost. This maximises the value back to customers and rewards businesses for good performance.

These two deliverables put consumers at the centre of regulatory reform by introducing measures that facilitate the identification of their requirements and ensure that the water businesses are delivering these needs efficiently. In other words, it is about delivering greater value to customers, by bringing about greater alignment between services demanded and delivered, and providing better incentives for efficiency (including through innovation).

To achieve these deliverables, we recommend three high level modifications to the regulatory framework in the industry:

- **Focusing on services required by the Customer:** The ESC, together with the water businesses, could build on the current customer engagement mechanisms to obtain greater customer and stakeholder involvement in the process of developing the business's pricing submission and the regulatory framework. This would ensure that the price submission is focussed on customer requirements, both in terms of service and costs.
- **Provide greater incentives and pressure for innovation:** The ESC could review and reinforce its incentives for businesses to deliver the right outputs efficiently. To ensure that businesses deliver the outputs that customers and key stakeholder require, the ESC could build on current incentives systems (e.g. Guaranteed Service Levels) that could be complemented by additional incentive mechanisms when required. This delivery, however, still needs to be efficient. Therefore, the ESC will also need to provide incentives for productive efficiency to ensure that businesses have strong control of their costs when delivering these outputs.
- **Transparency and accountability of management to manage risks under its control:** A greater emphasis on management responsibility for preparing the pricing submission and also being responsible for managing delivery risks under its control.

Our recommendations exclude extension of the regulatory period to eight years and the use of a totex assessment, because the problems these tools were designed to address are not an issue for the Victorian water sector. In other words, the lack of an observed, systemic capex bias in the investment pattern means that companies are already taking decisions based on total expenditure and they are not being distorted by the regulatory framework.

5.3 Our proposed reform in detail

The table below presents our understanding of the key issues with the existing Victorian water regulatory framework, our recommendations regarding the appropriate tools and approaches to address those issues, and the process changes required for implementation.

Table 5.1: Title?

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
A) Delivering Customer service	Enhance the process for including greater customer consultation in the water businesses' pricing submissions.	Whilst most of Victoria's water businesses make use of customer consultation and willingness to pay in the development of their pricing submissions, this recommendation reinforces the approach with clear steps and requirements for the customer consultation process. There would be benefits from entrenching the expectation that price submissions are heavily influenced and informed by a greater level of customer engagement. Experience from GB suggests there are benefits from this approach, as it ensures that their willingness to pay is reflected both in the business submissions and the decisions of the regulator and there is a clear alignment between their needs and the services to be delivered. A pricing submission with <u>effective</u> customer consultation and support could be subject to lighter regulatory oversight and therefore could be considered for fast tracking.	The ESC to prepare/refine guidance for the nature of customer consultation process (based on process described below). All water businesses to formalise their engagement processes by establishing Customer Challenge Panels drawn from a range of representative stakeholder groups in the water business (in line with ESC guidance). Customer Challenge Panels to review draft pricing submission before submission to the ESC and to prepare a short report to ESC endorsing the submission (where appropriate) or identifying where customers do not agree (where appropriate). In this report, they would evaluate whether the submission actually reflects the feedback the Panel has provided and to identify inconsistencies between customers feedback and the submission being put forward. Further, they would review a water business's delivery versus their plan and report to the ESC on an annual basis at year end. This could be entered into future submission as a track record in the delivery of their plans, or even being published as a way of "naming and shaming" businesses not delivering their plans. Prior to the development of pricing submissions, water businesses would be required to strengthen their existing arrangements for customer surveys/consultation concerning the levels of service they require and also the expectations regarding price trends. Customer surveys should include questions regarding reductions in service and price as well as increases. Willingness to pay studies also to assess whether customers would prefer reduced service for reduce costs.	ESC to outline customer consultation process. Building on the current consultation approach existing within the industry, the ESC would need to identify approaches to reinforce this engagement to ensure that companies use this input in the development of their pricing submissions. Following guidance from the ESC, water businesses would need to modify customer engagement to include the creation of Consumer Challenge Panels. When developing the structure of the price review, the ESC would need to set the degree of engagement with consumers that businesses are expected to undertake. KPMG recommends customer consultation to include pre pricing submission interactions and also assessment of the final pricing submission to the regulator.

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
			Customers to be consulted using a range of approaches during the planning process.	
	Develop customer service and output performance based incentives	To develop the accountability of the water businesses and their managers on the delivery of the relevant outputs. In GB, the introduction of the RIIO process significantly increased customers' awareness of what the provisions of network services cost.	The ESC to build on its current regulatory tools to develop a framework that focuses on implementing customer oriented incentives. As part of this framework, the ESC would need to consider the balance between the three main approaches to reward/penalise these incentives: • **Reputational incentives**: The ESC could publish league tables showing the performance in certain areas of the different water businesses (e.g. level of leakage or customer service levels). This can be a particularly useful tool in an environment where some of the businesses are non-profit organisations. • **Penalty only incentives**: When consumers do not really value additional delivery of these outputs, the ESC could impose a penalty only incentive where businesses are not rewarded for over-delivery (such as the current Guaranteed Service Level scheme in place for retail water businesses in Victoria). • **Reward/penalty incentives**: When customers support a financial reward for some of the outputs, the ESC could allow businesses to recover additional rewards in addition to introducing penalties. The balance between these three approaches needs to be developed carefully, and it will need to reflect the public ownership of the water industry in Victoria. Further, the ESC could set at the outset a clear strategy on when each one of these	Before the submission of regulatory proposals, the ESC would need to develop a clear methodology explaining the incentives they expect to impose on the businesses and their structure. This would need to clarify, at a minimum: • Incentives to be put in place; • Expected strength of these incentives; • Information that companies need to provide for these incentives; • Part of these incentives, if any, that will be the result of the engagement between businesses and consumers; and • How consumers' input will affect that incentive. This will allow water businesses to be in a position to identify from customer consultation likely incentives, model the financial impact incentives and present a proposal to the ESC.

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
			form of incentives would apply (for an example see Appendix E). It would be prudent to leverage off the existing guaranteed service level (GSL) scheme in the design of these customer service and output performance based incentives. The ESC could review the design and structure of the exiting GSLs to ensure that they reflect, at least, the cost of providing that service such that water businesses have incentives to avoid the payment. The business and its Customer Challenge Panel should negotiate the number and nature of GSLs, and the incentive payment associated with them. There may be scope to enhance customer service incentives facing businesses by increasing the number of GSLs and the payments attached to them. A key task of the Customer Challenge Panel would be to advocate for GSLs and payment amounts that reflect customer priorities. The ESC could set the structure of some of the incentives before the submission of regulatory proposals, whilst for others they could be open to suggestions from the water businesses. In their pricing submission, each water business could suggest incentive levels based on what its customers and other stakeholders are telling them they want to see improved through the customer consultation process described above. Incentives to improve quality and reliability of service should be considered as well as incentivisation regarding environmental outcomes (particularly for outcomes that the water business may not necessarily deliver through the usual course of business), but that would be valued by customers.	

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
			Areas that incentives could cover include: • Rewards for delivering improvements early and penalties if late; • Improved levels of environmental amenity; and • Greater reliability of service in particular geographical areas. A base level of performance would be included in each water business's pricing submission.	
B) Provide greater incentives and pressure for innovation	Creation of specific funding for well-justified innovation projects developed by the industry	In a price control process focussed on delivering efficiency, a business's budget for funding innovation is limited. The GB RIIO experience has led to a wide range of effective new projects being brought forward by companies.	The ESC could build on current programs such as the Intelligent Water Networks (IWN) Program to develop a strategy to support innovation in the industry. This strategy could cover both the introduction of new technologies and also the investment in R&D required to develop these new technologies. To avoid the duplication of any existing programs (such as the IWN Program), a coordinated investigation between the ESC and the Department of Environment, Land, Water and Planning should take place to agree to the appropriate governance arrangements for the collection and distribution of funding for innovative projects. For example, the ESC could engage with Victorian Government to expand the focus of the IWN Program. To reach the required finance without asking for additional Government funds, the ESC could, as part of the price review, ring fence a pot of funding for innovative projects. This would only be released to businesses if the business was successful in having their innovation projects selected for funding. Bids would be assessed on possible industry returns from the benefits of innovation, likelihood of successful delivery, quality of pricing submission etc. The body conducting the assessment would require a high level of expertise on the industry.	ESC/Government to create a panel for assessing innovation funding applications, panel to prepare eligibility criteria and a process for approving the requirements. Water businesses would be required to prepare business cases for eligible projects and present those cases to the body governing the innovation fund.

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
			Any funds provided would be based on a use-it or lose-it basis. Arrangements would be in place to ensure that a business secures some benefit from intellectual property developed through their innovation, but that learnings would then be shared with the water sector to allow for a larger scale rollout of the solution. These arrangements would need to account for the public ownership of the Victorian water businesses. This could be reflected in a requisite to share improvements across companies and/or to pass future revenues from the intellectual property to its customers.	
	Modifications to the benchmarking process to provide greater incentives to efficiency and innovation	To ensure that water businesses have incentives to innovate, they need to be able to keep some of the benefits of innovation even when they are publicly owned. Managers are kept accountable of the performance of the company. Therefore, if they do not expect to be able to keep some of the potential benefits brought in by a new technology, they would avoid new technologies that, if they work, will deliver either additional outputs or lower costs in favour of older well tested technologies that do not have those advantages. The experience in GB has been a continuous increase in the	During the price review, the regulator needs to have a view about the efficient cost of the water businesses going forward. To form this view, the ESC should use benchmarking tools. There is a large range of these techniques, and their full analysis is out of the objective of this paper. By using these techniques, if a water business improved its performance faster than its rivals, it would be able to keep a share of those savings until other companies catch up. This would have positive effects on all consumers in the sector as customers of the innovative business will see a reduction in the costs as other businesses catch up. At the same time, consumers from other businesses would also face lower prices as the benchmarking would translate in lower estimation of revenue requirements for these businesses as an efficient company would be able to deliver them at a lower cost.	ESC to consult on approaches to aggregate benchmarking techniques and develop appropriate benchmarking tools and models.

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
		efficiency that companies are able to achieve.		
C) Transparency and accountability of management for those risks under its control	Consider use of fast tracking approaches as part of the regulatory process – whereby a water business that produces a credible pricing submission, well supported by customers, can gain regulatory approval earlier and with less regulatory scrutiny.	Water businesses compete to be fast tracked and so the overall quality of pricing submissions increases. There is no cap over the number of businesses that can be fast tracked. A fast tracked price review process lowers the burden of regulatory intervention and enables each of the fast tracked businesses to continue with the delivery of outcomes with less intervention. Consumers benefit from better developed regulatory plans that are tailored to their needs as well as of lower costs of running the regulatory process. The costs of giving additional returns to the fast tracked business are smaller than the benefits of driving efficient behaviour in the businesses competing for fast tracking. In GB, the introduction of fast tracking has incentivised companies to provide more robust	The ESC provides detailed guidance for water businesses to use in the preparation of their pricing submissions. The objective of this guidance is to clearly articulate requirements for producing a "Well Justified Pricing submission", which are evidence based and supported through customer consultation (see recommendations for Key Issue A above). As part of the pricing submission guidance, the regulator specifies the standard that it would expect to meet the requirements of fast tracking (e.g. a number of key criteria typically including, outputs for customers, cost efficiency, financeability etc.). Fast tracking is set by the regulator as a <u>standard</u> businesses should achieve. The regulator reviews submissions and if that submission meets a threshold standard, it is approved with no further regulatory intervention and is "fast tracked". This would have a reputation effect as well as a reduction in the regulatory burden the company faces going forward. The ESC may wish to consider whether additional financial reward should be given to the fast tracked water business. In the Victorian context where businesses are publicly owned, the reputational effect could be strong enough. However, fast-tracked businesses could receive a preferential treatment to innovation funds or be required a lighter assurance level going forward. Non-fast tracked water businesses are then required to improve their submissions in line with benchmarking and feedback from the regulator, and resubmit to the regulator, who will continue	ESC to develop and consult on the appropriate assessment criteria for the fast tracking decision. Once these criteria are in place, the ESC should provide guidance on what they understand is a "good business plan". This would allow water business to develop their business plans.

Key issue identified by ESC with the current regime	KPMG recommendations to address issue identified by the ESC	Rationale	Approach and tools	Process changes
		business plans. Companies compete for fast-tracking bringing lower overall costs from the first submission. Further, the regulator has been able to use the additional information in those plans to introduce additional challenges to the slow-tracked businesses.	to review and challenge the business until they meet with regulatory approval.	
	Identify areas of cost pass through Evaluate acceptable ranges for performance (dead bands) and cost recovery mechanisms	In setting the price control, the ESC would decide in advance what risks the water business will manage. Further, it would also need to determine under what circumstances, if a risk materialises, it would impact the business's revenues. Businesses that manage risk and achieve good performance on costs or incentives will achieve higher returns. In GB, regulators have increased the accountability of companies for the management of the risks under their control.	Under the current arrangements, the ESC identifies a number of cost pass-throughs and allows for mid period price re-openings. When developing the methodology for the price review, the ESC would need to identify further relevant risks and, if required, review the risk management mechanisms currently in place (e.g. the clarification of existing/introduction of new pass throughs or indexation to protect the cost base from variations in the prices of inputs). Further, during the price review, businesses could propose additional risk management tools to cover business specific risks. Not all businesses will be facing the same risks and this could require that some businesses can, for example, pass through some costs that other businesses would not be facing.	ESC to consult on appropriate selection of risk mechanisms. ESC to publish the mechanisms that it is planning to use for all water businesses during the price review. Further, it should also publish the criteria to be used to approve company specific exclusions. Water business should present, as part of a good business plan, a list of potential risk exclusions and how they comply with the criteria published by the ESC.

5.4 The reforms in practice: process and price control calculations

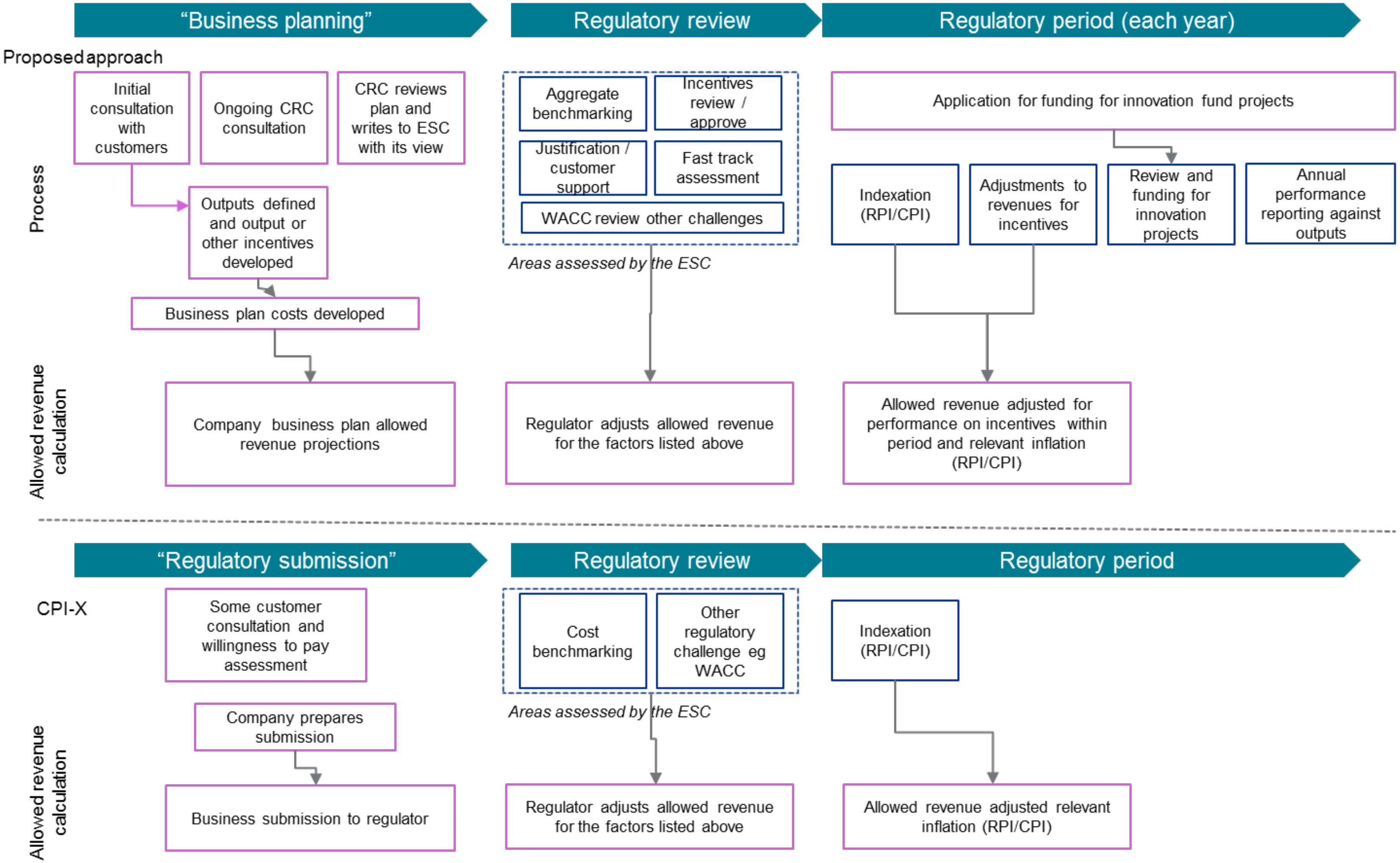
The changes described above would have a relatively small impact on the process for calculating a water business's revenue allowance. Both RPI-X and RIIO use a building block approach where the allowed revenues of the water business are calculated based on the investment, operational and financial cost of the business. However, under RIIO, these basic revenues are adjusted to account for the larger role of incentives.

In both approaches, the allowed revenues would be based on the sum of the requirements for operating expenditure, allowed return on capital, depreciation, and allowance for taxation that would then be indexed using a Consumer Price Index.

The main difference is that under a RIIO approach, the ESC would agree a set of financial incentives for the forthcoming regulatory period. As output values on the incentives are reported, water businesses can adjust allowed revenues in subsequent years to recover incentive amounts from customers, leading to increased returns for successful businesses. Where water businesses do not meet their output requirements, allowed revenue is adjusted downward in subsequent years reducing the returns for those businesses that are not successful in achieving outputs customers require.

In the two figures on the following page, we have summarised how the proposed process and allowed revenue calculation for the water businesses would differ to the current CPI-X approach.

Figure 1: Comparison of current CPI-X Building Blocks approach and application of RIIO to determining the revenue allowance



For the allowed revenue calculation, we have used a stylised example of a business that achieves fast track with some adjustments from the ESC to incentives and the WACC, but otherwise the pricing submission from the company remains largely unchanged. This example assumes a small financial reward for fast-tracked companies. Such a business may be able to make a return of 6.1% (i.e. 1.6% above WACC) in this example if it delivers for customers. Within the regulatory period, if the business does not achieve expected incentives and underperforms on costs (as shown in the "Regulatory period (each year)" analysis) its outturn return could be 4.6% as shown[2].

[2] The fast track reward reflects the fact that the businesses' submissions would have competed to give lower industry costs in pursuit of the fast track award.

Figure 2: Stylised example of business performance and resulting rate of return under a CPI-X Building Blocks approach and application of RIIO

"Business planning" → Regulatory review → Regulatory period (each year)

Proposed approach

Required revenue, business plan

	AUD m
Cost allowances	
Benchmarked costs to be recovered in the year	100
Depreciation	20
Return (WACC * RAB)	5
Tax	10
Revenue incentive allowances	
Baseline incentive income	1.8
Fast-track award	
ALLOWED REVENUE BASELINE	**136.8**
Return assumptions	
RAB	100
WACC	5%
Expected return on RAB with delivery on incentives	**6.8%**

Required revenue recalculated by ESC (fast-tracked company)

	AUD m
Cost allowances	
Benchmarked costs to be recovered in the year	100
Depreciation	20
Return (WACC * RAB)	4.5
Tax	10
Revenue incentive allowances	
Baseline incentive income	1.5
Fast-track award	0.1
ALLOWED REVENUE BASELINE	**136.1**
Return assumptions	
RAB	100
WACC	4.5%
Expected return on RAB with delivery on incentives	**6.1%**

Within the regulatory period

	AUD m
ALLOWED REVENUE	136.1
Incentive revenue adjustment	0.5
Total allowed revenue in year	135.6
Cost	101
Depreciation	20
Tax	10
Total costs	131
RAB	100
WACC	4.5%
Outturn return for the year	**4.6%**

Before indexation: ie real terms, indexation applied to allowed revenues as with CPI-X model

"Regulatory submission"	Regulatory review	Regulatory period (each year)

CPI-X approach

Required revenue, regulatory submission

	AUD m
Cost allowances	
Benchmarked costs to be recovered in the year	100
Depreciation	20
Return (WACC * RAB)	5
Tax	10
ALLOWED REVENUE BASELINE	**135**
Return assumptions	
RAB	100
WACC	5%
Expected return on RAB with delivery on incentives	**5.0%**

Required revenue recalculated by ESC

	AUD m
Cost allowances	
Benchmarked costs to be recovered in the year	100
Depreciation	20
Return (WACC * RAB)	4.5
Tax	10
ALLOWED REVENUE BASELINE (POST ESC REVIEW)	**134.5**
Return assumptions	
RAB	100
WACC	4.5%
Expected return on RAB with delivery on incentives	**4.5%**

Within the regulatory period

	AUD m
ALLOWED REVENUE	134.5
Cost	101
Depreciation	20
Tax	10
Total costs	131
RAB	100
WACC	4.5%
Outturn return for the year	**3.5%**

5.5 Transitional arrangements

Experience from the application of the RIIO principles in GB demonstrates that careful consideration of the arrangements for the transition from the existing regulatory regime to the RIIO model is essential.

As part of the detailed design for new regulatory arrangements for the water sector in Victoria, the approach to transition will need to be developed by the ESC in consultation with key stakeholders. A particular aspect of transition to manage will be any bill impacts for customers and also setting pricing on the basis of financeability requirements of the regulated water businesses.

When RIIO was adopted in GB, price impacts were smoothed over a regulatory period to assist with the management of the transition.

Appendix A: Economic regulation of the Victorian water sector

The ESC commenced operations on 1 January 2002 as Victoria's independent economic regulator of prescribed essential utility services supplied by the electricity, gas, ports and rail freight industries. In January 2004, the ESC's role was extended to include regulation of Victoria's water and sewerage services.

Under this regulatory framework, which has remained largely unchanged since 2004, the ESC, set water service prices based on proposals submitted by each water business, outlining its forecast prices and expenditure to deliver levels of service consistent with customer needs and its obligations (the price review process). The ESC then assesses these proposals for prudency and efficiency, and sets maximum prices necessary to recover the **efficient costs** of service provision, consistent with the **CPI-X** price cap approach:

- Under the 'building block' approach adopted by the ESC, prices reflect the revenues required (revenue requirement) to recover the **efficient cost** of delivering services over the regulatory period, taking into account forecast levels of demand. The revenue requirement reflects annual operating expenditure (opex), a return on assets (existing and new assets), regulatory depreciation (return of assets) and a benchmark tax liability. The sum of these costs determine a business's revenue requirement for the regulatory period, where movements in the revenue requirement between the current and next regulatory period form the basis of a business's price path.
- **CPI-X** allows water businesses to annually adjust prices consistent with inflation, and sets expected efficiency improvements ("X") according to the change in revenue requirement over the regulatory period. Where a business' actual opex during the regulatory period exceeds the benchmarks used to set prices, the business is required to manage this rather than increase prices to customers. Where a business identifies additional ways to improve the efficiency and reduces its opex below the benchmark, it allows the business scope to either improve services to its customers or to reduce prices below the maximum prices approved by the ESC. Benefits from efficiency improvements in operating expenditure (opex) are shared at the beginning of the next regulatory control period with customers through lower prices or improved services.

Each business is expected to undertake effective customer consultation and demonstrate that its pricing proposal (expenditure forecasts, tariff structures and associated outcomes) is supported by its customers. Where a business is able to demonstrate to the ESC that it has strong consumer and other stakeholder buy-in to the key elements of its proposal, then it is more likely that the ESC will accept them.

To account for events that were uncertain or unforseen at the time of the price review process, an uncertain and unforeseen events mechanism sets out a process for applying for a re-opening of the ESC's price determination, either during or at the end of the regulatory period. This also allows water businesses to pass through material costs associated with changes in legislation, licences, taxation, the Statement of Obligations, the introduction/cessation of a statutory carbon tax or national emissions trading scheme.

Targets for the core service standards are based on the average for the previous five years – unless otherwise justified. The ESC operates a comparative competition regime and annually publishes data on the business' performance and monitors performance.

Appendix B: Defining the objectives of the Victorian water sector

The objectives of the Victorian water sector are entrenched in various legislative and regulatory instruments, including the:

- Water Industry Act 1994;
- Essential Services Commission Act 2001; and
- Water Industry Regulatory Order 2014.

These objectives, and other existing regulatory precedents, are described in the following section, and form the basis for a set of assessment criteria which we will use to assess existing and comparative regulatory arrangements.

B.1 Legislative and regulatory requirements

B.1.1 Part 1A – Regulation of Regulated Water Industry, *Water Industry Act 1994*[3]

4C. Objectives of the Commission

The objectives of the Commission under this Act in relation to the regulated water industry are—

a) *wherever possible, to ensure that the costs of regulation do not exceed the benefits;*

b) *to ensure that regulatory decision making and regulatory processes have regard to any differences between the operating environments of regulated entities;*

c) *to ensure that regulatory decision making has regard to the health, safety, environmental sustainability (including water conservation) and social obligations of regulated entities.*

4E. Other regulatory powers

> *(2) In exercising its powers or carrying out its functions under this Part, the Commission must adopt an approach which –*
>
> > *(a) the Commission considers will best meet the objectives specified in the Essential Services Commission Act 2001 and in this Part; and*
> >
> > *(b) complies with any requirements specified in the Water Industry Regulatory Order.*

B.1.2 Essential Services Commission Act 2001[4]

8 Objective of the Commission

3 http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt3.nsf/DDE300B846EED9C7CA257616000A3571/E71FE117539C0C50CA257761002D8C5A/$FILE/94-121a052.pdf

4 http://www.esc.vic.gov.au/getattachment/4a977cba-393d-48ae-be2e-8f044b11cfc1/ESC-(amendment)-Act-2008.pdf

1) *In performing its functions and exercising its powers, the objective of the Commission is to promote the long term interests of Victorian consumers.*
2) *Without derogating from subsection (1), in performing its functions and exercising its powers in relation to essential services, the Commission must in seeking to achieve the objective specified in subsection (1) have regard to the price, quality and reliability of essential services.*

8A Matters which the Commission must have regard to

1) *In seeking to achieve the objective specified in section 8, the Commission must have regard to the following matters to the extent that they are relevant in any particular case—*

a) *efficiency in the industry and incentives for long term investment;*
b) *the financial viability of the industry;*
c) *the degree of, and scope for, competition within the industry, including countervailing market power and information asymmetries;*
d) *the relevant health, safety, environmental and social legislation applying to the industry;*
e) *the benefits and costs of regulation (including externalities and the gains from competition and efficiency) for—*
    i. *consumers and users of products or services (including low income and vulnerable consumers);*
    ii. *regulated entities;*
f) *consistency in regulation between States and on a national basis;*
g) *any matters specified in the empowering instrument.*

B.1.3 Water Industry Regulatory Order 2014[5]

8. Objectives

a) *The objectives of the Commission when performing its functions and exercising its powers in relation to the regulated water industry are those set out in section 8 of the ESC Act and section 4C of the Act.*
b) *In seeking to achieve these objectives the Commission must have regard to the matters in section 8A of the ESC Act and must also have regard to, and place particular emphasis on, the following matters:*
    i. *the promotion of efficient use of prescribed services by customers;*
    ii. *the promotion of efficiency in regulated entities as well as efficiency in, and the financial viability of, the regulated water industry; and*
    iii. *the provision to regulated entities of incentives to pursue efficiency improvements.*

[5] http://www.gazette.vic.gov.au/gazette/Gazettes2014/GG2014G043.pdf, Pg 2,485

11. Matters to have regard to when making a price determination

When making a price determination, the Commission must have regard to:

a) *the objectives specified in clause 8;*

b) *the matters specified in section 33(3) of the ESC Act;*

c) *the matters specified in the Commission's guidance issued under clause 13; and*

d) *the following pricing principles, namely that the prices that a regulated entity may charge for prescribed services, or the manner in which the regulated entity's prices are to be calculated, determined or otherwise regulated, should:*

   i. *enable customers or potential customers of the regulated entity to easily understand the prices charged by the regulated entity for prescribed services or the manner in which such prices are calculated, determined or otherwise regulated;*

   ii. *provide signals about the efficient costs of providing prescribed services to customers (either collectively or to an individual customer or class of customers) while avoiding price shocks where possible; and*

   iii. *take into account the interests of customers of the regulated entity, including low income and vulnerable customers.*

B.1.4 Other existing regulatory precedents

There are a number of established and well-tested precedents regarding the objectives of regulatory arrangements and/or reform within Australia. The following briefly identifies a number of examples that are broadly consistent with the existing legislative and regulatory arrangements within the Victorian water sector:

- National Electricity Law - The National Electricity Objective (NEO), which is contained within the National Electricity Law (NEL), and which is used to assess the merits of any change to the National Electricity Rules, is:
  - to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –
    - price, quality, safety, reliability, and security of supply of electricity; and
    - the reliability, safety and security of the national electricity system[6].
- Productivity Commission - Released in October 2011, the Productivity Commission's (PC) Inquiry into Australia's urban water sector outlined the primary objective for urban water reform should be to *provide water, wastewater and stormwater services in an economically efficient manner so as to maximise net benefits to the community*[7]. In support of this overarching objective, the PC outlined a set of lower level objectives for reform including

[6] http://www.aemc.gov.au/Electricity/Electricity-Market.html

[7] Productivity Commission 2011, *Australia's Urban Water Sector*, Report No. 55, Final Inquiry Report, Canberra, p. 240

(but not limited to) promoting affordability and consumer protection efficiently, reducing the cost of regulation, introducing greater competition where cost effective etc[8].

- Victorian Competition and Efficiency Commission - In its inquiry into reform of the metropolitan Melbourne retail water sector (2008), the Victorian Competition and Efficiency Commission (VCEC) developed a set of criteria to assess a number of structural options including impact on water bills, practical feasibility, economic impacts, transitional costs and risks, social impacts, environmental impacts and future contestability options[9].

[8] Productivity Commission 2011, *Australia's Urban Water Sector*, Report No. 55, Final Inquiry Report, Canberra, p. 241-246
[9] Victorian Competition and Efficiency Commission 2008, *Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector*, final report, February, p. 56

Appendix C: Determining Assessment Criteria

Having regard to Appendices A and B, we propose the following structure to the assessment criteria:

- The establishment of an overarching objective; and
- Supporting criteria that would provide guidance to the ESC with regards to the assessment of any proposed regulatory reform against that overarching objective.

The overarching objective could be that any reforms to the regulatory arrangements facilitate:

> *The delivery of all water, wastewater and stormwater services across Victoria such that the supply and demand for those services across Victoria can be balanced at the least economic cost in the short and long term, and all reforms are in the long-term interests of consumers.*

To assess whether this overarching objective is met, we have established a broad set of assessment criteria that captures the impacts of all stakeholders in the industry, and reflects the aforementioned regulatory and legislative objectives.

1. **Regulatory arrangements incentivise economically efficient investment** – Water businesses should be incentivised to maximise *productive* (facilitate the least whole of community cost provision of services in the short term), *allocative* (deliver service outcomes that are better aligned with customers' willingness to pay for different service levels/attributes) and *dynamic* (promote enhanced efficiency outcomes in the longer term) efficiency outcomes.
2. **Regulatory arrangements ensure the delivery of customer service needs** – Reforms must facilitate delivery of existing licence obligations, technical legislative requirements (the *Environment Protection Act 1970*[10], *Safe Drinking Water Act 2003*[11]), the Statement of Obligations[12], the Customer Service Code[13] and enable meaningful customer engagement in the price setting process, to ensure service levels and tariffs reflect customer needs.
3. **Regulatory arrangements incentivise businesses to innovate** - Incentivising more innovation in the industry, thus encouraging increased efficiency gains in the longer term and/or service improvements in the longer term, and a better alignment of service outcomes with those that customers are willing to pay for in the longer term.
4. **The benefits of the regulatory arrangements outweigh the costs imposed on stakeholders** – Any reform of the regulatory framework should not result in the implementation costs of the approach being greater than the benefits received.
5. **Regulatory arrangements ensure the financial viability of businesses -** A business should be provided with a reasonable opportunity to generate enough revenue to recover the efficient costs associated with the provision of regulated services.

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[10] http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt2.nsf/DDE300B846EED9C7CA257616000A3571/367C2C1E3FA0677FCA257761001FCB97/$FILE/70-8056a172.pdf
[11] http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubStatbook.nsf/51dea49770555ea6ca256da4001b90cd/8fa3de3c8565c844ca256e5b002140a5/$FILE/03-046a.pdf
[12] http://www.depi.vic.gov.au/__data/assets/pdf_file/0016/177010/Statement-of-Obligations-All-water-corporations-_September-2012_.pdf
[13] http://www.esc.vic.gov.au/getattachment/78ddf29e-3e5a-4483-b86d-cd93ab4e9f8b/Code-Customer-Service-Code-for-Victorian-metropoli.pdf

6. **Regulatory arrangements are easy to understand** – Any regulatory framework should be administratively simple and easy to understand. For example, if a customer is unable to respond to a price signal because of its complexity, then there be minimal (~zero) allocative efficiency benefits from sending more cost reflective price signals, as customers would not respond accordingly.
7. **Regulatory arrangements promote equity for consumers -** The extent to which end consumers may consider those arrangements, or resulting tariff structures, to be equitable or fair. Whilst this can be a quite subjective test in some cases, it is reasonable to expect that consumers wish to face the same price as other consumers who face the same (or similar) circumstances and/or the same (or similar) cost structures. This would include the fair treatment of new customers compared to existing customers, the avoidance of material price shocks and fairness in the allocation of costs of shared assets with long lives (intergenerational equity). Consumers could consider it unfair if they were subsidising another customer group's decision to either connect to the network, or consume services via that connection – unless this was explicitly related to socio-economic circumstances (e.g. low income or vulnerable customers).
8. **Regulatory arrangements provide an appropriate balance of flexibility and certainty –** To cater for the various feasible circumstances faced by water businesses, whilst ensuring arrangements are uniform, clear, and predictable for all stakeholders. Regulatory arrangements should provide a balance between flexibility and prescription.
9. **Regulatory arrangements do not prevent the future introduction of competitive arrangements** – To avoid creating any regulatory roadblocks to the implementation of future competition policy to the water sector.
10. **Regulatory reform is supported by Government and broader society -** The Government would be a strong advocate of the reform regime, and would actively participate in the consultation process.

Appendix D: Assessment of the GB energy sector regulatory reforms against assessment criteria

The overarching objective of the RIIO regulatory model is to encourage energy network companies to a) play a full role in the delivery of a sustainable energy sector, and b) deliver long-term value for money network services for existing and future consumers. When assessing RIIO against the criteria identified in Appendix C, we can observe that:

1. **Regulatory arrangements incentivise economically efficient investment** – one of the main targets of RIIO is to ensure that companies deliver the economically efficient investments required by consumers. RIIO keeps the incentives for efficient delivery of investment that existed in RPI-X (i.e. companies are able to keep a share of any cost reduction they achieve against the regulator's efficient estimate of costs). In addition, by focusing on outputs instead of on the specific assets to be delivered, RIIO increases the flexibility of the companies to choose the solutions they consider more appropriate to deliver economically efficient investments, such that they can comply with its outputs given the incentives provided. To achieve that increase in flexibility, Ofgem focuses on the total expenditure of the company (totex) without focusing specifically on what proportions of their expenditure is capex or opex. By considering totex in the context of stakeholder led outputs, as well as the justifications provided by the organisations, the regulator can identify whether a robust case has been made, as to whether specific resources have been expended in a "least cost" manner. This is an issue that received particular attention by Ofwat (the regulator of the water and wastewater sector in England and Wales) when it decided to introduce a RIIO-like regulatory framework.[14]

2. **Regulatory arrangements ensure the delivery of customer service needs** – under the RIIO approach, the regulator and the companies determine the outputs to be delivered based on the information they collect as part of their customer engagement activities. The regulator has a role in monitoring companies' engagement with consumers, then subsequently monitoring companies' delivery of outputs against what customers indicated they desired during engagement activities. Further, companies are also set customer satisfaction targets, covering general and specific interactions with customers. The regulator sets targets for companies and allocates a proportion of base revenue with which the company will be rewarded or penalised (e.g. currently 0.5% of base revenue for gas distribution networks). Equally, in the water and wastewater sector, companies were required by the regulator to present a document developed by their Customer Challenge Groups (CCGs). In this report, the CCGs presented the engagement they have had with the company and their level of satisfaction with that engagement and, more generally with the business plan.

3. **Regulatory arrangements incentivise businesses to innovate** – in addition to the introduction of a more output and customer focused approach, RIIO also introduced a number of opportunities for companies to undertake innovative activities and trials without necessarily being exposed to the full burden of risk. The first transmission price control using a RIIO framework allowed companies to benefit from both the Network Innovation Allowance (NIA) and the Network Innovation Competition (NIC). The NIA provides each licensee with set

[14] For a discussion on the effect of totex on investment decision, see Ofwat, 2011, "Capex bias in the water and sewerage sectors in England and Wales – substance, perception or myth?" Available in http://www.ofwat.gov.uk/future/monopolies/fpl/pap_tec1105capex.pdf

allowances they would be forced to return if they do not spend them on innovation projects in line with specific guidance from the regulator in a predetermined period of time. The NIC, also open to distribution companies, encourages network licensees (distribution and transmission) to innovate in the design, build, development and operation of their networks. Projects financed by the NIC generate learning for all network licensees and will be made available to all interested parties, delivering potential benefits and cost savings for current and future consumers.

4. **The benefits of the regulatory arrangements outweigh the costs imposed on stakeholders** – as part of the reform, Ofgem carried out a thorough review of the costs and benefits of the reform, against a counterfactual of maintaining the RPI-X framework. This impact assessment concluded that, based on conservative estimates, the implementation of the RIIO framework (or another such sustainable network regulation model) could lead to a lower increase in consumer bills of £1 billion across all four energy sectors over an eight year period, relative to retaining the RPI-X framework.
5. **Regulatory arrangements ensure the financial viability of businesses** – one of the statutory duties of the regulator is to ensure that an efficient company can finance its activities and promote the interests of current and future customers. Licence holders currently have a licence condition to maintain an investment grade credit rating. As part of Ofgem's price control process, the regulator also carries out a financeability assessment on licence holders to ensure that they are able to deliver within the framework. In doing so, the regulator considers the company's allowed return and review financeability against target credit ratios, including, but not limited to: funds from operations ("FFO") interest coverage; post maintenance interest cover ratio (PMICR); FFO to net debt; retained cash flow ("RCF) to net debt.
6. **Regulatory arrangements are easy to understand** – the basic high level principles underpinning the RIIO framework are comparatively straight forward. RIIO is an approach that is easy to communicate at a high level, notwithstanding that there are intricacies built into the framework, providing the much needed robustness of any price control regime. The principle of expenditure through justification adds clarity for companies in communicating exactly what is required of them. Additionally, the approach to allocating exceptionally 'good' companies to the 'fast track' provides other companies with a tangible benchmark in terms of the standard that is required in putting forward a justified business plan and supporting evidence.
7. **Regulatory arrangements promote equity for consumers** – different companies operate different types of networks and in different regions which could generate some differences in prices. RIIO uses careful benchmarking between the different companies to ensure that consumers do not face unjustifiable differences. As part of the RIIO process, the regulator requires companies to fully communicate and evidence any reasons for exceptions in the delivery of outputs. Companies are encouraged to provide their own benchmarking analysis and studies by contractors, consultants and third parties, where relevant. A clear example of these justifiable differences is observed on those companies that serve London. Those companies would normally face higher wages than the average in other areas of the country which means their costs are normally corrected to account for that difference. Further, the higher level of reliability of the network required in a financial centre such as London has also been taken into account to allow for additional expenses for these companies.

Further, greater levels of engagement with stakeholders and consumers also provides companies with the opportunity to run public consultations to ensure that their plans are in line with consumer expectations. Therefore, if customers in different regions have different preferences, there could be a justification for differences between consumers.

8. **Regulatory arrangements provide an appropriate balance of flexibility and certainty** – the introduction of a longer review period (eight years) together with a reinforcement of the role of re-openers aims to achieve this balance. The longer period will increase the certainty but companies and consumers know that, if there are significant changes in the sector, the framework has the flexibility to reassess the price control provisions. Further, to help companies and Ofgem to manage uncertainty, RIIO includes mid-period reviews that are focused on significant changes in the primary outputs that companies are expected to deliver (for example a change in the scale or urgency of government requirements to connect electric vehicles to the distribution network). The mid-period review prioritises and aggregates key changes in the sector to enable holistic changes to be made at a designated point, rather than considering piecemeal changes throughout the price control period. In addition, RIIO also allows for re-openers for specific types of expenditure. These mechanisms allow companies to increase their allowance if certain conditions are met.

9. **Regulatory arrangements do not prevent the future introduction of competitive arrangements** – RIIO has been developed for activities where there are efficiencies that justify monopoly service provision. Under the RIIO model, Ofgem will have the option of providing licensed third parties with a greater role in delivery by giving them responsibility for delivering key projects following a competitive process. The third party would be responsible for operating and owning the associated assets.

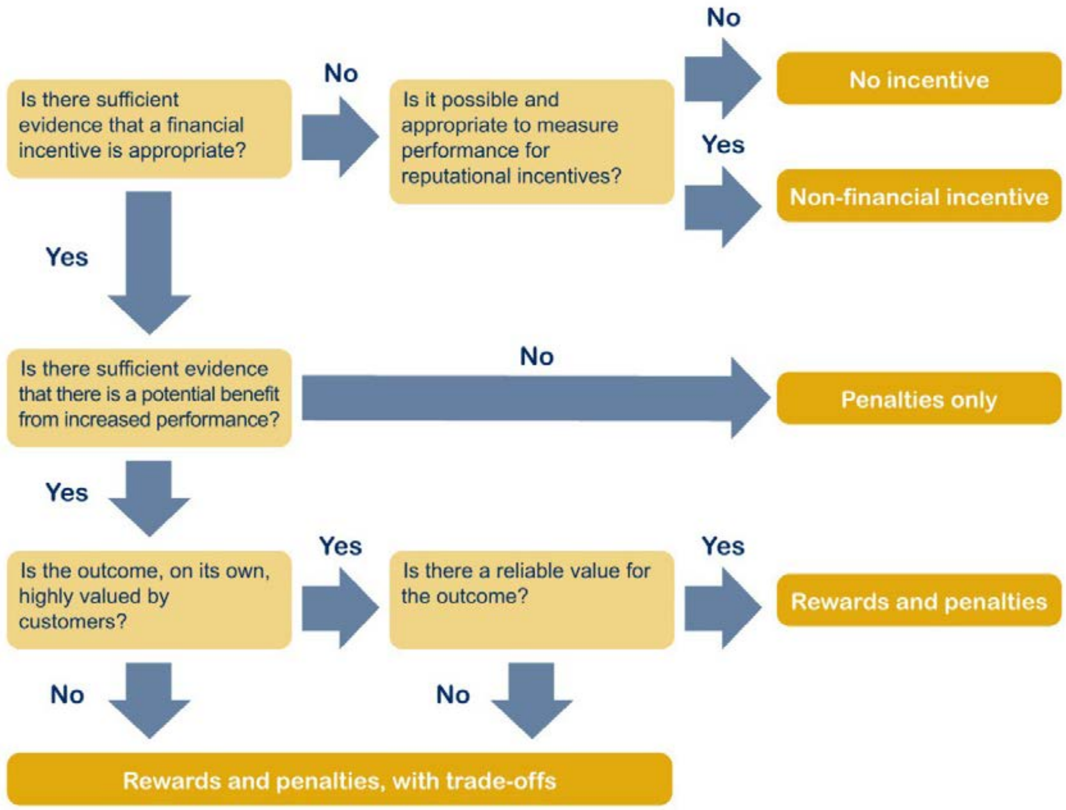
10. **Regulatory reform is supported by Government and broader society** - whilst the independence of a regulator is fully respected in the UK, a critical feature of legitimate regulation is being attuned to the political will of the consumer. A regulator needs to work within the broad parameters of the overarching strategy for energy set by Executive and legislature. In the UK, the energy sector was transformed by three pieces of legislation:

    - 2004: Electricity Act: Ofgem given 'sustainability guidance ' to follow in its decision making.
    - 2007: Climate change Act: Ofgem had to be reminded to focus on renewables and low carbon solutions.
    - 2010: Electricity Act: Ofgem was directed to have as a primary statutory duty care on sustainability.

    RIIO, as explained above, has delivered a sustainable future through a price control. The Government were strong advocates of the RIIO regime, and were active members of the consultation groups during the two years of development. This support provided momentum and legitimacy to a huge project that needs to carry multiple stakeholders in order for it to be established.

Appendix E: Example of policy to development of incentives

When developing a framework of incentives for the water businesses, the ESC will need to have a clear description of when these incentives would include financial payments. The table below shows the approach followed by Ofwat as part of its last price review when considering Outcome Delivery Incentives:



Source: Ofwat

Appendix F: The history of Great Britain's energy regulatory reforms, RIIO and the outcomes achieved

The fundamental principles of RPI-X regulation has been in Great Britain (GB) for over 30 years across a number of network industries. However, 10 years ago Ofgem, the regulator of the GB's energy sector, decided to move away from that model and introduce a new framework under the name of Revenue = Incentives + Innovation + Outputs (RIIO). This example was followed recently by Ofwat (the regulator of the water and wastewater industry in England and Wales) as part of its last price review (PR14).

The overarching paradigm shift was brought about by a number of factors – which are explored in more detail within this appendix.

F.1 RPI-X form of price regulation

Before RIIO was introduced, price regulation in the GB energy networks industry used an RPI-X regime. This regime was originally implemented following privatisation. Its main objective was to provide strong incentives for efficiency as well as seeking to stimulate innovation and create the conditions to allow competition to develop. It was anticipated that this regime would involve a relatively low burden of regulation.

RPI-X regulation was introduced to the GB energy market with a number of key characteristics:

1. **Price controls were set for five years** – price control fixed, ex ante, for a set period incentivised network companies by allowing them to keep the returns coming from unanticipated efficiency savings within the price control period (notwithstanding the potential for re-openers). RPI-X for the energy networks was set at five years, meaning that every five years the prices were reset to align with normal economic costs. This is consistent with the arrangements that have been in place in the Victorian water sector since January 2004[15]. A brief summary of the existing Victorian regulatory arrangements is found in Appendix A.
2. **Benefits were passed to customers** – RPI-X reduced the ability for organisations to abuse their monopoly position through raising prices. RPI-X aimed to incentivise organisations to identify efficiency savings, which were passed to customers in the form of lower prices, although consideration needed to be given to ensuring that quality was not sacrificed to achieve lower costs. Similarly in the Victorian water sector, any efficiency savings achieved within the regulatory period are kept by the water businesses, and then passed back to customers at the beginning of the next period through lower prices.
3. **Investor returns were regulated through the price control process** – regulators can influence the networks ability to attract investments by amending the returns they allow investors to earn. RPI-X regulation limits the extent to which investors can earn returns in excess of the cost of capital to five years in line with the price control period. These are broadly consistent with current regulatory arrangements in the Victorian water sector, where each businesses is able to recover a rate of return on existing and new assets, reflecting a

[15] There have been examples of shorter regulatory periods, including the first price review process after the establishment of economic regulation set prices for three years, and Melbourne Water and Goulburn Murray Water's recent price reviews established prices for three years.

benchmark ratio of debt to equity, and benchmark debt/equity returns on those sources of capital.

F.2 The issues with RPI-X

The introduction of RPI-X regulation in the GB energy sector brought about significant benefits, including major savings for energy customers, increased service and network quality, increased levels of investment and multiple instances of innovation. Fundamentally, the employment of RPI-X regulation in the GB energy markets was seen as a largely successful approach, with subsequent implementations across the globe following the principles of the GB energy approach.

The decision to change the regulatory approach and move away from RPI-X regulation followed an extensive process by Ofgem to review the RPI-X approach and was underpinned by a review process spanning two years called RPI-X@20.

The factors that led to a review of the GB energy regulatory regime can be broadly summarised as follows:

1. **RPI-X resulted in less energy network research and development than the regulator thought was appropriate** – over the course of 20 or so years, the RPI-X model seemed unable to deliver the innovation and research and development requirements of the fast evolving energy markets. The absence of sufficient levels of innovation was likely to render the market unable to deal with uncertainty within the industry. The lack of proactive innovation was demonstrated in some of the final price control processes with additional provisions being made available for research and development and the trialling of new technologies on energy networks. The Victorian water sector has been quite innovative over the last decade, however much of this was in response to Government policy. Some examples include recycled water targets, water consumption targets (e.g. Target 155), water restrictions, rebates on water efficient appliances, design standards on new properties, funding of integrated water cycle management projects etc. Whilst the cost of delivering these programs were approved to be recovered under the regulatory framework by the ESC, without the clear policy direction of Government, there were no explicit incentives under the framework for businesses to drive innovative servicing solutions. On the contrary, similar to RPI-X, businesses were incentivised to achieve productivity savings, and reduce discretionary spending. As a result, any investment in innovation (outside of that with clear policy backing) was unlikely to have been approved under the existing regulatory arrangements, meaning the risk of any investment in unproven/innovative technology/process solutions was worn by the business making that investment.
2. **Capital market events increased visibility of financing issues** – events in the financial markets from 2007-08 onwards underlined the importance of liquidity and highlighted the need for companies to be able to finance their operations in a sustainable and effective way, ensuring that the market was able to function efficiently in both the short and long term. It was clear that the regulatory framework needed to balance the ability for efficient network companies to obtain adequate finance with ensuring that the regulatory arrangements do not provide excessive returns, reward inefficiency or 'bail-out' a company that has encountered financial distress as a result of its own behaviour. Prior to approving prices, the ESC undertake a financial viability assessment to check that the prices derived from the building blocks approach provide sufficient funds for business payments. Typically, the ESC approve prices

that are consistent with at least an investment grade credit rating, and would be unlikely to allow a business to remain below investment grade for a substantial period of time[16]. Since the inception of economic regulation in 2004, one of 19 Victorian water business has encountered a substantial viability "problem", predominantly driven by the impacts of drought restrictions on demand. In 2010, the ESC stepped in and allowed a price adjustment to address this. The Global Financial Crisis did not impact on the ability of the Victorian water businesses to access finance as they borrow via the Treasury Corporation of Victoria. The rate of return each business is allowed to recover on their investment is a benchmark Weighted Average Cost of Capital (WACC), set for five years.

3. **Challenging energy industry developments on the horizon** – the energy markets have been through, and continue to go through, significant changes, stemming from external technological progress as well as environmental and social factors. A significant driver for change over the last decade or so has been the much publicised transition to a low carbon economy, with specific focus on low carbon networks. With carbon becoming increasingly more costly, it was unclear that these costs were being fully reflected in the RPI-X regulatory model. There was also a need for significant levels of investment across the energy supply chain and it was unclear whether the RPI-X framework would produce the right signals to deliver this level of investment. The introduction or anticipated introduction of new market models increased the importance of putting in place a robust regime which was able to deal with the complexities and intricacies of future market models. The Victorian water sector has also experienced and continues to go through significant changes. It experienced extensive drought conditions during the mid to late 2000s, which threatened security of supply and led to heavy-handed restrictions on water consumption, a behavioural change campaign to permanently reduce ongoing water consumption, and significant Government investment in augmenting the bulk supply and transfer network (the Wonthaggi Desalination Plant, the Sugarloaf Pipeline, the Goldfields Pipeline, upgrades to the Eastern Treatment Plant etc). These investments led to large step increases in price, which were exacerbated by significant decreases in demand, requiring further price corrections during subsequent regulatory periods.

4. **The RPI-X model was 20 years old** – over the many years of its operation, the RPI-X framework had grown increasingly complex and as such the administrative burden on both the regulator and regulated parties was considerable. This resulted in significant amounts of data gathering and processing and a diminishing ability to identify significant differences between organisations. It was also unclear whether the approach to protecting consumers from network company failure had resulted in an approach that protected network companies from the consequences of their own actions. Overall, there was a risk that network companies could easily revert to the lowest risk/lowest return approach.

   RPI-X was also starting to both compound previous regulatory errors and the methodology was becoming increasingly questionable:

   - Under RIIO, Ofgem was able to introduce the concept of totex regulation. This resolved one of the weaknesses of the old regime, whereby companies could effectively 'game' between open and capex.

[16] The ESC would not adjust prices to rectify any poor decisions made by a business.

- Under RIIO, the financial parameters were set (e.g. cost of debt by index) and this had the double benefit of giving clarity to capital markets but also stopping 'regulatory shocks' by a subjective decision by regulators (often derided as 'black box' regulation).
- Some aspects of the methodology of the RPI-X regime were effectively broken. No better example was in accelerated depreciation. Over a period of nearly 20 years, Ofgem had used depreciation as the 'balancing figure' in order to make the regulatory sums work. Consequently, assets with lives of 60 years were being depreciated well below 20. RIIO resolved this by setting asset lives and depreciation policies in harmony, but mitigating regulatory shocks through transition periods.

The Victorian economic regulatory framework for water has remained largely unchanged since its inception in January 2004, despite significant changes in the role of water service providers, changes to the form of services provided to customers, and changes to the customer and their expectations of water businesses. Whilst the current framework has ensured a forensic analysis of water business expenditures proposals, and rigour regarding the efficiency and prudency of those costs, the industry is changing rapidly, and a review of the approach for setting and monitoring prices is timely.

5. **Companies needed to focus on delivering what customers needed –** revenues under RPI-X were set in a process that involved only the regulator and the companies, but with very limited interaction with consumers. In a world where consumers are becoming more demanding, there was an increasing pressure for them to get involved in the decisions about what was required for the companies to deliver. Victorian water businesses are required to undertake customer consultation on their proposed prices and expenditure programs through focus groups, willingness to pay surveys, the establishment of customer consultation committees and engagement with customer representative groups. Whilst Victoria's peak consumer bodies have stated that consumer engagement in the price setting process has enabled consumer views of service levels to be considered in the preparation of pricing proposals, they have also expressed their desire for the ESC to prioritise stronger customer support for proposed expenditure programs
6. **Assessing the relationship of risk and reward –** the focus in the RPI-X framework was to ensure that companies deliver their outputs at the lowest possible cost, which provided limited incentives for companies to innovate. Therefore, the regulator needed to reconsider whether companies were reverting to lowest risk/lowest return solutions, which could be inappropriate for the delivery of networks that can adapt to the challenges of climate change**.** Similarly in the Victorian water sector, expenditure approved under regulatory review has been that required to deliver services consistent with obligations and any Government policy requirements, or heavily supported by customer feedback. Water businesses have had the opportunity to proposed R&D spending within their pricing submissions, subject to demonstrating the benefits of the investment outweigh the costs. This can be somewhat difficult for unproven technologies that do not have well established evidence to support their rollout.

Whilst a number of these challenges are broadly consistent with those experienced in the Victorian water sector (e.g. a focus on cost reduction reducing incentives for innovation, a lack of change to regulatory arrangements since their inception), there has been no material evidence of a bias towards capital investment, and customers have been actively involved in the price setting process.