Water and sewerage service price regulation: incentive schemes

Icon Water submission to ICRC Issues Paper

28 February 2020

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2 Executive summary

Icon Water welcomes the opportunity to respond to the Independent Competition and Regulatory Commission (ICRC; or the Commission) Issues Paper on incentive schemes for regulated water and sewerage services (the Issues Paper).

Incentive-based regulation has a long history in Australia as a tool for encouraging regulated utilities to undertake more efficient decision-making in the long-term interests of customers. In the case of a natural monopoly (such as a water and sewerage business), incentive-based regulation can mimic the economic forces a firm would face in a competitive market, helping provide an incentive for innovation in service delivery and efficient expenditure planning.

Under the current incentive framework, the Commission sets Icon Water's operating and capital expenditure allowance for each five year regulatory period based on an assessment of the prudent and efficient costs of operating a water and sewerage businesses. If Icon Water exceeds its approved revenue allowance, it must bear the costs of doing so for the duration of the regulatory period.[1] Similarly, if Icon Water achieves efficiencies, it can retain these savings until they are passed to consumers through lower prices in subsequent periods. Icon Water is also subject to a 6% revenue 'deadband' designed to share the risk of water demand volatility with its customers. Under this approach, Icon Water bears the costs/benefits of demand variation within ±6% of the revenue allowance, while any amounts above this are passed to customers.

Icon Water considers that the general principles underlying this form of regulation have been successful in the ACT, and have helped drive affordability and service quality for our water and sewerage customers. This is evidenced through the sustained high levels of customer satisfaction with Icon Water's network.

In addition to the standard model of incentive-based regulation, some regulators have implemented additional 'incentive schemes' to further enhance the properties of the regulatory regime. These schemes can be broadly categorised in three groups: operating expenditure (opex) schemes; capital expenditure (capex) schemes; and service quality schemes. The major objectives of these schemes are to provide a uniform incentive to achieve efficiencies over the regulatory period and to ensure firms do not inefficiently substitute between opex, capex and service quality.

While incentive schemes have been widely applied to gas and electricity distribution businesses in Australia, their adoption among water businesses remains relatively low (Table i).

Table i: Adoption of incentive schemes for regulated water businesses in Australia

	Opex scheme	Capex scheme	Service standard scheme^
NSW	✓ *'Efficiency Benefit Sharing Scheme' since 2016*	×	×
QLD	×	×	×
SA	×	×	×
VIC	×	×	✓ *'PREMO' since 2018*

^not including Guaranteed Service Level (GSL) schemes

Regulators have shown caution in implementing these schemes due to uncertainty over their benefits compared to the existing regulatory arrangements, and the potential for significant administrative and regulatory costs. A key concern has been the difficulty involved in developing incentives that maximise

[1] If the Commission deems the costs to be prudent and efficient, they may be passed to customers through prices in subsequent regulatory periods.

economic efficiency, while mitigating the risk of perverse outcomes. In particular, concerns have included:

- the difficulty in identifying legitimate efficiency savings as distinct from deferrals or external productivity shocks (e.g. economy-wide improvements);
- significant costs of implementing incentive schemes, particularly service standard schemes involving detailed willingness-to-pay studies;
- the largely untested nature of the benefits and risks of incentive schemes applied to water businesses in Australia; and
- limited evidence of shortcomings in the existing regulatory approaches that require new incentive mechanisms.

While Icon Water is not currently subject to formal incentive schemes, the Commission has undertaken a number of reviews of incentive schemes since 2005. In all cases, the Commission has stopped short of applying incentive schemes to Icon Water, citing implementation challenges and the need for additional evidence on the costs and benefits.[2] Icon Water has expressed similar reservations, and did not support incentive schemes in its 2018–23 pricing proposal.

Icon Water considers that the decision of whether to introduce incentive schemes must take into account the specific circumstances of the regulated entity, including existing incentives under the regulatory framework, the business' past performance, customer preferences, and the overall costs and benefits of imposing new schemes. In the case of Icon Water, such analysis should extend beyond just economic regulation, and include consideration of the broader regulatory environment, including Icon Water's existing obligations under Commonwealth and ACT legislation (for example, the obligation to pay rebates under the GSL scheme).

Considering these elements, Icon Water believes that there remains limited evidence on the benefits of new incentive schemes for the ACT. In particular, it is not clear that the current regulatory approach results in outcomes which necessitate introducing additional regulatory controls. Icon Water also believes that introducing new incentive schemes would result in added regulatory and administrative costs, and greater complexity in revenue determinations, which is not in the best interests of our customers.

However, Icon Water considers that the situation in the ACT should continue to be monitored to determine if any changes to the incentive framework may be appropriate in future. This may include gathering further information on the costs and benefits of recently introduced incentive schemes for water business in other jurisdictions, and monitoring the appropriate level of the demand 'deadband'.

The remainder of this document sets out Icon Water's response to the specific questions raised in the Issues Paper. Icon Water looks forward to continuing engagement with the Commission on incentive schemes in the lead-up to the Commission's draft report in August 2020.

[2] For example, see ICRC, *Final Decision – Review of Efficiency and Service Standard Incentive Mechanisms*, Report 16 of 2005, December 2005.

3 Icon Water's responses to the Issues Paper

This section provides Icon Water's responses against the specific questions raised in the Issues Paper.

Question 1: Do you have any comments on the overall approach the Commission has proposed to adopt for its review of incentive schemes

Icon Water supports the Commission's proposed approach as outlined in the Issues Paper. In particular, Icon Water is appreciative of the Commission's proposed timeline which allows sufficient time for genuine engagement with Icon Water and other stakeholders.

Icon Water also looks forward to receiving further information on the proposed workshop in late March 2020, including the topics to be discussed. Icon Water would welcome the opportunity to present its position to stakeholders at the workshop.

While the Commission's review is focussed on economic incentives for water and sewerage, these incentives must be evaluated in the context of the broader regulatory incentive environment in the ACT. These include Icon Water's obligations under Commonwealth and territory legislation, relating to the environment, safety, and technical standards. Icon Water would therefore encourage broader consultation with other regulatory bodies, such as the Technical Regulator, as part of the Commission's review. This can help promote alignment of objectives across regulators, and a holistic view of the costs and benefits of any contemplated incentive schemes.

Question 2: Are the current incentive mechanisms used by the Commission appropriate?

The current incentive arrangements can be grouped into three key areas, as identified in the Issues Paper:

- Opex and capex incentives;
- Service standards incentives; and
- The price control mechanism.

Icon Water's comments in relation to each of the three areas are set out below.

Opex and capex incentives

The current regulatory framework incorporates a range of incentives for Icon Water to reduce expenditure. In particular, if Icon Water can achieve efficiencies relative to its opex and capex allowance, it can retain the benefits of doing so until the end of the regulatory period. In subsequent regulatory periods, Icon Water's revenue allowance will incorporate the efficiency gains, and hence the benefits would pass to customers in the form of lower prices. Similarly, Icon Water is penalised for exceeding its revenue allowance by having to bear the costs of any overspend.

As part of this framework, the Commission also undertakes reviews of Icon Water's expenditure for prudency and efficiency. Any capex that is deemed by the Commission to not be prudent and efficient will not be added to the Regulatory Asset Base. Similarly, the Commission may not approve an opex forecast where it includes expenditure that is assessed as not being prudent and efficient. This typically means that Icon Water bears the risk of demonstrating that its expenditure is efficient.

We consider that this framework generally operates effectively to incentivise Icon Water to continuously identify and implement efficiencies in its expenditure program. For instance, in the 2018-23 regulatory period, the Commission approved Icon Water's proposed 3.7 per cent real reduction in operating

expenditure compared to the previous period.[3] Such incentives have also generally operated in the interests of Icon Water's customers, with the ACT combined water and sewerage bill being less than the average of Australian urban water utilities.[4]

Icon Water also has obligations to operate efficiently under the *Territory-owned Corporations Act 1990* (ACT). This includes the legislated objective to '*operate at least as efficiently as any comparable* business' and *'to show a sense of social responsibility by having regard to the interests of the community in which it operates…'.*[5] As part of this, Icon Water's performance is regularly monitored, including through annual reports to the ACT Government which cover both financial performance and service quality. The annual reports are published on Icon Water's website, creating an additional layer of public accountability for Icon Water's expenditure.

Therefore, the economic incentives provided by the Commission cannot be viewed in isolation, and must be considered in the broader context of Icon Water's business. Icon Water believes that these arrangements, taken together, create a very strong incentive environment for efficient capital and operating expenditure.

Service standards incentives

Icon Water is not currently subject to a formal economic incentive scheme for service standards, such as exist for regulated gas and electricity networks. However, Icon Water is required to meet a large number of safety, quality, and reliability standards established under ACT and Commonwealth government legislation. Among its regulatory obligations are compliance with the Utility Services License under the *Utilities Act 2000* (ACT) and with the *Drinking Water Utility License*, the *Consumer Protection Code 2020*,[6] technical codes under the *Utilities (Technical Regulation) Act 2014* (ACT) and legislative instruments under the *Environment Protection Act 1997* (ACT). Icon Water reports to the Commission, the Utilities Technical Regulator, the Bureau of Meteorology and the Australian Bureau of Statistics on specific service-level measures such as consumer complaints and unplanned interruptions to water supply and sewerage services.

While it is not within the scope of the Commission's review, the Consumer Protection Code requires Icon Water to provide rebates to customers when certain guaranteed service levels (GSLs) are not met. These rebates cover a range of performance measures including customer connection times; notice periods for planned works; frequency and duration of interruptions; and response times to faults and complaints. Each year, Icon Water must report to the Commission on its performance against these targets. The GSL scheme serves as an additional financial incentive for Icon Water to invest in improving customer service across its network.

Icon Water considers that these existing arrangements are operating effectively to ensure customers receive safe, reliable and quality water and sewerage services. This is supported by the high rates of customer satisfaction with our network, exceeding 90% in 2018-19.[7]

Form of control

Icon Water supports, in general, the current hybrid price and revenue cap form of control. Under this approach, the Commission sets the maximum prices Icon Water can charge for water and sewerage

[3] ICRC, *Final Report – Regulated water and sewerage services prices 2018-23*, Report 1 of 2018, May 2018, p xix.

[4] Bureau of Meteorology, *National performance report 2017-18: urban water utilities*, February 2019.

[5] *Territory-owned Corporations Act 1990* (ACT), s7(1).

[6] The 2020 Consumer Protection Code will commence on 1 July 2020. Prior to this date, the *Consumer Protection Code July 2012* applies.

[7] Icon Water, *2018-19 Annual Report to the ACT Government*, September 2019.

services, together with the total revenue for the regulatory period. This form of control generally achieves an appropriate balance between providing customers with price certainty while also allowing Icon Water to be confident about the revenue it will earn over the regulatory period, which assists with longer-term planning and investment.

However, a key feature of this approach is that full cost recovery is only achieved when all customers are charged the maximum prices. This means that Icon Water may face a disincentive to offer discounts to particular water customers, even where it may be in the interests of all customers to do so.

For instance, as outlined in our 2018-23 Price Proposal[8], Icon Water's Tier 2 usage price is significantly above the marginal cost of supplying water, which may create a risk of uneconomic bypass. This refers to a situation where a large user has an incentive to investigate alternative sources of water supply that are lower cost for that user, but still more expensive than Icon Water's efficient cost of supply. If this risk materialises, and the large user reduces their consumption from Icon Water's network, water bills would have to increase for all of Icon Water's remaining customers to recover the foregone revenue. In its 2018-23 Price Proposal, Icon Water proposed a mechanism for providing prudent discounts to a large customer who can demonstrate a credible case of potential uneconomic bypass. Icon Water continues to support the introduction of a mechanism to provide prudent discounts where a particular customer can demonstrate a legitimate and credible case for bypass.

As part of the form of control, Icon Water's revenue allowance is subject to a six per cent 'deadband', whereby Icon Water receives a revenue adjustment in the following regulatory period if its water sales revenue varies by more than ± 6% of the revenue approved by the Commission. Any positive or negative revenue variation within the 6% deadband is fully borne by Icon Water.

The deadband helps to share water demand risk between Icon Water and its customers. It can also mitigate some of the uncertainty involved in forecasting water demand over a five year regulatory period. While Icon Water supports the deadband mechanism, and considers that the current six per cent threshold is appropriate, there may be a case to reconsider this threshold value in future regulatory periods. For example, in its Price Determination for the 2008-13 period, the Commission reduced the deadband threshold to 3%, partly in order to reduce the impact of demand uncertainty associated with water restrictions during the millennium drought.[9]

Question 3: What changes, if any, could the Commission make to improve its current incentive mechanisms

As outlined in our response to Question 2, Icon Water supports the introduction of a regulatory mechanism to provide large customers with prudent discounts if they can demonstrate a genuine and credible case of uneconomic bypass.

Icon Water is not proposing any other changes to the current incentive arrangements. Any change to the regulatory framework (particularly on major aspects such as the form of control) must be based on a detailed assessment of the costs, benefits and risks, for both Icon Water and its customers. Overall, Icon Water considers that the current framework provides appropriate incentives to efficient levels of expenditure and service quality, and that a case for change has not been established.

[8] Icon Water, *2018-23 Water and Sewerage Price Proposal,* Attachment 2: Form of regulation, 30 June 2017.

[9] ICRC, *Water and Wastewater Price Review – Final Report and Price Determination,* Report 1of 2008, April 2008, p124.

Question 4: Do you have any comments on the incentive mechanisms described in this chapter that the Commission proposes to consider during its review?

The Issues Paper describes a range of potential incentive schemes that could be considered as part of the current review. These include:

- operating expenditure (opex) schemes;
- capital expenditure (capex) schemes;
- total expenditure (totex) schemes;
- service quality schemes; and
- the Victorian 'PREMO' model.

Icon Water notes the Issues Paper does not contain any recommendations for introducing new incentive schemes, but rather seeks feedback from stakeholders on these and other potential options. Icon Water considers that these incentive schemes may not be appropriate in the ACT, and would offer limited benefits while imposing significant regulatory and administrative costs. Our feedback on each particular scheme is outlined below.

Operating expenditure (opex) schemes

Opex incentive schemes typically operate by allowing a regulated business to retain the benefits (or costs) of an opex underspend (or overspend) for a defined period of time – usually five years (the duration of the regulatory period). This can provide a uniform incentive to achieve efficiencies over time.[10] A common justification for opex incentive schemes is that they can drive lower prices by encouraging regulated businesses to bring forward cost savings and to undertake efficiency measures they would not have otherwise.

One of the most widely adopted opex incentive schemes in Australia is the *Efficiency Benefit Sharing Scheme*[11] (EBSS), which was introduced in 2008 by the Australian Energy Regulator (AER) for electricity distribution and transmission businesses.[12] The mechanism works by effectively applying a fixed lag (or 'carryover period') between changes in operating costs and the associated changes in prices. The carryover period is set equal to the length of the regulatory period. Thus, gains and losses are retained by the business for five years regardless of their timing. Revenue increments or decrements associated with operating cost outcomes in the previous regulatory period are added to (or subtracted from) the revenue requirement in the current period as an additional 'building block' in the regulatory cost build up. Under the EBSS, the benefits of cost reductions are shared, with utilities earning approximately 30 per cent of the cost reduction, while the remaining 70 per cent passes to customers. [13]

However, there exist a number of theoretical and practical limitations to opex incentive schemes. For instance, it can be problematic in practice to distinguish genuine efficiencies achieved by a business' management from natural productivity gains that are economy or industry wide. In the case of the latter, there is no clear case for a business to receive additional rewards. Similarly, where costs have

[10] In the absence of an opex incentive scheme, the incentive to achieve efficiencies diminishes over the course of the regulatory periods, since the business can only retain any savings until the end of the period.

[11] Australian Energy Regulatory, *Efficiency Benefit Sharing Scheme for Electricity Network Service Providers*, November 2013.

[12] A similar scheme exists for gas networks, called the Efficiency Carryover Mechanism.

[13] The sharing ratio is approximately 30:70 in net present value (NPV) terms. That is, the business retains gains and losses for five years (approximately 30 per cent in NPV terms), and consumers for perpetuity thereafter (approximately 70 per cent in NPV terms).

increased through external factors, there is no basis in economic theory to impose additional penalties on the business.

There are also concerns surrounding how an opex incentive scheme would interact with opex productivity measures, such as the efficiency dividends applied by the Commission. For example, in the 2018-23 regulatory period, the Commission approved a significant efficiency target for Icon Water. If an opex incentive scheme were operating in conjunction with an efficiency target, the incentives applying to underspends and overspends may be unbalanced. That is, given the productivity target, Icon Water would have less ability to achieve additional efficiencies and benefit from an opex scheme. Conversely, Icon Water would face a greater revenue risk from failing to meet the efficiency targets by being required to retain any overspend for five years, even where the overspend is calculated relative to a highly ambitious target.

The decision to implement an opex incentive scheme must be based on an informed evaluation of the costs and benefits of the scheme. This involves comparing the level of efficiency generated by the scheme with the expected outcomes in the absence of the scheme. However, even the assessment of costs and benefits is subject to uncertainty. This was also the view of the Commission in its submission to the AER's review of incentive schemes, which did not support the introduction of an opex scheme:[14]

> *"The Commission is not convinced that the theoretical basis of the argument favouring an efficiency benefit sharing scheme necessarily is proven. There are too many factors acting upon the behaviour of the regulated entity to pretend that one simple regulatory tool built around a simplistic equation can isolate all of the factors which will impact upon efficiency regardless of the actions of the regulated entity itself"*

Icon Water agrees with the Commission's earlier assessment, and does not support the introduction of an opex incentive scheme. In its 2018-23 Pricing Proposal, Icon Water noted that the existing regulatory arrangements already provide a strong incentive to reduce costs, and there was no evidence of temporal distortions in Icon Water's expenditure. Icon Water also noted that introducing an opex incentive scheme in the 2018-23 period could disadvantage customers since using the 'base year' opex forecasting approach would result in higher prices compared to Icon Water's lower opex proposal for 2018–23.

Capex

Similar to opex incentive schemes, capex incentive schemes are designed to equalise the incentive to achieve efficiencies over the course of the regulatory period. Capex incentive schemes are also often regarded as complementary to opex incentive schemes since they can help to ensure that savings in opex are not achieved through inefficient capex substitution. One of the major capex incentive schemes operating in Australia is the AER's Capital Expenditure Sharing Scheme (CESS). The CESS was introduced in November 2013 and is applied by the AER to electricity and gas distribution businesses.[15] Under the scheme, network businesses retain 30% of the gains (losses) arising from capex underspends (overspends), with customers retaining the remainder. The gains or losses are calculated in NPV terms at the end of the regulatory period, and are added to the revenue allowance as an additional building block in the subsequent regulatory period.

Similar to opex schemes, introducing capex schemes requires being able to correctly identify genuine productivity improvements as distinct from capex deferrals or external shocks. In particular, a regulated business can achieve a capex efficiency in one of three ways:

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[14] ICRC, *Submission on the Australian Energy Regulator's service target performance incentive scheme and efficiency benefit sharing scheme,* 14 May 2008, pp 4-5.

[15] Australian Energy Regulator, *Capital Expenditure Incentive Guideline for Electricity Network Service Providers*, November 2013.

1) spending less to achieve the same output;

2) deferring capex from regulatory period 1 to period 2; and

3) increasing capex in regulatory period 1 to achieve a reduction in period 2.

Only the first and third of these represent true productivity improvements, and there is a real risk that efficiencies will be misidentified through the regulatory review process. A capex incentive scheme would operate contrary to its objectives if it rewards a business for capex deferrals, or penalises businesses for investing capex in the current period to achieve a net benefit in subsequent periods. Regulators in Australia have raised strong concerns about the identification and treatment of deferrals under a capex incentive scheme. A CESS was introduced in Victoria for the 2001–2005 period but removed in the following period because the Victorian Essential Services Commission (VESC) found there was a strong incentive for capex deferral.[16] A substantial portion of capex approved by the VESC was not spent, resulting in incentive payments flowing to utilities. In some cases, this capex was proposed again in the subsequent regulatory control period, giving rise to concerns about double-dipping.

Similarly, several problems with the AER's CESS were identified by TransGrid and Western power, many of which would also apply to water utilities. These include the accounting treatment when capex is deferred in the current regulatory period, bringing forward capex into the current regulatory period, and the deferral of capex in subsequent regulatory periods.

Currently, no capex incentive schemes have been applied to water businesses in Australia. The hesitation to apply capex schemes to water businesses reveals a range of potential costs and risks warranting close attention. In its 2018-23 Pricing Proposal, Icon Water did not support a capex incentive scheme and raised concerns about the potential risks and administrative costs. In particular, these concerns echoed earlier findings by IPART for Sydney Water, including that:[17]

- yearly capex allowances are set relatively independently of each other, and hence there is less of an incentive to delay capex efficiencies from one regulatory period to the next;
- it can be difficult to differentiate between a capex efficiency and a capex deferral, and it can be difficult to distinguish true efficiency savings from overstated forecasts; and
- a capex incentive scheme could increase the incentive to provide inflated forecasts.

Icon Water maintains its position that there is limited evidence on the benefits of a capex scheme for water and sewerage services, and the potential for significant regulatory complexity and cost.

Totex

A totex incentive scheme combines the elements of capex and opex schemes within a single framework that provides incentives based on a business' total expenditure. As noted in the Issues Paper, a totex framework has not been adopted by economic regulators in Australia, and would require a change in the regulatory forecasting approach among other implementation challenges. A totex scheme would also carry similar risks and costs to opex and capex schemes as described in preceding sections.

For these reasons, Icon Water does not support the introduction of a totex scheme.

[16] Essential Services Commission, *Electricity Distribution Price Review 2006-10 – Final Decision Volume 1,* October 2005, p431.

[17] IPART, *Issues paper: Review of prices for Sydney Water Corporation – from 1 July* 2016, NSW Independent Pricing and Regulatory Tribunal, p89.

Service quality schemes

Service quality incentive schemes are designed to encourage utilities to improve quality of service beyond minimum standards, where it is in consumers' interests to do so. The economic justification for such schemes is relatively straightforward. If the marginal benefit to customers from a service improvement is higher than the marginal cost to the regulated business, economic efficiency can be improved by incentivising the business to implement the improvement.[18,19] However, the measurement of the marginal benefit and the practical implementation of a suitable incentive are less straightforward. Implementing such reforms requires detailed consideration of the costs, benefits, and risks of the proposed incentive scheme.

One example of a service quality incentive scheme is the AER's Service Target Performance Incentive Scheme (STPIS) applied to electricity distribution networks. Under the STPIS, the AER sets performance targets for the regulatory period based on the utility's performance over the previous period (across measures such as network reliability and customer service). The regulated business receives a reward if it exceeds the performance target and a penalty if the target is not met. The rewards and penalties are expressed as a percentage of the utility's revenue, and are based on estimates of consumer willingness to pay for service and reliability improvements.[20]

While Icon Water is not currently subject to a service incentive scheme, it is required to meet a large number of service standards set by the broader regulatory framework established under ACT and Commonwealth government legislation. These include obligations under the *Consumer Protection Code July 2012*, and reporting obligations to the Utilities Technical Regulator, the Bureau of Meteorology and the Australian Bureau of Statistics on various service level measures. Icon Water is also required to report its performance to the ACT Government under the *Territory-owned Corporations Act 1990* (ACT).

This large body of legislative requirements and reporting obligations contribute to ensuring Icon Water's services meet or exceed customer expectations. Therefore, a service standard incentive scheme may offer little additional benefit while imposing new administrative costs. For example, a recent survey has shown that overall customer satisfaction with Icon Water's services exceeds 90%.[21] This would suggest that the marginal benefits of implementing service improvements may be small.

However, the costs of a service standard scheme may be substantial. Regulating service quality would require the Commission to define and monitor relevant quality performance measures. Some quality measures might be technical in nature (such as water quality, leakage and supply interruptions), while others might be based on more subjective measures of customer satisfaction. This would increase the costs of Icon Water's compliance and reporting obligations, as well as the regulatory oversight costs for the Commission.

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[18] The incentive would result in a net surplus if it is less than the difference between the marginal benefit and marginal cost.

[19] Optimality is achieved when the marginal benefit of services improvements is equal to the marginal cost. However, the marginal benefit will vary across customers depending on their individual preferences and circumstances. Therefore, it is not practicable to achieve a theoretically optimum level of economic efficiency. In this context, the term marginal benefit is used to mean 'average marginal benefit' across customers which yields a second-best optimum.

[20] To calculate the incentive for reliability of supply, the AER uses a parameter called 'Value of Customer Reliability' (VCR) which is based on customer willingness-to-pay surveys and economic modelling techniques.

[21] Icon Water, *2018-19 Annual Report to the ACT Government,* September 2019, p69.

Effective incentive schemes must be aligned with consumer preferences on service quality and service standards. Therefore, the design of a service standard scheme would require significant consumer engagement, including workshops and willingness-to-pay studies, to ensure the scheme promotes an efficient level of investment in service. The costs of such analysis, including potential customer 'survey fatigue', need to be weighed against the limited benefits, given the existing regulatory safeguards. Moreover, a key risk is that estimates of willingness-to-pay may lead to an imprecise measure of service performance and consumer preferences, resulting in a poorly calibrated incentives that fails to achieve economic efficiency. This was also the view of the Commission in its 2008 submission to the AER:[22]

> *"A service target performance incentive scheme requires parameterisation that is highly unlikely to generate a scheme that correctly represents the internalised marginal benefits of service to the customers. Customers' marginal benefits from service are usually determined from willingness-to-pay studies. The results of these studies are generated from a small sample of customers who are presented with hypothetical choices. […] It is inappropriate to then use these estimates without analysing the standard errors for these parameters, as these standard errors may be quite large."*

The implementation and maintenance of a service incentive scheme requires regular collection and processing of relevant data which measures business performance against benchmarks. It is also important the benchmarks relate to service standards most highly valued by customers. Icon Water has undertaken various willingness-to-pay studies over time,[23] however the results of these studies have not been tested outside of a theoretical setting. There would be significant risks to Icon Water and its customers from committing to service targets with financial incentives, if the measures are newly created and there is no understanding of their potential variability over time.

Another consideration in designing an incentive scheme is the level of control a regulated business has over the performance outcomes. For example, attributes based on the number of complaint calls are problematic, because, unlike events such as water supply interruptions, complaints are not fully outside consumers' control. This is inconsistent with the rationale for placing the risk of service performance variation on the regulated business. Initiating a service incentive scheme based on attributes not fully outside consumers' control, like the number of complaints, could create a perverse incentive. For example, if consumers' know a regulated business will be penalised (and forced to charge lower prices) if the number of complaints is above a threshold, it may be in their interests to make frivolous complaints.

It is for these reasons that, in its 2018-23 Pricing Proposal, Icon Water did not support the introduction of a service standard incentive scheme. Icon Water maintains its position that a service standard scheme should not be applied to water and sewerage services in the ACT.

PREMO

In 2016, the VESC introduced its PREMO ('Performance, Risk, Engagement, Management and Outcomes') pricing approach for regulated businesses.[24] The PREMO framework links the rate of return earned by a water business with the level of 'ambition' in its pricing proposal, and the customer outcomes it delivers.[25] Under PREMO, a business' pricing proposal must set out a commitment to a

[22] Independent Competition and Regulatory Commission, *Submission on the Australian Energy Regulator's service target performance incentive scheme and efficiency benefit sharing scheme,* 14 May 2008, p4.

[23] For example, see: Icon Water, Willingness to pay: Customer preferences for balancing cost with risks of water supply interruptions and sewer overflows, 2016.

[24] Essential Services Commission Victoria, *Water Pricing Framework and Approach: Implementing PREMO from 2018*, October 2016.

[25] The PREMO incentive is provided through the rate of return on equity, with all other WACC parameters remaining unchanged.

range of customer-oriented performance outcomes for the forthcoming regulatory period. The proposal is self-rated by the business and then rated by the VESC as being either 'Leading', 'Advanced', 'Standard', or 'Basic'. In turn, the ratings determine the return on equity allowance for the business. However, if the VESC finds the business has overstated its rating,[26] the business may be penalised with a lower return on equity. This provides an incentive against the business overstating its ambition to receive a higher opex/capex allowance.

At the conclusion of the regulatory period, the VESC assesses the business' performance against the commitments made in its pricing proposal. Any outperformance (or underperformance) is reflected in higher (or lower) allowed return on equity in the subsequent regulatory period.

Icon Water agrees with the Commission's conclusion that it may not be appropriate to adopt this approach for ACT water and sewerage services. The ACT is a relatively small jurisdiction and, unlike Victoria, has only a single water and sewerage services provider. Therefore, there may be limited ability to generate comparative benchmarks for Icon Water. Further, Icon Water considers that, a scheme such as PREMO would represent a fundamental shift in the overall regulatory approach, carrying significant risks and implementation challenges. Given the high rates of customer satisfaction with ACT water and sewerage services, the potential benefits of PREMO are unclear.

Question 5: What other incentive mechanisms should the Commission consider during the review?

Icon Water is not proposing any other incentive schemes for water and sewerage in the ACT. As outlined in our response to Question 6, the consideration of any new incentive schemes should be based on a detailed assessment of the costs, benefits and risks.

Question 6: What factors should the Commission consider in judging whether an incentive mechanism is suitable for Icon Water? Are there any ACT specific considerations?

As noted in our response to Question 4, Regulators may seek to implement incentive schemes for a range of reasons. These include

- avoiding incentives to delay the implementation of efficiency improvements;
- balancing operating expenditure, capital expenditure, and service quality incentives;
- balancing the symmetry of incentives in relation to underspending and overspending;
- avoiding incentives to bias expenditure forecasts; and
- establishing efficient risk sharing mechanisms between businesses and consumers.

However, the question of how to best achieve these objectives (and whether they require new regulatory controls) warrants considering the specific circumstances of a regulated business, its operating environment, and the existing regulatory arrangements. As with any regulation, the potential benefits of incentive schemes must be carefully weighed against the costs and risks. Indeed, incentive schemes have seen relatively modest adoption among Australian water businesses, with regulators showing restraint until the impacts of such schemes are better understood. Victoria introduced a service standards incentive scheme in 2018, while NSW has had an opex incentive scheme (applying only to

[26] For example, if the business self-assesses as 'Leading', while the VESC determines the proposal is 'Standard', the business will receive a lower return on equity than it would if it had self-assessed as 'Standard'.

reductions in opex) operating since 2016. No other schemes currently apply to water businesses in Australia.

In its 2007 review of water and wastewater tariffs, the Commission identified a list of attributes that would need to be possessed by an effective efficiency mechanism.[27] These are:

- ***Transparency***: a transparent mechanism will be clearly understood by regulated businesses, regulators and external parties.
- ***Simplicity and unobtrusiveness***: a simply and unobtrusive mechanism will reduce the regulatory burden on the business and the regulator.
- ***Repeatability***: the mechanism must be well defined and applicable to future regulatory periods.
- ***Symmetry***: the mechanism should be symmetrical, that is, it should contain both rewards for efficiency gains and penalties for efficiency losses.
- ***Accuracy*****:** the mechanism must be able to accurately reward or penalise the business for efficiency gains or losses; the incentives that it creates must be well understood.
- ***Non-distortionary*****:** the mechanism should not have adverse impacts on the investment decisions of the business.
- ***Equitability*****:** the mechanism should provide for fair sharing of efficiency gains between regulated businesses and consumers.
- ***Economic efficiency*****:** the mechanism should encourage efficient investment and promote the use of efficient production techniques.

These attributes represent a summation of earlier academic literature and regulatory practice,[28] and were broadly agreed to by Icon Water in its 2018–23 Pricing Proposal.

Before any new incentive scheme is introduced, the case for such a scheme must be clearly established. For example, if it is suggested that a scheme is required to remedy an existing failure of the regulatory framework, that failure and the corrective-power of the scheme must be well understood. As part of this process, it must be demonstrated that the scheme would result in improvements compared to the current regulatory approach, and these improvements must be weighed against the additional administrative and regulatory costs and risks of the scheme. The risks may include the introduction of unanticipated perverse incentives (such as capex, opex and service quality trade-offs), or the miscalibration of schemes due to incomplete information (for example, uncertainty regarding customer willingness to pay for service quality).

The Commission expressed a similar viewpoint in its submission to the AER's 2008 investigation of the STPIS and EBSS:[29]

[27] Independent Competition and Regulatory Commission*, Water and Wastewater Price Review Working Conclusions, Report 9 of 2007*, September 2007.

[28] For example, see Joskow, P. and R. Schmalensee (1986), *Incentive Regulation for Electric Utilities*, Yale Journal on Regulation, 4(1):1-49.

[29] Independent Competition and Regulatory Commission, *Submission on the Australian Energy Regulator's service target performance incentive scheme and efficiency benefit sharing scheme,* 14 May 2008, p2.

"The Commission believes that these schemes should only be implemented if it can be clearly shown that there is a net benefit to do so. This implies that the schemes need have a sound justification in economic theory and the schemes need to be practicable. For the schemes to be practicable two conditions must be met:

- *there must not be significant measurement problems with designing and parameterising the schemes and*
- *the introduction of a new scheme should not create or increase incentives for the regulated business to attempt to game the regulatory process"*

Icon Water agrees with the Commission that practicability should be a key design objective for incentive schemes. That is, while incentive schemes may have strong theoretical justification, their practical implementation is not without risks. The Commission cited evidence from economic literature that rate of return regulation, coupled with detailed expenditure reviews, generates the most efficient outcomes for regulated business, and that incentive schemes may create distortions in the regulatory regime.[30] Therefore, even if there exist potential benefits for a specific scheme, the threshold for introducing such schemes should be high. In particular, there are clear advantages to maintain regulatory simplicity, compared to introducing a complex set of incentive schemes, each attempting to remedy distortions created by the last.

The ACT context

Icon Water believes that the Commission's review of incentive schemes must take into account the specific regulatory and operating environment in the ACT.

The ACT is a relatively small jurisdiction with a single water utility. As a result, on a per-customer basis, the regulatory and administrative costs of implementing new incentive schemes are likely to be higher than in other jurisdictions. This may partly explain why, among water utilities, incentive schemes have only been implemented in New South Wales and Victoria – Australia's two largest jurisdictions.

Further, the existing regulatory arrangements in the ACT provide a range of safeguards to help ensure Icon Water delivers safe, efficient, and reliable water and sewerage services. These include Icon Water's obligations to comply with ACT environmental, technical, and consumer protection regulations.

Icon Water is also wholly owned by the ACT Government which gives rise to a statutory objective to operate efficiently and have regard to the interests of the ACT community. Icon Water must also report to the ACT Government on its performance, helping provide greater public accountability over operating and expenditure decisions.

These factors suggest that incremental benefits of new incentive mechanisms are likely to be low when compared to the greater regulatory costs in the ACT.

[30] Aubert C and Reynaud A, *The impact of regulation on cost efficiency: an empirical analysis of Wisconsin water utilities*, Journal of Productivity Analysis, 23: 383-409.